Safety Data Sheets

Form-Up Sitework

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June 28, 2024

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SAFETY DATA SHEET

Acetylene

Section 1. Identification

GHS product identifier : Acetylene

Chemical name : acetylene

Other means of identification : Ethyne; Ethine; Narcylen; C2H2; Acetylen; UN 1001; Vinylene

Product type : Gas.

Product use : Synthetic/Analytical chemistry.

Synonym : Ethyne; Ethine; Narcylen; C2H2; Acetylen; UN 1001; Vinylene

SDS # : 001001

Supplier's details : Airgas USA, LLC and its affiliates
259 North Radnor-Chester Road
Suite 100
Radnor, PA 19087-5283
1-610-687-5253

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 - Compressed gas

GHS label elements

Hazard pictograms :

Signal word : Danger

Hazard statements : Extremely flammable gas.
May form explosive mixtures with air.
Contains gas under pressure; may explode if heated.
May displace oxygen and cause rapid suffocation.

Precautionary statements

General : Read and follow all Safety Data Sheets (SDS'S) before use. Read label before use. Keep out of reach of children. If medical advice is needed, have product container or label at hand. Close valve after each use and when empty. Use equipment rated for cylinder pressure. Do not open valve until connected to equipment prepared for use. Fusible plugs in top, bottom, or valve melt at 98°C to 107°C (208°F to 224°F). Do not discharge at pressures above 15psig (103kpa). Use a back flow preventative device in the piping. Use only equipment of compatible materials of construction. Approach suspected leak area with caution.

Prevention : 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. Store in a well-ventilated place.

Disposal : Not applicable.

Hazards not otherwise classified : In addition to any other important health or physical hazards, this product may displace oxygen and cause rapid suffocation.

Section 3. Composition/information on ingredients

Substance/mixture : Substance

Chemical name : acetylene

Other means of identification : Ethyne; Ethine; Narcylen; C2H2; Acetylen; UN 1001; Vinylene

Product code : 001001

CAS number/other identifiers

CAS number : 74-86-2

Ingredient name	%	CAS number
acetylene	100	74-86-2

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 : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. To avoid the risk of static discharges and gas ignition, soak contaminated clothing thoroughly with water before removing it. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion : As this product is a gas, refer to the inhalation section.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : Contact with rapidly expanding gas may cause burns or frostbite.

Inhalation : No known significant effects or critical hazards.

Skin contact : Contact with rapidly expanding gas may cause burns or frostbite.

Frostbite : Try to warm up the frozen tissues and seek medical attention.

Ingestion : As this product is a gas, refer to the inhalation section.

Over-exposure signs/symptoms

Eye contact : No specific data.

Inhalation : No specific data.

Skin contact : No specific data.

Ingestion : No specific data.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments : No specific treatment.

Section 4. First aid measures

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 specialized 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.

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 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. 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.

Use only non-sparking tools. Avoid contact with eyes, skin and clothing. Empty containers retain product residue and can be hazardous. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment.

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. 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). Keep container tightly closed and sealed until ready for use. See Section 10 for incompatible materials before handling or use.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
acetylene	**NIOSH REL (United States, 10/2016).** CEIL: 2662 mg/m³ CEIL: 2500 ppm **ACGIH TLV (United States, 3/2017). Oxygen Depletion [Asphyxiant].** **California PEL for Chemical Contaminants (*Table AC-1*) (United States). Oxygen Depletion [Asphyxiant].**

Appropriate engineering controls : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Section 8. Exposure controls/personal protection

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: 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 : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Section 9. Physical and chemical properties

Appearance

Physical state : Gas.

Color : Colorless.

Odor : Mild. Ethereal.

Odor threshold : Not available.

pH : Not available.

Melting point : -81°C (-113.8°F)

Boiling point : Not available.

Critical temperature : 35.25°C (95.5°F)

Flash point : Closed cup: -18.15°C (-0.67°F)

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.
Highly flammable in the presence of the following materials or conditions: heat.

Lower and upper explosive (flammable) limits : Lower: 2.5%
Upper: 100%

Vapor pressure : 635 (psig)

Vapor density : 0.907 (Air = 1)

Specific Volume (ft ^{3}/lb) : 14.7058

Gas Density (lb/ft ^{3}) : 0.0691

Relative density : Not applicable.

Solubility : Not available.

Solubility in water : 1.2 g/l

Partition coefficient: n-octanol/water : 0.37

Auto-ignition temperature : 305°C (581°F)

Section 9. Physical and chemical properties

Decomposition temperature : Not available.

Viscosity : Not applicable.

Flow time (ISO 2431) : Not available.

Molecular weight : 26.04 g/mole

Aerosol product

Heat of combustion : -48257522 J/kg

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.

Irritation/Corrosion

Not available.

Sensitization

Not available.

Mutagenicity

Not available.

Carcinogenicity

Not available.

Reproductive toxicity

Not available.

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Section 11. Toxicological information

Not available.

Information on the likely routes of exposure : Not available.

Potential acute health effects

Eye contact : Contact with rapidly expanding gas may cause burns or frostbite.

Inhalation : No known significant effects or critical hazards.

Skin contact : Contact with rapidly expanding gas may cause burns or frostbite.

Ingestion : As this product is a gas, refer to the inhalation section.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : No specific data.

Inhalation : No specific data.

Skin contact : No specific data.

Ingestion : No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

Not available.

General : No known significant effects or critical hazards.

Carcinogenicity : No known significant effects or critical hazards.

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

Section 12. Ecological information

Product/ingredient name	$LogP_{ow}$	BCF	Potential
acetylene	0.37	-	low

Mobility in soil

Soil/water partition coefficient (K_{OC}) : Not available.

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Empty Airgas-owned pressure vessels should be returned to Airgas. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Do not puncture or incinerate container.

Section 14. Transport information

	DOT	TDG	Mexico	IMDG	IATA
UN number	UN1001	UN1001	UN1001	UN1001	UN1001
UN proper shipping name	ACETYLENE, DISSOLVED	ACETYLENE, DISSOLVED	ACETYLENE, DISSOLVED	ACETYLENE, DISSOLVED	ACETYLENE, DISSOLVED
Transport hazard class(es)	2.1 	2.1 	2.1 	2.1 	2.1 
Packing group	-	-	-	-	-
Environmental hazards	No.	No.	No.	No.	No.

"Refer to CFR 49 (or authority having jurisdiction) to determine the information required for shipment of the product."

Additional information

DOT Classification : **Limited quantity** Yes.
Quantity limitation Passenger aircraft/rail: Forbidden. Cargo aircraft: 15 kg.

TDG Classification : 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

Passenger Carrying Ship Index
75

Passenger Carrying Road or Rail Index
Forbidden

Section 14. Transport information

Special provisions
38

IATA : **Quantity limitation** Passenger and Cargo Aircraft: Forbidden. Cargo Aircraft Only: 15 kg.

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 and the IBC Code : Not available.

Section 15. Regulatory information

U.S. Federal regulations : **TSCA 8(a) CDR Exempt/Partial exemption**: Not determined

Clean Air Act (CAA) 112 regulated flammable substances: acetylene

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs) : Not listed

Clean Air Act Section 602 Class I Substances : Not listed

Clean Air Act Section 602 Class II Substances : Not listed

DEA List I Chemicals (Precursor Chemicals) : Not listed

DEA List II Chemicals (Essential Chemicals) : Not listed

SARA 302/304

Composition/information on ingredients

No products were found.

SARA 304 RQ : Not applicable.

SARA 311/312

Classification : Refer to Section 2: Hazards Identification of this SDS for classification of substance.

State regulations

Massachusetts : This material is listed.

New York : This material is not listed.

New Jersey : This material is listed.

Pennsylvania : This material is listed.

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol (Annexes A, B, C, E)

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Section 15. Regulatory information

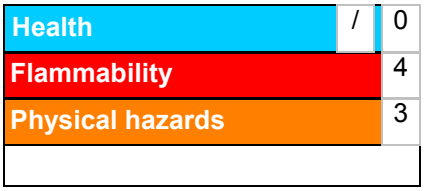
Not listed.

Inventory list

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	:	**Japan inventory (ENCS)**: This material is listed or exempted. **Japan inventory (ISHL)**: Not determined.
Malaysia	:	Not determined.
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.
Thailand	:	Not determined.
Turkey	:	This material is listed or exempted.
United States	:	This material is listed or exempted.
Viet Nam	:	Not determined.

Section 16. Other information

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



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 and the associated label are not required on SDSs or products leaving a facility 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 trademark and service mark of the American Coatings Association, Inc.

The customer is responsible for determining the PPE code for this material. For more information on HMIS® Personal Protective Equipment (PPE) codes, consult the HMIS® Implementation Manual.

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

Note: The instability hazard rating for acetylene, dissolved (stabilized acetylene) is 2.

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Copyright ©2001, National Fire Protection Association, Quincy, MA 02269. This warning system is intended to be interpreted and applied only by properly trained individuals to identify fire, health and reactivity hazards of chemicals. The user is referred to certain limited number of chemicals with recommended classifications in NFPA 49 and NFPA 325, which would be used as a guideline only. Whether the chemicals are classified by NFPA or not, anyone using the 704 systems to classify chemicals does so at their own risk.

Procedure used to derive the classification

Classification	Justification
FLAMMABLE GASES - Category 1 GASES UNDER PRESSURE - Compressed gas	Expert judgment According to package

Section 16. Other information

History

Date of printing	:	1/18/2018
Date of issue/Date of revision	:	1/18/2018
Date of previous issue	:	10/10/2017
Version	:	1.01
Key to abbreviations	:	ATE = Acute Toxicity Estimate BCF = Bioconcentration Factor GHS = Globally Harmonized System of Classification and Labelling of Chemicals IATA = International Air Transport Association IBC = Intermediate Bulk Container IMDG = International Maritime Dangerous Goods LogPow = logarithm of the octanol/water partition coefficient MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution) UN = United Nations
References	:	Not available.

Indicates information that has changed from previously issued version.

Notice to reader

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

SAFETY DATA SHEET

Section 1: Company and Product Identification

Product Name:	Asphalt
Product Code:	General Asphalt used in paving applications
Company:	Tri-State Asphalt, LLC 1362 Bungalow Road Morris, IL 60450 (815)942-0080 www.tsasphalt.com
Emergency Response:	800-424-9300 CHEMTREC®

Section 2: Hazards Identification

WARNING!

Hazard Statements:

H315: Causes skin irritation

H320: Causes eye irritation

H332: Harmful if inhaled

H335: May cause respiratory irritation

Precautionary Statements:

P260: Do not breathe dust/fume/gas/mist/vapours/spray

P264: Wash hands thoroughly after handling

P280: Wear protective gloves/protective clothing/eye protection/face protection

HMIS Classification:

Health:	2
Flammability:	1
Reactivity:	0
Personal Protective Index:	1

Hazardous Material Identification System	
Health Hazard (Blue)	2
Flammability Hazard (Red)	1
Physical Hazard (Yellow)	0
Protective Equipment	1

NFPA Rating:

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

Section 3: Composition / Information on Ingredients

Hazardous substance (name)			CAS#	Amount %
Asphalt Cement			8052-42-4	100%
Hydrogen Sulfide			7783-06-4	<1%

Section 4: First Aid Measures

If ingested:	Do not induce vomiting. Seek medical attention or contact poison control center immediately.
If inhaled:	At elevated temperatures may cause irritation of the eyes and respiratory tract. Although this product is not known to cause respiratory problems, if breathing is difficult, safely remove victim to fresh air. Seek immediate medical attention.
Eye contact:	For contact with product, hold eyelids apart and flush eyes with large amounts of water for at least 15 minutes. Seek medical attention if irritation develops and persists. Burns due to contact with heated material require immediate medical attention.
Skin contact:	Wash skin with soap and water. Wear protective gloves to minimize skin contamination. For hot material exposure, DO NOT try to remove solidified material from the skin. DO NOT try to dissolve with solvents or thinners.
Note to Physician:	Where skin burns occur, the area should be immediately immersed or irrigated with cold water until the asphalt is thoroughly cooled. Do not attempt to remove the asphalt from the skin, as it provides an airtight sterile covering over the burn. The asphalt will eventually detach itself naturally as healing occurs. If the asphalt must be removed before natural separation occurs, only medically approved solvents and warm medical liquid paraffin should be used. Asphalt contracts as it cools, and so care should be taken to avoid the developement of a tourniquet effect in cases of large

Section 5: Fire Fighting Measures

General Info:	Use of foam or water may cause frothing. Do not release runoff from fire control methods to sewers or waterways.
Extinguishing Method / Equipment:	Use foam, carbon dioxide when fighting fires involving this material. Use of water on product above 212°F (100°C) can cause product to expand with explosive force. Exercise care when using water as contact with hot asphalt products may also produce steam and violent foaming.

Section 6: Accidental Release Measures

General Info:	Stop spill at source. Confine spill by diking or impoundment. Remove sources of heat or ignition. Clean-up spill but do not flush to sewer or surface water. Ventilate area and avoid breathing vapors or mists.
Small Spills:	Stop spill at source if possible. Isolate and confine by diking, or similar method. Remove discharged material by absorbing spill with inert material.
Large Spills:	Dike far ahead of liquid spill for later disposal. Do not release into sewers or waterways. Allow material to cool. Mix with inert absorbent material to stabilize. For disposal follow all federal, state, and local regulations.

Section 7: Handling and Storage

Safe Handling Precautions:	Take care with hot product. Use personal protective equipment to avoid burns. Vapors containing hydrogen sulfide may accumulate during storage or transport. When asphalt products are heated, potentially irritating emissions (fumes, mists, vapors) may be released.
Recommendations for Storage:	Store away from all ignition sources and open flames. Store in closed containment at 250°F and 375°F for use. Material may be allowed to cool to ambient without effect of physical properties.
Usage:	Avoid contact with skin, eyes and clothing. Use additional precautions when handling hot material. Do not allow hot product to contact skin. Ensure adequate ventilation. Use all appropriate engineering controls and Personal Protective Equipment (PPE) described in Section 8 below.

Section 8: Exposure Control / Personal Protection

General / Engineering Controls:	Use local exhaust or general dilution ventilation when using at elevated temperatures or during activities that generate vapors or mists, to maintain levels below exposure limits. Ensure that an emergency eye wash station and safety shower is located near the work area.
Eye Protection:	Where contact with this material is likely wear appropriate glasses, goggles or face shield to prevent contact with eyes.
Skin Protection:	Wear insulated gloves when handling hot product. Additional protection may be necessary to prevent skin contact including use of apron, arm covers, face shield or boots.
Respiratory Protection:	When there is potential for airborne exposures in excess of applicable limits, wear NIOSH approved respiratory protection.

Substances with Exposure Limits	CAS#	ACGIH-TLV	OSHA-PEL	NIOSH
Hydrogen Sulfide	7783-06-4	1 ppm, 1.4 mg/m^3	10ppm, 15mg/m^3 TWA	10ppm, 15mg/m^3 TWA

Section 9: Physical and Chemical Properties

State:	Liquid	Evaporation Rate:	NA
Color:	Brown/Black	pH:	neutral
Vapor Pressure:	Negligable @ 77° F	Water Solubility:	Not Soluble
Vapor Density:	> 1 (Air =1)	Boiling Point:	>700° F
Specific Gravity:	.095-1.13	Other:	

Section 10: Stability and Reactivity

General:	Stable in closed containers under normal storage and handling conditions
Incompatible materials:	Asphalt is incompatible with strong acids or bases, and oxidizing agents such as nitrates, chlorates and peroxides.
Decomposition products:	Primary decomposition products are carbon monoxide, carbon dioxide, and water. Combustion products include sulfur oxides and hydrogen sulfide.
Hazardous Polymerization:	Will not occur.

Section 11: Toxicological Information

Toxicological Information (product):	For questions regarding toxicological information refer to contact information in Section 1.

Section 12: Ecological Information

General information:	Data not yet available.

Section 13: Disposal Information

Product disposal:	Dispose of waste and containers in compliance with applicable Federal, State, Provincial, and Local regulations.

Section 14: Transport Information

Shipping Name:	Elevated Temperature, N.O.S
DOT:	Non-hazardous

Section 15: Regulatory Information

RCRA:	Hydrogen Sulfide (CAS 7783-06-04) U135 If discarded it its purchased form, this product would not be a hazardous waste either by listing or characteristics. However, under RCRA, it is the responsibility of the product user to determine at the time of disposal, whether a material containing the product or derived from the product should be classified as a hazardous waste.
CERCLA RQ:	Asphalt (CAS 8052-42-4) listed, Hydrogen Sulfide (CAS 7783-06-4) listed
SARA 311/312:	Hazardous
SARA 313	There are no known ingredients subject to reporting.
TSCA:	This product and/or its components are listed on the Toxic Substances Control Act (TSCA) inventory.
OSHA Regulations:	Not a specifically regulated OHSA substance.
R-Phrases:	R36/37/38 – Irritating to eyes, respiratory system, and skin.

Section 16: Other Information

SDS Author:	Jared Hicks

Version Date: 4/10/2015

NOTICE: Tri-State Asphalt, LLC believes the information contained herein is accurate; however, Tri-State Asphalt, LLC make no guarantees with respect to such accuracy and assumes no liability in connection with the use of the information contained herein by any party. The provision of the information contained herein is not intended to be and should not be construed as legal advice or as ensuring compliance with any federal, state, or local law and regulations. Any party using this product should review all such laws, rules, or regulations prior to use.

NO WARRANTY IS MADE, EXPRESS OR IMPLIED, OR MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR OTHERWISE.

SAFETY DATA SHEET

Revision Date 08-May-2018
Version 3.02

1. Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Product name AURORA PINK® PAINT
Product code 215-11

1.2 Relevant identified uses of the substance or mixture and uses advised against

Recommended Use Paint
Restrictions on use No information available

1.3 Details of the supplier of the safety data sheet

Supplier

DayGlo Color Corp.
4515 St. Clair Avenue
Cleveland, OH 44103
(216) 391-7070
+1 216-391-7070 (outside the US)

E-mail Address ehs@dayglo.com

1.4 Emergency telephone number

Emergency telephone number

Chemtrec: +1 703-527-3887 ex-USA
Chemtrec: 1-800-424-9300 USA

2. Hazards identification

2.1 Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910.1200

Aspiration toxicity	Category 1
Flammable liquids	Category 3

2.2 Label elements

Signal Word
Danger

Hazard Statements
May be fatal if swallowed and enters airways
Flammable liquid and vapor

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/clothing and eye/face protection

Precautionary Statements - Response

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower
IF SWALLOWED: Immediately call a POISON CENTER or doctor
Do NOT induce vomiting
In case of fire: Use CO2, dry chemical, or foam to extinguish

Precautionary Statements - Storage
Store locked up
Store in a well-ventilated place. Keep cool

Precautionary Statements - Disposal
Dispose of contents/container to an approved waste disposal plant

2.3. Other Hazards Hazards not otherwise classified (HNOC)
Not Applicable

2.4 Other information

Not Applicable

Unknown Acute Toxicity 35.08429803% of the mixture consists of ingredient(s) of unknown toxicity

3. Composition/Information on Ingredients

Substance
Mixture

Chemical Name	CAS No.	Weight-%
Distillates, petroleum, hydrotreated light	64742-47-8	30 - 40
C.I. Basic Red 1:1	3068-39-1	< 1
Stoddard Solvent	8052-41-3	< 1

The exact percentage (concentration) of composition has been withheld as a trade secret.

4. First aid measures

4.1 Description of first-aid measures

General advice Show this safety data sheet to the doctor in attendance. When symptoms persist or in all cases of doubt seek medical advice.

Eye contact Remove contact lenses, if present. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Call a physician if irritation develops or persists.

Skin contact Wash off immediately with soap and plenty of water. Remove all contaminated clothes and shoes. If skin irritation persists, call a physician.

Inhalation Consult a physician.

Ingestion Do NOT induce vomiting. Drink plenty of water. Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms See Section 2.2, Label Elements and/or Section 11, Toxicological effects.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician Treat symptomatically.

5. Fire-Fighting Measures

5.1 Extinguishing media

Suitable extinguishing media
Use water spray, fog, Carbon dioxide (CO_2), foam or dry chemical.

Unsuitable Extinguishing Media High volume water jet.

5.2 Special hazards arising from the substance or mixture

Special Hazard
Hazardous decomposition products formed under fire conditions.

Hazardous Combustion Products No information available.

Explosion Data
Sensitivity to Mechanical Impact None.
Sensitivity to Static Discharge May be ignited by heat, sparks or flames.

5.3 Advice for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Remove all sources of ignition. Ensure adequate ventilation, especially in confined areas. Avoid contact with skin, eyes and clothing. Do not breathe vapors or spray mist.

6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. Do not allow material to contaminate ground water system. See Section 12 for additional Ecological information.

6.3 Methods and materials for containment and cleaning up

Methods for Containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Soak up with inert absorbent material. Prevent product from entering drains. Ground and bond containers when transferring material. Keep in suitable and closed containers for disposal.

7. Handling and storage

7.1 Precautions for safe handling

Advice on safe handling Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapors).

Hygiene measures When using, do not eat, drink or smoke. Wash hands before breaks and at the end of workday. Remove and wash contaminated clothing before re-use.

7.2 Conditions for safe storage, including any incompatibilities

Storage Conditions Keep away from heat and sources of ignition. Keep container tightly closed in a dry and well-ventilated place.

Materials to Avoid Strong oxidizing agents.

8. Exposure controls/personal protection

8.1 Exposure Guidelines

Chemical Name	ACGIH TLV	OSHA PEL	British Columbia	Alberta	Quebec	Ontario TWAEV
Distillates, petroleum, hydrotreated light 64742-47-8	-	-	TWA: 200 mg/m³ Skin			
Stoddard Solvent 8052-41-3	TWA: 100 ppm	TWA: 500 ppm TWA: 2900 mg/m³	TWA: 290 mg/m³ STEL: 580 mg/m³	TWA: 100 ppm TWA: 572 mg/m³	TWA: 100 ppm TWA: 525 mg/m³	TWA: 525 mg/m³

8.2 Appropriate engineering controls

Engineering Measures Ensure adequate ventilation, especially in confined areas.

8.3 Individual protection measures, such as personal protective equipment

Eye/Face Protection Wear chemical-resistant glasses and/or goggles and a face shield when eye and face contact is possible due to handling and processing of material.

Skin and body protection Long sleeved clothing.

Respiratory protection Respirator with filter for organic vapor. If these are not sufficient to maintain concentrations of particulates and solvent vapor below the OEL, suitable respiratory protection must be worn.

Hygiene measures See section 7 for more information

9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	Liquid		
Appearance	Liquid	**Color**	Pink
Odor	Solvent	**Odor Threshold**	No information available

Property	**Values**	**Remarks • Methods**
pH		No information available
Melting/freezing point		No information available
Boiling point/boiling range	154 °C / 309 °F	
Flash Point	41 °C / 106 °F	
Evaporation rate	no data available	No information available
Flammability (solid, gas)		No information available
Flammability Limits in Air		
upper flammability limit		No information available
lower flammability limit		No information available
Vapor pressure		No information available
Vapor density		No information available
Specific Gravity	1.05	
Water solubility	Insoluble in water	
Solubility in other solvents		No information available
Partition coefficient		No information available
Autoignition temperature		No information available
Decomposition temperature		No information available
Viscosity, kinematic		No information available
Viscosity, dynamic		No information available
Explosive properties		No information available
Oxidizing Properties		No information available

9.2 Other information

Volatile organic compounds (VOC) content	383 g/L

10. Stability and Reactivity

10.1 Reactivity

No dangerous reaction known under conditions of normal use

10.2 Chemical stability

Stable

10.3 Possibility of hazardous reactions

None under normal processing.

10.4 Conditions to Avoid

Heat, flames and sparks.

10.5 Incompatible Materials

Strong oxidizing agents.

10.6 Hazardous Decomposition Products

Carbon oxides. Nitrogen oxides (NOx).

11. Toxicological information

11.1 Acute toxicity

Numerical measures of toxicity: Product Information

The following values are calculated based on chapter 3.1 of the GHS document

Unknown Acute Toxicity 35.08429803% of the mixture consists of ingredient(s) of unknown toxicity

Oral LD50 14,266.00 mg/kg
Dermal LD50 5,706.00 mg/kg
LC50 (Dust/Mist) 6.36 mg/l

Numerical measures of toxicity: Component Information

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Distillates, petroleum, hydrotreated light 64742-47-8	5000 mg/kg (Rat)	> 2000 mg/kg (Rabbit)	> 5.2 mg/L (Rat) 4 h
C.I. Basic Red 1:1 3068-39-1	449 mg/kg (Rat)	2,500 mg/kg (Rat)	0.05 mg/l (4 hour)

11.2 Information on toxicological effects

Skin corrosion/irritation
Product Information
• Irritating to skin
Component Information
• No information available

Serious eye damage/eye irritation
Product Information
• Irritating to eyes
Component Information
• No information available

Respiratory or skin sensitization
Product Information
• May be harmful if inhaled
Component Information
• No information available

Germ cell mutagenicity
Product Information
• No information available
Component Information
• No information available

Carcinogenicity
Product Information
• This product contains <0.1% free formaldehyde and may be capable of outgassing formaldehyde at levels in excess of OSHA's Action Level under some conditions of use. Formaldehyde is a known cancer hazard. Long term exposure may result in dermatitis or respiratory sensitization for sensitive individuals.
Component Information
• No information available

Reproductive toxicity

Product Information
• No information available
Component Information
• No information available

STOT - single exposure
No information available

STOT - repeated exposure
No information available

Other adverse effects
Product Information
• No information available
Component Information
• No information available

Aspiration hazard
Product Information
• Risk of serious damage to the lungs (by aspiration)
Component Information
• No information available

12. Ecological information

12.1 Toxicity

Ecotoxicity No information available

< 1 % of the mixture consists of components(s) of unknown hazards to the aquatic environment

Ecotoxicity effects

Chemical Name	Toxicity to algae	Toxicity to fish	Toxicity to daphnia and other aquatic invertebrates
Distillates, petroleum, hydrotreated light 64742-47-8	-	LC50: 96 h Pimephales promelas 45 mg/L flow-through LC50: 96 h Lepomis macrochirus 2.2 mg/L static LC50: 96 h Oncorhynchus mykiss 2.4 mg/L static	-

12.2 Persistence and degradability

No information available.

12.3 Bioaccumulative potential

Discharge into the environment must be avoided

12.4 Mobility in soil

No information available.

12.5 Other adverse effects

No information available

13. Disposal Considerations

13.1 Waste treatment methods

Dispose of in accordance with local regulations.

14. Transport Information

DOT Not regulated (If shipped in NON BULK packaging by ground transport)

MEX no data available

IMDG

Proper shipping name	UN1263, Paint, 3, PGIII
Hazard class	3
UN	UN1263
Packing Group	PGIII

IATA

UN	UN1263
Proper shipping name	PAINT UN1263, Paint, 3, PGIII
Proper shipping name	Flammable Liquid, n.o.s. (Mineral Spirits)
Hazard class	3
Packing Group	PGIII

15. Regulatory information

15.1 International Inventories

TSCA	Complies
DSL	Complies
EINECS/ELINCS	-
ENCS	-
IECSC	-
KECL	-
PICCS	-
AICS	-
NZIoC	-

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL - Canadian Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances
NZIoC - New Zealand Inventory of Chemicals

15.2 U.S. Federal Regulations

SARA 313
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

15.3 Pesticide Information

Not applicable

15.4 U.S. State Regulations

California Proposition 65
This product contains the following Proposition 65 chemicals:

Chemical Name	California Prop. 65
Formaldehyde - 50-00-0	Carcinogen
C.I. Basic Violet 10 - 81-88-9	Carcinogen

16. Other information

NFPA	**Health Hazard** -	**Flammability** -	**Instability** -	**Physical and chemical hazards** -
HMIS	**Health Hazard** 2	**Flammability** 2	**Physical Hazard** 0	**Personal protection** X

Legend:
ACGIH (American Conference of Governmental Industrial Hygienists)
Ceiling (C)
DOT (Department of Transportation)
EPA (Environmental Protection Agency)
IARC (International Agency for Research on Cancer)
International Air Transport Association (IATA)
International Maritime Dangerous Goods (IMDG)
NIOSH (National Institute for Occupational Safety and Health)
NTP (National Toxicology Program)
OSHA (Occupational Safety and Health Administration of the US Department of Labor)
PEL (Permissible Exposure Limit)
Reportable Quantity (RQ)
Skin designation (S*)
STEL (Short Term Exposure Limit)
TLV® (Threshold Limit Value)
TWA (time-weighted average)

Prepared By DayGlo Color Corp.
Regulatory Affairs/Product Safety
Revision Date 08-May-2018
Revision Note
No information available

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.

End of Safety Data Sheet

SAFETY DATA SHEET

Revision Date 08-Nov-2019
Version 4

1. Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Product name Blaze Orange™ Paint
Product code 215-15

1.2 Relevant identified uses of the substance or mixture and uses advised against

Recommended Use Paint
Restrictions on use No information available

1.3 Details of the supplier of the safety data sheet

Supplier

DayGlo Color Corp.
4515 St. Clair Avenue
Cleveland, OH 44103
(216) 391-7070
+1 216-391-7070 (outside the US)

E-mail Address ehs@dayglo.com

1.4 Emergency telephone number

Emergency telephone number

Chemtrec: +1 703-527-3887 ex-USA
Chemtrec: 1-800-424-9300 USA

2. Hazards identification

2.1 Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910.1200

Aspiration toxicity	Category 1
Flammable liquids	Category 3

2.2 Label elements

Signal Word
Danger

Hazard Statements
May be fatal if swallowed and enters airways
Flammable liquid and vapor

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/clothing and eye/face protection

Precautionary Statements - Response

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower
IF SWALLOWED: Immediately call a POISON CENTER or doctor
Do NOT induce vomiting
In case of fire: Use CO2, dry chemical, or foam to extinguish

Precautionary Statements - Storage
Store locked up
Store in a well-ventilated place. Keep cool

Precautionary Statements - Disposal
Dispose of contents/container to an approved waste disposal plant

2.3. Other Hazards Hazards not otherwise classified (HNOC)
Not Applicable

2.4 Other information

Not Applicable

Unknown Acute Toxicity 35.08629436% of the mixture consists of ingredient(s) of unknown toxicity

3. Composition/Information on Ingredients

Substance
Mixture

Chemical Name	CAS No.	Weight-%
Distillates, petroleum, hydrotreated light	64742-47-8	30 - 40
C.I. Basic Red 1:1	3068-39-1	< 1

The exact percentage (concentration) of composition has been withheld as a trade secret.

4. First aid measures

4.1 Description of first-aid measures

General advice Show this safety data sheet to the doctor in attendance. When symptoms persist or in all cases of doubt seek medical advice.

Eye contact Remove contact lenses, if present. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Call a physician if irritation develops or persists.

Skin contact Wash off immediately with soap and plenty of water. Remove all contaminated clothes and shoes. If skin irritation persists, call a physician.

Inhalation Consult a physician.

Ingestion Do NOT induce vomiting. Drink plenty of water. Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms See Section 2.2, Label Elements and/or Section 11, Toxicological effects.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician Treat symptomatically.

5. Fire-Fighting Measures

5.1 Extinguishing media

Suitable extinguishing media
Use water spray, fog, Carbon dioxide (CO_2), foam or dry chemical.

Unsuitable Extinguishing Media High volume water jet.

5.2 Special hazards arising from the substance or mixture

Special Hazard
Hazardous decomposition products formed under fire conditions. Immediately place absorbent material in a sealed water-filled metal container to avoid spontaneous combustion of absorbent material contaminated with this product.

Hazardous Combustion Products No information available.

Explosion Data
Sensitivity to Mechanical Impact None.
Sensitivity to Static Discharge May be ignited by heat, sparks or flames.

5.3 Advice for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Remove all sources of ignition. Ensure adequate ventilation, especially in confined areas. Avoid contact with skin, eyes and clothing. Do not breathe vapors or spray mist.

6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. Do not allow material to contaminate ground water system. See Section 12 for additional Ecological information.

6.3 Methods and materials for containment and cleaning up

Methods for Containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Soak up with inert absorbent material. Prevent product from entering drains. Ground and bond containers when transferring material. Keep in suitable and closed containers for disposal.

7. Handling and storage

7.1 Precautions for safe handling

Advice on safe handling Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapors).

Hygiene measures When using, do not eat, drink or smoke. Wash hands before breaks and at the end of workday. Remove and wash contaminated clothing before re-use.

7.2 Conditions for safe storage, including any incompatibilities

Storage Conditions Keep away from heat and sources of ignition. Keep container tightly closed in a dry and well-ventilated place.

Materials to Avoid Strong oxidizing agents.

8. Exposure controls/personal protection

8.1 Exposure Guidelines

Chemical Name	ACGIH TLV	OSHA PEL	British Columbia	Alberta	Quebec	Ontario TWAEV
Distillates, petroleum, hydrotreated light 64742-47-8	-	-	TWA: 200 mg/m^3 Skin			

8.2 Appropriate engineering controls

Engineering Measures Ensure adequate ventilation, especially in confined areas.

8.3 Individual protection measures, such as personal protective equipment

Eye/Face Protection Wear chemical-resistant glasses and/or goggles and a face shield when eye and face contact is possible due to handling and processing of material.

Skin and body protection Long sleeved clothing.

Respiratory protection Respirator with filter for organic vapor. If these are not sufficient to maintain concentrations of particulates and solvent vapor below the OEL, suitable respiratory protection must be worn.

Hygiene measures See section 7 for more information

9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	Liquid		
Appearance	Liquid	**Color**	Orange
Odor	Solvent	**Odor Threshold**	No information available

Property	**Values**	**Remarks • Methods**
pH		No information available
Melting/freezing point		No information available
Boiling point/boiling range	154 °C / 309 °F	
Flash Point	41 °C / 106 °F	
Evaporation rate	no data available	No information available
Flammability (solid, gas)		No information available
Flammability Limits in Air		
upper flammability limit		No information available
lower flammability limit		No information available
Vapor pressure		No information available
Vapor density		No information available
Specific Gravity	1.05	
Water solubility	Insoluble in water	
Solubility in other solvents		No information available
Partition coefficient		No information available
Autoignition temperature		No information available
Decomposition temperature		No information available
Viscosity, kinematic		No information available
Viscosity, dynamic		No information available
Explosive properties		No information available
Oxidizing Properties		No information available

9.2 Other information

Volatile organic compounds (VOC) content	383 g/L

10. Stability and Reactivity

10.1 Reactivity

No dangerous reaction known under conditions of normal use

10.2 Chemical stability

Stable

10.3 Possibility of hazardous reactions

None under normal processing.

10.4 Conditions to Avoid

Heat, flames and sparks.

10.5 Incompatible Materials

Strong oxidizing agents.

10.6 Hazardous Decomposition Products

Carbon oxides. Nitrogen oxides (NOx).

11. Toxicological information

11.1 Acute toxicity

Numerical measures of toxicity: Product Information

The following values are calculated based on chapter 3.1 of the GHS document

Unknown Acute Toxicity 35.08629436% of the mixture consists of ingredient(s) of unknown toxicity

Oral LD50 14,266.00 mg/kg
Dermal LD50 5,706.00 mg/kg
LC50 (Dust/Mist) 6.66 mg/l

Numerical measures of toxicity: Component Information

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Distillates, petroleum, hydrotreated light 64742-47-8	5000 mg/kg (Rat)	> 2000 mg/kg (Rabbit)	> 5.2 mg/L (Rat) 4 h
C.I. Basic Red 1:1 3068-39-1	449 mg/kg (Rat)	2,500 mg/kg (Rat)	0.05 mg/l (4 hour)

11.2 Information on toxicological effects

Skin corrosion/irritation
Product Information
• Irritating to skin
Component Information
• No information available

Serious eye damage/eye irritation
Product Information
• Irritating to eyes
Component Information
• No information available

Respiratory or skin sensitization
Product Information
• No information available
Component Information
• No information available

Germ cell mutagenicity
Product Information
• No information available
Component Information
• No information available

Carcinogenicity
Product Information
• This product contains <0.1% free formaldehyde and may be capable of outgassing formaldehyde at levels in excess of OSHA's Action Level under some conditions of use. Formaldehyde is a known cancer hazard. Long term exposure may result in dermatitis or respiratory sensitization for sensitive individuals.
Component Information
• No information available

Reproductive toxicity

Product Information
• No information available
Component Information
• No information available

STOT - single exposure
No information available

STOT - repeated exposure
No information available

Other adverse effects
Product Information
• No information available
Component Information
• No information available

Aspiration hazard
Product Information
• May be fatal if swallowed and enters airways
Component Information
• No information available

12. Ecological information

12.1 Toxicity

Ecotoxicity No information available

< 1 % of the mixture consists of components(s) of unknown hazards to the aquatic environment

Ecotoxicity effects

Chemical Name	Toxicity to algae	Toxicity to fish	Toxicity to daphnia and other aquatic invertebrates
Distillates, petroleum, hydrotreated light 64742-47-8	-	LC50: 96 h Pimephales promelas 45 mg/L flow-through LC50: 96 h Lepomis macrochirus 2.2 mg/L static LC50: 96 h Oncorhynchus mykiss 2.4 mg/L static	-

12.2 Persistence and degradability

No information available.

12.3 Bioaccumulative potential

Discharge into the environment must be avoided

12.4 Mobility in soil

No information available.

12.5 Other adverse effects

Discharge into the environment must be avoided

13. Disposal Considerations

13.1 Waste treatment methods

Dispose of in accordance with local regulations.

14. Transport Information

DOT Not regulated (If shipped in NON BULK packaging by ground transport)

MEX no data available

IMDG

Proper shipping name	UN1263, Paint, 3, PGIII
Hazard class	3
UN	UN1263
Packing Group	PGIII

IATA

UN	UN1263
Proper shipping name	UN1263, Paint, 3, PGIII
Proper shipping name	Flammable Liquid, n.o.s. (Mineral Spirits)
Hazard class	3
Packing Group	PGIII

15. Regulatory information

15.1 International Inventories

TSCA	Complies
DSL	Complies
EINECS/ELINCS	-
ENCS	-
IECSC	-
KECL	-
PICCS	-
AICS	-
NZIoC	-

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL - Canadian Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances
NZIoC - New Zealand Inventory of Chemicals

15.2 U.S. Federal Regulations

SARA 313
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

15.3 Pesticide Information

Not applicable

15.4 U.S. State Regulations

California Proposition 65
This product contains the following Proposition 65 chemicals:

Chemical Name	California Prop. 65
Formaldehyde - 50-00-0	Carcinogen
C.I. Basic Violet 10 - 81-88-9	Carcinogen

16. Other information

NFPA	**Health Hazard** -	**Flammability** -	**Instability** -	**Physical and chemical hazards** -
HMIS	**Health Hazard** 2	**Flammability** 2	**Physical Hazard** 0	**Personal protection** X

Legend:
ACGIH (American Conference of Governmental Industrial Hygienists)
Ceiling (C)
DOT (Department of Transportation)
EPA (Environmental Protection Agency)
IARC (International Agency for Research on Cancer)
International Air Transport Association (IATA)
International Maritime Dangerous Goods (IMDG)
NIOSH (National Institute for Occupational Safety and Health)
NTP (National Toxicology Program)
OSHA (Occupational Safety and Health Administration of the US Department of Labor)
PEL (Permissible Exposure Limit)
Reportable Quantity (RQ)
Skin designation (S*)
STEL (Short Term Exposure Limit)
TLV® (Threshold Limit Value)
TWA (time-weighted average)

Prepared By No information available DayGlo Color Corp.
Regulatory Affairs/Product Safety
Revision Date 08-Nov-2019
Revision Note
No information available

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.

End of Safety Data Sheet

BlueDEF Diesel Exhaust Fluid

Safety Data Sheet

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

Revision date: 10/01/2019

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form : Mixture

Product name : BlueDEF Diesel Exhaust Fluid

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture : Solution for NOx reduction in SCR systems

1.3. Details of the supplier of the safety data sheet

Old World Industries, LLC
3100 Sanders Road
Northbrook, IL 60062 - USA
T (847) 559-2000
www.oldworldind.com

1.4. Emergency telephone number

Emergency number : 800 424 9300 (United States); 00 1 703 527 3887 (International)
Chemtrec

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

GHS-US classification

Not classified

2.2. Label elements

GHS-US labelling

Hazard pictograms (GHS-US) :

Signal word (GHS-US) : None

Hazard statements (GHS-US) : None

Precautionary statements (GHS-US) : None

2.3. Other hazards

No additional information available

2.4. Unknown acute toxicity (GHS US)

No data available

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	% by wt	GHS-US classification
water	(CAS-No.) 7732-18-5	67.5	Not classified
urea	(CAS-No.) 57-13-6	32.5	Not classified

Full text of hazard classes and H-statements : see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

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

First-aid measures after inhalation : Assure fresh air breathing. Allow the victim to rest.

First-aid measures after skin contact : Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse.

First-aid measures after eye contact : Rinse immediately with plenty of water. Obtain medical attention if pain, blinking or redness persists.

First-aid measures after ingestion : Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention.

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

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

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

No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Foam. Dry powder. Carbon dioxide. Sand.

Unsuitable extinguishing media : Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

Reactivity : No dangerous reactions known under normal conditions of use.

5.3. Special protective equipment and precautions for fire-fighters

Firefighting instructions : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire fighting water from entering the environment.

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

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : The EPA has no established reportable quantity for spills for this material, secondary containment is not specified.

6.1.1. For non-emergency personnel

Emergency procedures : Evacuate unnecessary personnel.

6.1.2. For emergency responders

Protective equipment : Equip cleanup crew with proper protection.

Emergency procedures : Ventilate area.

6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials. For minor spillages wash down with excess of water. Mop up small spills.

6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapor.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Keep only in the original container in a cool, well ventilated place away from : Direct sunlight, Heat sources. Keep container closed when not in use.

Incompatible materials : Strong acids. Strong bases.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

urea (57-13-6)
Not applicable

water (7732-18-5)
Not applicable

8.2. Appropriate engineering controls

No additional information available

8.3. Individual protection measures/Personal protective equipment

Personal protective equipment:

Avoid all unnecessary exposure. Gloves. Protective goggles.

Hand protection:

Wear protective gloves.

Eye protection:

Chemical goggles or safety glasses

Respiratory protection:

Wear appropriate mask

Other information:

Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	Liquid
Color	:	Colorless
Odor	:	characteristic ammonia odor
Odor threshold	:	No data available
pH	:	9 - 10
Relative evaporation rate (butylacetate=1)	:	< 1
Freezing point	:	-11 °C (12 °F)
Boiling point	:	> 100 °C (212 °F)
Flash point	:	No data available
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
Flammability (solid, gas)	:	No data available
Vapor pressure	:	Not Applicable
Relative vapor density at 20 °C	:	0.6 H2O, >1
Specific Gravity	:	1.09
Solubility	:	Soluble in water. Water: 100 %
Log Pow	:	No data available
Log Kow	:	No data available
Viscosity, kinematic	:	No data available
Viscosity, dynamic	:	No data available
Explosive limits	:	No data available
Explosive properties	:	No data available
Oxidizing properties	:	No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

No dangerous reactions known under normal conditions of use.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

Not established.

10.4. Conditions to avoid

Not established.

10.5. Incompatible materials

Strong acids. Strong bases. oxidizing agents (peroxides, chromates, dichromates).

10.6. Hazardous decomposition products

Carbon monoxide. Carbon dioxide. Fume.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

urea (57-13-6)	
LD50 oral rat	14300 mg/kg bodyweight (OECD 401: Acute Oral Toxicity, Rat, Male, Experimental value)
ATE US (oral)	14300 mg/kg bodyweight

Skin corrosion/irritation : Not classified
pH: 9 - 10

Serious eye damage/irritation : Not classified
pH: 9 - 10

Respiratory or skin sensitisation : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

Reproductive toxicity : Not classified

STOT-single exposure : Not classified

STOT-repeated exposure : Not classified

Aspiration hazard : Not classified

Potential adverse human health effects and symptoms : Based on available data, the classification criteria are not met.

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

SECTION 12: Ecological information

12.1. Toxicity

urea (57-13-6)	
LC50 fish 1	> 6,810.00 mg/l (96 h, Leuciscus idus, Experimental value, Nominal concentration)
EC50 Daphnia 1	> 10,000.00 mg/l (DIN 38412-11, 24 h, Daphnia magna, Static system, Fresh water, Experimental value, Nominal concentration)

12.2. Persistence and degradability

urea (57-13-6)	
Persistence and degradability	Readily biodegradable in water.
ThOD	0.27 g O_2/g substance

12.3. Bioaccumulative potential

urea (57-13-6)	
BCF fish 1	1.00 (72 h, Brachydanio rerio, Fresh water, Literature study)
Log Pow	< -1.73 (Experimental value, EU Method A.8: Partition Coefficient)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

12.4. Mobility in soil

urea (57-13-6)	
Mobility in soil	Not applicable
Log Koc	-1.43 - -1.19 (log Koc, Calculated value)
Ecology - soil	Highly mobile in soil.

12.5. Other adverse effects

Effect on the ozone layer : No additional information available

Other information : Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product/Packaging disposal recommendations : As a non-hazardous liquid waste, it should be solidified with stabilizing agents such as sand, fly ash, or clay absorbent, so that no free liquid remains before disposal to an industrial waste landfill.

Ecology - waste materials : Avoid release to the environment.

SECTION 14: Transport information

Department of Transportation (DOT)

In accordance with DOT

Not regulated

Transportation of Dangerous Goods

Refer to current TDG Canada for further Canadian regulations

ADR

Not regulated

Transport by sea

In accordance with IMDG / IMO

Not regulated

Air transport

In accordance with IATA / ICAO

Not regulated

SECTION 15: Regulatory information

15.1. US Federal regulations

BlueDEF Diesel Exhaust Fluid	
EPA TSCA Regulatory Flag	Toxic Substances Control Act (TSCA): The intentional ingredients of this product are listed
CERCLA RQ	None. This material is not classified as hazardous under U.S. EPA regulations.
SARA Section 302 Threshold Planning Quantity (TPQ)	No extremely hazardous substances are in this product.
SARA Section 311/312 Hazard Classes	Urea. No hazards resulting from the material as supplied.

urea (57-13-6)	
EPA TSCA Regulatory Flag	Toxic Substances Control Act (TSCA): The intentional ingredients of this product are listed

water (7732-18-5)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

15.2. International regulations

CANADA

BlueDEF Diesel Exhaust Fluid	
WHMIS Classification	This SDS has been prepared according to the criteria of the Hazardous Products Regulations (HPR) (WHMIS 2015) and the SDS contains all of the information required by the HPR. Applicable GHS information is listed in section 2.2 of this SDS.

15.3. US State regulations

California Proposition 65 - This product does not contain any substance(s) known to the state of California to cause cancer, developmental toxicity and/or reproductive toxicity

SECTION 16: Other information

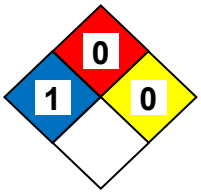
Revision date : 10/01/2019

Full text of H-statements:

NFPA health hazard : 1 - Materials that, under emergency conditions, can cause significant irritation.

NFPA fire hazard : 0 - Materials that will not burn under typical fire conditions, including intrinsically noncombustible materials such as concrete, stone, and sand.

NFPA reactivity : 0 - Material that in themselves are normally stable, even under fire conditions.



SDS GHS US (GHS HazCom 2012) OWI

Old World Industries, LLC makes no warranty, representation or guarantee as to the accuracy, sufficiency or completeness of the material set forth herein. It is the user's responsibility to determine the safety, toxicity and suitability of his own use, handling and disposal of this product. Since actual use by others is beyond our control, no warranty, expressed or implied, is made by Old World Industries, LLC as to the effects of such use, the results to be obtained or the safety and toxicity of this product, nor does Old World Industries, LLC assume liability arising out of the use by others of this product referred to herein. The data in this SDS relates only to the specific material designated herein and does not relate to use in combination with any other material or in any process.

SAFETY DATA SHEET

1. Product and Company Identification

Company Name: Sierra Aust Pty Ltd
17 Delta Street, Geebung
Queensland 4034 Ph (07) 3216 5099
sales@sierrachem.com.au www.sierrachem.com.au
Emergency Contact: Sierra **(07) 3216 5099** Poisons Information Centre **13 11 26**

Product Name: **Brake Cleaner**
Product Code: 4782, 4750
Intended Use: Brake Parts & Hydraulic Components Cleaning
Chemical Nature: Mixture

2. Hazards Identification

Hazardous Chemical according to classification by Safe Work Australia
Dangerous Goods according to the Australian Code for the Transport of Dangerous Goods by Road and Rail

GHS Classification:
Flammable Liquid Category 2
Aspiration Hazard Category 1
Toxic to reproduction Category 2
Skin Corrosion/Irritation Cat 2
Chronic Aquatic Toxicity Category 2
Specific Target Organ Toxicity (single exposure) Category 3
Specific Target Organ Toxicity (repeated exposure) Category 3

GHS Signal Word: **DANGER**

Hazard Statement:
H225 Highly flammable liquid and vapour, H304 May be fatal if swallowed and enters airways
H315 Causes skin irritation H336 May cause drowsiness or dizziness
H373 May cause damage to organs through prolonged or repeated exposure
H361 Suspected of damaging the unborn child
H411 Toxic to aquatic life with long lasting effects

Precautionary Statements:

General:
P101 If medical advice is needed, have product container or label at hand.
P102 Keep out of reach of children.
P103 Read label before use.

Preventative:
P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P210 Keep away from heat/sparks/open flames/hot surfaces. – No smoking.
P233 Keep container tightly closed.
P240 Ground/bond container and receiving equipment.
P241 Use explosion proof electrical/ventilation/lighting equipment
P242 Use only non-sparking tools
P243 Take precautionary measures against static discharge
P260 Do not breathe mist/vapours/spray
P261 Avoid breathing mist/vapours/spray
P264 Wash thoroughly after handling.
P271 Use only outdoors or in a well ventilated area.
P273 Avoid release to the environment.
P280 Wear protective gloves/eye protection/face protection
P281 Use personal protective equipment as required.

Response:
P301+P310 IF SWALLOWED: Immediately call a POISON CENTRE or doctor/physician
P302+ P352 IF ON SKIN: Wash with plenty of soap and water
P303 + P361 + P353 IF ON SKIN (or hair): Take off contaminated clothing and wash before reuse. Rinse skin with water /shower
P308 + P313 If exposed or concerned: Get medical advice/attention
P304 + P340 If INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

P331 Do NOT induce vomiting.
P312 Call a POISON CENTRE or doctor/physician if you feel unwell.
P314 Get medical advice/attention if you feel unwell.
P332 + P313 If skin irritation occurs: Get medical advice/attention
P362 Take off contaminated clothing and wash before reuse.
P370 + P378 In case of fire: Use foam/water pray/fog for extinction.
P391 Collect spillage.

Storage: PP403 + P233 Store in a well ventilated place. Keep container tightly closed.
P405 + P235 Store locked up. Keep cool.

Disposal: P501 Dispose of contents/container in accordance with local regulations.

3. Composition / Information on Ingredients

Ingredients Names and Proportions

Chemical Entity	Cas Number	Proportion(%)
Solvent naphtha (petroleum) Light aliphatic	64742-82-1	100
With components:		
n-Hexane	110-54-3	10 - 30
Ethylbenzene	100-41-4	<10

4. First aid Measures

In case of eye contact: If in eyes, hold eyes open, flood with water for at least 15 minutes. If irritation persists transport to nearest medical facility for additional treatment.

In case of skin contact: If skin contact occurs, remove contaminated clothing and wash skin thoroughly with water and follow by washing with soap if available

If Ingested: If swallowed, do NOT induce vomiting. Transport to nearest medical facility for additional treatment. If vomiting occurs spontaneously, keep head below hips to prevent aspiration.

If Inhaled: Keep victim calm and remove to fresh air if safe to do so. If rapid recovery does not occur, transport to nearest medical facility for additional treatment. Remove contaminated clothing.

Symptoms caused by exposure

Inhalation: Breathing of high vapour concentrations may cause central nervous system depression resulting in dizziness, light-headedness, headache, nausea and loss of coordination. Continuous inhalation may result in unconsciousness and death.

Skin: May include burning sensation and or a dried/cracked appearance.

Eyes: May include burning sensation, redness, swelling and or blurred vision.

Ingestion: May include coughing, choking, wheezing, difficulty in breathing, chest congestion, shortness of breath and/or fever.

Medical attention and special treatment

Treat symptomatically

5. Fire Fighting Measures

Suitable Extinguishing Media: Foam, water spray or fog, dry chemical powder or carbon dioxide. Do not use water in a jet

Specific Hazards arising from the Chemical: Carbon monoxide may be evolved if incomplete combustion occurs. Will float and can be reignited on surface of water. Vapour is heavier than air, can spread along ground and distant ignition is possible.

Special protective equipment for fire fighters: Wear full protective clothing and self contained breathing apparatus. Hazchem code 3YE

6. Accidental Release Measures

Personal Precautions: Avoid contact with spilled or released material. Shut off leaks, if possible without personal risks. Isolate hazard area and deny entry to unnecessary or unprotected personnel. Remove

all sources of ignition in the surrounding area. Take precautionary measure against static discharge. Ensure electrical continuity by bonding and earthing all equipment.

Environmental Precautions: Use appropriate containment to avoid environmental contamination. Prevent from spreading and entering waterway using sand, earth or other appropriate barriers. Attempt to disperse the vapour or to direct its flow to a safe location for example by using fog sprays. Ventilate contaminated area thoroughly.

Methods of cleanup: For small spils (<1 drum), transfer by mechanical means to a labeled, sealable container for product recovery or safe disposal. Allow any residues to evaporate or use an appropriate absorbent material and dispose of safely. For larger spills (>1drum), transfer by means such as a vacuum truck to a salvage tank for recovery or disposal. Do not flush residues with water. Retain as contaminated waste. Allow any residues to evaporate or use an appropriate absorbent material and dispose of safely.

7. Handling and Storage

Precautions for safe handling: Highly flammable product. Avoid breathing vapours. Handle and open containers with care in a well-ventilated area. Ensure that the workplace is ventilated such that the Occupational Exposure limit is not exceeded. Avoid contact with skin, eyes and clothing. Wash thoroughly after handling. Do not eat, drink or smoke in contaminated areas. Electrostatic charges may be generated during transfer. Electrostatic discharge may cause fire. Ensure electrical continuity by earthing all equipment. Flameproof equipment necessary in area where chemical is being used. Vapours may accumulate in low or confined areas.

Conditions for safe storage: Store in a well ventilated area, away from sunlight, ignition sources and other sources of heat. Do not store near aerosols, strong oxidants and corrosives.

8. Exposure Controls and Personal Protection

Exposure Control Measures: From National Occupational Health & Safety Commission (NOHSC) Worksafe Australia
n-Hexane: 72mg/m^3 (20ppm) TWA (8hr)
Shell X55: 450mg/m^3 TWA (8hr)

Biological Monitoring: No biological limit allocated.

Engineering Controls: Ensure that adequate ventilation is provided. Maintain air concentrations below recommended exposure standards. Avoid generating and inhaling mists and vapours. Keep containers closed when not in use.

Individual Protection Measures:

Eye and face protection: Wear safety goggles.

Skin protection: Use solvent resistant gloves, nitrile for longer term protection of PVC and neoprene for incidental splashes.

Respiratory protection: If work practices do not maintain airborne levels below the exposure standard, use appropriate respiratory protection equipment. When using respirators, select an appropriate combination of mask and filter. Select a filter for organic gases and vapours (boiling point >65ºC). respirators should comply with AS1716 or an equivalent approved by a state/territory authority.

Thermal Hazards: Not applicable.

9. Physical and Chemical Properties

Appearance:	Colourless Liquid	Density (g/ml@15ºC):	0.67 – 0.755
Odour:	Parafinic sweet	Solubility (kg/m^3):	Not miscible with water
Initial Boil point range:	50 - 135ºC	Auto ignition temp (ºC)	280 (ASTM E-659)
Flash point:	-30ºC (Abel)	Vapour Density:	>1
Flammability:	Highly flammable	(air=1@15ºC)	
Vapour pressure:	Typical 34.5	Upper/lower flammability:	1.0 – 7.5
(kPa@20ºC)		or explosive limits (%)	

10. Stability and Reactivity

Reactivity: Stable under normal conditions of use
Chemical Stability: Stable under normal conditions of use
Possible Hazardous reactions: Stable under normal conditions of use
Conditions to avoid: Avoid heat, sparks, open flames and other ignition sources
Incompatible materials: Strong oxidizing agents.
Hazardous Decomposition products: Thermal decomposition is highly dependent on conditions. A complex mixture of airborne solids, liquids, gases, including carbon monoxide, carbon dioxide and other organic compounds will be evolved when this material undergoes combustion or thermal or oxidative degradation.

11. Toxicological Information

Acute toxicity:	Expected to be of low toxicity - LD50 Oral (rat) > 2000 mg/kg
Skin corrosion/irritation:	Irritating to skin. Prolonged contact may cause defatting of skin which can lead to dermatitis.
Serious eye damage/irritation:	Expected to be non-irritating to eyes.
Respiratory or skin sensitisation:	Not expected to be a sensitiser.
Germ cell mutagenicity:	Not mutagenic.
Carcinogenicity:	Not expected to be carcinogenic.
Reproductive toxicity:	Causes foetus toxicity in animals at doses which are maternally toxic. Affects reproductive system in animals at doses which produces other toxic affects (n-Hexane).
Specific Target Organ Toxicity (STOT) – single exposure:	Not expected to be a respiratory irritant.
Specific Target Organ Toxicity (STOT) – repeated exposure:	Central nervous system: repeated exposure affects the nervous system.
Aspiration hazard:	Aspiration into the lungs when swallowed or vomited may cause chemical pneumonitis which can be fatal.

12. Ecological Information

Ecotoxicity

Acute toxicity:

Fish –	Expected to be toxic: 1 < LC/EC/IC50 <= 10mg/l
Aquatic invertebrate –	Expected to be toxic: 1 < LC/EC/IC50 <= 10mg/l
Algae –	Expected to be toxic: 1 < LC/EC/IC50 <= 10mg/l
Microorganisms –	Expected to be harmful: 1 < LC/EC/IC50 <= 10mg/l

Chronic toxicity:

Fish –	Data not available
Aquatic invertebrate –	Data not available

Algae –	Data not available
Microorganisms –	Data not available

Persistence and degradability

Readily biodegradable. Oxidises by photo-chemical reactions in air.

Bioaccumulative potential

Has the potential to bioaccumulate.

Mobility in soil

Floats on water. Absorbs on soil.

13 Disposal Considerations

Ensure waste disposal conforms to local waste disposal regulations.

14. Transport Information

UN number:	1268
Proper shipping name:	Petroleum Distillates, N.O.S. (solvent naphtha)
Australian Dangerous Goods class:	3
Australian Dangerous Goods packing group:	II
Hazchem code:	3YE

15. Regulatory Information

Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP), Poisons Schedule:	5
Australian Inventory of Chemical Substances (AICS):	Listed
Dangerous Goods Initial Emergency Response Guide (SAA/SNZ HB76):	14

16. Other Information

This SDS contains only safety related information. For other information see product literature.

Material Safety Data Sheet

Infosafe No.	LPV44	Issue Date : January 2006	ISSUED by PENRITEO

Product Name : **BRAKE FLUID**

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

Product Name	BRAKE FLUID
Product Code	BF
Company Name	PENRITE OIL COMPANY P/L (ABN 005 001 525)
Address	88 Lewis Road Wantirna South Victoria 3152 Australia
Emergency Tel.	03 9801 0877 B.H
Telephone/Fax Number	Tel: 03 9801 0877
Recommended Use	Motor vehicle brake fluid.

2. HAZARDS IDENTIFICATION

Hazard Classification	NON-HAZARDOUS SUBSTANCE. NON-DANGEROUS GOODS. Hazard classification according to the criteria of NOHSC. Dangerous goods classification according to the Australia Dangerous Goods Code.
Safety Phrase(s)	S2 Keep out of reach of children.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients	Name	CAS	Proportion
	Ingredients determined not to be hazardous	Not required	60-100 %
	Diethylene glycol		0-19.9 %
	Methyl di glycol		0-4.9 %

4. FIRST AID MEASURES

Inhalation	If inhaled, remove from contaminated area. Apply artificial respiration if not breathing. If symptoms develop seek medical attention.
Ingestion	Do NOT induce vomiting. Wash out mouth with water. If symptoms develop seek medical attention.
Skin	Wash affected area thoroughly with soap and water. Remove contaminated clothing and wash before reuse or discard. If symptoms develop seek medical attention.
Eye	If contact with the eye(s) occurs, wash with copious amounts of water holding eyelid(s) open. Take care not to rinse contaminated water into the non-affected eye. If symptoms persist seek medical attention.
First Aid Facilities	Eye wash and normal washroom facilities.
Advice to Doctor	Treat symptomatically.

5. FIRE FIGHTING MEASURES

Suitable Extinguishing Media	Alcohol resistant foam, dry powder or water (fog or fine spray).
Hazards from Combustion Products	Under fire conditions this product may emit toxic and/or irritating fumes including carbon monoxide and carbon dioxide.
Special Protective Equipment for fire fighters	Full protective clothing and self-contained breathing apparatus.
Specific Hazards	Combustible liquid. This product will burn if exposed to fire.
Hazchem Code	None Allocated
Precautions in connection with Fire	Fire-fighters should wear full protective clothing and self contained breathing apparatus (SCBA) operated in positive pressure mode.

6. ACCIDENTAL RELEASE MEASURES

Emergency Procedures	Wear appropriate personal protective equipment and clothing to minimise exposure. Extinguish or remove all sources of ignition and stop leak if safe to do so. Increase ventilation. Evacuate all unnecessary personnel. If

possible contain the spill. Place inert absorbent material onto spillage. Use clean non-sparking tools to collect the material and place into a suitable labelled container. Do not dilute material but contain. Clean area with soap and water. Do not allow product to enter drains, sewers or water courses Dispose of waste according to federal, Environmental Protection Authority and state regulations. If the spillage enters the waterways contact the Environmental Protection Authority, or your local Waste Management Authority.

7. HANDLING AND STORAGE

Precautions for Safe Handling

Use in a well ventilated area. DO NOT store or use in confined spaces. Build up of mists or vapours in the atmosphere must be prevented. Avoid breathing in spray or mists or vapours. Do not use near welding or other ignition sources and avoid sparks. Do not smoke. Repeated or prolonged skin exposure without protection should be prevented in order to lessen the possibility of skin disorders. It is essential that all who come into contact with this material maintain high standards of personal hygiene ie. washing hands prior to eating, drinking, smoking or using toilet facilities.

Conditions for Safe Storage

Store in a cool, dry well-ventilated area away from heat, sources of ignition, oxidising agents, foodstuffs, and clothing and out of direct sunlight. Avoid contamination with any other substances and in particular with mineral oils which are incompatible. Keep containers closed when not in use and securely sealed and protected against physical damage. Inspect regularly for deficiencies such as damage or leaks. Do NOT pressurise, cut, heat or weld containers as they may contain hazardous residues. For information on the design of the storeroom, reference should be made to Australian Standard AS1940 - The storage and handling of flammable and combustible liquids. Reference should also be made to all State and Federal regulations.

Recommended Materials

Suitable bulk storage vessels are mild/stainless steel tanks fitted with a dry air breathing system or tight head steel drums.

Unsuitable Materials

Do not store in lined tanks or drums.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

National Exposure Standards

No exposure standards have been established for this material, however, the TWA National Occupational Health And Safety Commission (NOHSC) exposure standards for oil mist is 5 mg/m³. As with all chemicals, exposure should be kept to the lowest possible levels.

Biological Limit Values

No biological limit allocated.

Engineering Controls

Provide sufficient ventilation to keep airborne levels below the exposure limit. Where vapours or mists are generated, particularly in enclosed areas, and natural ventilation is inadequate, a local exhaust ventilation system is required. Refer to AS1940 - The storage and handling of flammable and combustible liquids and AS2430 - Explosive gas atmospheres for further information concerning ventilation requirements.

Respiratory Protection

If engineering controls are not effective in controlling airborne exposure then respiratory protective equipment should be used suitable for protecting against airborne contaminants. Final choice of appropriate breathing protection is dependant upon actual airborne concentrations and the type of breathing protection required will vary according to individual circumstances. Expert advice may be required to make this decision. Reference should be made to Australian Standards AS/NZS 1715, Selection, Use and maintenance of Respiratory Protective Devices; and AS/NZS 1716, Respiratory Protective Devices.

Eye Protection

Where there is a chance of splashing safety glasses with side shields, goggles or full-face shield as appropriate recommended. Final choice of appropriate eye/face protection will vary according to individual circumstances i.e. methods of handling or engineering controls and according to risk assessments undertaken. Eye protection should conform with Australian/New Zealand Standard AS/NZS 1337 - Eye Protectors for Industrial Applications.

Hand Protection

Wear gloves of impervious material such as Polyethylene natural or butyl rubber and PVC. Final choice of appropriate gloves will vary according to individual circumstances i.e. methods of handling or according to risk assessments undertaken. Reference should be made to AS/NZS 2161.1: Occupational protective gloves - Selection, use and maintenance.

Body Protection	Wear appropriate clothing including chemical resistant apron where clothing is likely to be contaminated. It is advisable that a local supplier of personal protective clothing is consulted regarding the choice of material.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Clear liquid - Usually colourless to amber although some grades of brake fluid may be highly dyed.
Odour	Odourless.
Melting Point	< -50°C
Boiling Point	> 270°C
Solubility in Water	Completely soluble.
Specific Gravity	1.05
pH Value	7.0 to 8.0
Vapour Pressure	< 1 kPa
Vapour Density (Air=1)	Not available.
Viscosity	1300 cSt at 40°C 2.0 cSt at 100°C.
Pour Point	50°C
Flash Point	> 120°C
Flammability	Combustible.
Auto-Ignition Temperature	310°C
Flammable Limits - Lower	Not available.
Flammable Limits - Upper	Not available.

10. STABILITY AND REACTIVITY

Chemical Stability	Stable under normal conditions.
Conditions to Avoid	Hygroscopic. Avoid exposure to water or moisture. Do not distill to dryness.
Incompatible Materials	Strong oxidising agents.
Hazardous Decomposition Products	None known.
Hazardous Reactions	Reacts with strong oxidising agents.

11. TOXICOLOGICAL INFORMATION

Toxicology Information	No toxicity data available for this product.
Inhalation	Inhalation of product vapours may cause irritation of the nose, throat and respiratory system.
Ingestion	Ingestion of this product may irritate the gastric tract causing nausea and vomiting.
Skin	May cause redness, itching and irritation.
Eye	May cause eye irritation, tearing, stinging, blurred vision, and redness.
Chronic Effects	There are no reports of long term adverse affects.

12. ECOLOGICAL INFORMATION

Ecotoxicity	Product is of low acute ecotoxicity.
Persistence / Degradability	Product is inherently biodegradable and is expected to be readily biodegradable.
Mobility	Soluble in water.

Material Safety Data Sheet

Infosafe No.	LPV44	Issue Date : January 2006	ISSUED by PENRITEO

Product Name : **BRAKE FLUID**

Bioaccumulative Potential	Not expected to bioaccumulate.
Environ. Protection	Do not allow product to enter drains, waterways or sewers.

13. DISPOSAL CONSIDERATIONS

Disposal Considerations	Dispose of waste according to federal, EPA and state regulations.

14. TRANSPORT INFORMATION

Transport Information	Not classified as a Dangerous Good, according to the Australian Code for the Transport of Dangerous Goods by Road and Rail.
U.N. Number	None Allocated
Proper Shipping Name	None Allocated
DG Class	None Allocated
Hazchem Code	None Allocated
Packing Group	None Allocated

15. REGULATORY INFORMATION

Poisons Schedule	Not Scheduled

16. OTHER INFORMATION

Date of preparation or last revision of MSDS	MSDS Reviewed: January 2006 MSDS Supersedes: December 1997
Contact Person/Point	TITLE: Technical and Marketing Director TELEPHONE NUMBER: 03 9801 0877 B.H ...End Of MSDS...

Revision Date: 5.27.15 Date of issue: 5/27/15 **Version: 1.0**

SECTION1:IDENTIFICATION

Product Name: Bug Protector Spray

Intended Use of the Product: Apply to skin

Manufacturer:

Raining Rose, Inc.
100 30th St. Dr. SE Cedar
Rapids, IA 52403

Emergency Number: 1-800-481-3934

SECTION2:HAZARDSIDENTIFICATION

Classification of the Substance or Mixture

Appearance **liquid** Physical State **liquid** Odor **vanilla lemongrass**

Potential Health Effects

Route of Entry: Inhalation, skin, ingestion, mucous

Target Organs: Product is not intended for internal use.

Inhalation: Inhalation of vapors not expected to cause any significant adverse effects.

Skin Contact: None expected

Eye Contact: May cause irritation and redness

Ingestion: Ingestion of small quantities is not expected to cause any significant adverse effects. May cause irritation of digestive tract.

SECTION3:COMPOSITION/INFORMATIONONINGREDIENTS

Ingredients:

CAS #	Chemical Name	Percentage
7732-15-5	Water	50+%
8001-79-4	castor oil	10-15%
56-81-5	glycerin	6-10%
50-70-4	sorbitol	3-5%
121-33-5	Vanillin	1-4%
9000-01-5	Gum Arabic/Acacia Gum	1-2%
8007-02-1	Lemongrass Oil	0.5%
8007-46-2	Geranium Oil	0.15%
8006-90-4	Peppermint Oil	0.1%
8015-91-6	Cinnamon Leaf Oil	0.05%
8002-43-5	Lecithin	0.2-0.75%
1406-18-4	Vitamin E	0.1-0.4%
77-92-9	Citric Acid	<0.05%

Consumer products regulated by the Food Drug, and Cosmetics Act (when packaged for sale to consumers in a retail establishment) are exempt from all provisions of OSHA's Hazard Communications Standard. This exemption is provided within the Code of Federal Regulations, Title 29, Part 1910.1200(b)(6).

As per CFR Parts 210 & 211, specific ingredient information can be found in the product package labeling.

This product is an EPA FIFRA 25 (b) exempt insect repellent.

SECTION4:FIRSTAIDMEASURES

Description of First Aid Measures

Skin contact: If irritation or rash develops, stop use. Wash with with water and mild soap. If the condition does not improve in several days, seek medical assistance.

Eye contact: In case of contact with eyes, rinse immediately with plenty of water for 15 minutes and see medical assistance.

Inhalation: May cause respiratory irritation.

Ingestion: Contact poison control.

If you feel unwell, seek medical advice (show the label where possible).

SECTION5:FIRE-FIGHTING MEASURES

Extinguishing Media: Carbon Dioxide
Flash Point: N/A
Explosion Hazard: N/A

SECTION6:ACCIDENTALRELEASEMEASURES

Methods for Cleaning up:
Use inert absorbent material to collect spilled liquids.
Collect solids in an appropriate container ready for disposal.

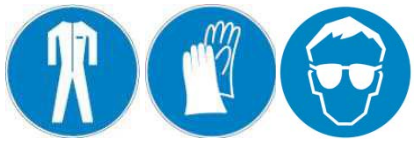
Environmental Precautions: Local authorities should be advised if a significant spill cannot be contained.

SECTION7:HANDLINGANDSTORAGE

Handling: Handle in accordance with good industrial hygiene and safety practice. Keep in closed container.
Storage: Store at room temperature. Avoid intense heat or freezing.

SECTION8:EXPOSURECONTROLS/PERSONALPROTECTION

Engineering Controls: N/A
Personal Protective Equipment : Based on risk assessment



Materials for Protective Clothing	:	Use chemically resistant materials and fabrics based on risk assessment.
Skin Protection	:	For prolonged or repeated exposure use protective gloves.
Eye Protection	:	Provide eye protection based on risk assessment.
Respiratory Protection	:	Base respirator selection on a risk assessment.
Other Information	:	Limit access to only personnel trained in the safe handling of this material.

SECTION9:PHYSICALANDCHEMICALPROPERTIES

Information on Basic Physical and Chemical Properties

Physical State	:	**liquid**
Appearance	:	**Cream**
Odor	:	**vanilla lemon**
pH	:	**4.5-5.5**
Specific Gravity	:	**1.02**
Viscosity	:	**NA**

SECTION10:STABILITYANDREACTIVITY

Reactivity: Hazardous reactions are unlikely to occur under normal circumstances.
Chemical Stability: Stable under recommended handling and storage conditions (see section 7).
Possibility of Hazardous Reactions: Hazardous polymerization will not occur.
Conditions to Avoid: Direct sunlight, extremely high or low temperatures.
Incompatible Materials: Strong acids. Strong bases. Strong oxidizers.
Hazardous Decomposition Products: Carbon oxides (CO, CO_2).

SECTION11:TOXICOLOGICALINFORMATION

Non-hazardous and non-toxic.
Not classified as human carcinogen.

SECTION12:ECOLOGICALINFORMATION

At present there are no ecological assessment data available.
Complete information is not yet available.
No data is available on the adverse effects of this product on the environment.
According to present knowledge nonegative reactions are to be expected.

Doc. Number F165	Revision	Date	Author	Approver's Signature/Date
	00	5-7-15	Karen Edwards	5-8-15

SECTION13:DISPOSALCONSIDERATIONS

Dispose of in accordance with all applicable federal, state and local regulations.
Not regulated.
Non-hazardous.

SECTION14:TRANSPORTINFORMATION

US Department of Transport (DOT) Not regulated

SECTION15:REGULATORYINFORMATION

OSHA Regulatory Status
This material is not considered hazardous by the OSHA Hazar Communication Standard (29SFR 1910.1200)

SECTION16:OTHERINFORMATION,INCLUDINGDATEOFPREPARATIONORLASTREVISION

MANUFACTURER DISCLAIMER: The information contained in this SDS has been compiled from sources which Raining Rose Inc. considers reliable and accurate to the best of Raining Rose Inc.'s knowledge. The information relates only to the specific product described above, and not to be used in combination with another material. Customers and other users should read this SDS and the product label carefully before using the product. Raining Rose Inc. neither assumes, nor authorizes anyone to assume on Raining Rose, Inc behalf, any liability in connection with the use of the information in this SDS. The recommended industrial hygiene and safe handling procedures are believed to be generally applicable. However, each user should review these recommendations in line specific context of the intended use and determine whether they are appropriate.

SAFETY DATA SHEET(SDS):
COASTAL BRAND SHELL

SECTION I –IDENTIFICATION

PRODUCT IDENTIFIER	TRADE NAME	OTHER SYNONYMS
Calcium Carbonate	Coastal Brand Shell	Aglime, Mineral Filler

RECOMMENDED USE AND RESTRICTION ON USE
Used for Feed, fillers, Lime

MANUFACTURER/SUPPLIER INFORMATION
Core Calcium and Shell Products
2640 Claudia Lane
Theodore, AL 36582
Phone: 251-443-3337

SECTION II – HAZARD(S) IDENTIFICATION

HAZARD CLASSIFICATION:
Shell - Calcium
Category 1 Skin Irritant
Category 2 Wear Eye Protection
Category 3 Immediately Flush Eyes

Category 4 Avoid creating dust when handling, using or storing. Use with adequate ventilation to keep exposure below recommended exposure limits.
Category 5 Dispose of product in accordance with local, regional, national or international regulations.

SECTION III – COMPOSITION/INFORMATION ON INGREDIENTS

COMPONENT(S) CHEMICAL NAME	CAS REGISTRY NO	SPECIFIC GRAVITY 2.71
Coastal Brand Shell	1317-65-3	
Calcium Carbonate, $CaCO_3$	1317-65-3	White Particles no Odor

(1): The composition of SiO_2 may be up to 100% crystalline silica

SECTION IV – FIRST-AID MEASURES
FLASH POINT (METHOD USED) None Direct Ignition
EXTINGUISHING MEDIA Not Applicable
SPECIAL FIRE FIGHTING PROCEDURES Not Applicable
UNUSUAL FIRE AND EXPLOSION HAZARDs None
EYES Immediately flush eyes
SKIN Rinse skin with soap

SECTION V – FIRE-FIGHTING MEASURES	
EXTINGUISHING AGENT Not flammable; use extinguishing media compatible with surrounding fire.	
SPECIAL FIRE FIGHTING PROCEDURES None known	HAZARDOUS COMBUSTION PRODUCTS None known

SECTION VI – ACCIDENTAL RELEASE MEASURES
STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED Collect the material using a method that does not produce dust. Vacuum or thoroughly wet down the dust before cleaning up. Wear appropriate personal protective equipment. Place the dust in a covered container appropriate for disposal.

SECTION VII – HANDLING AND STORAGE

Do not breathe dust. Avoid contact with skin and eyes. Do not store near food or beverages or smoking materials.

Do not stand on piles of materials; it may be unstable.

Use adequate ventilation and dust collection equipment. Familiarize your employees with this SDS and the information contained herein. Warn your employees, your customers and other third parties.

Sweep and dispose of in proper manner or wash away with water.

SECTION VIII – EXPOSURE CONTROLS/PERSONAL PROTECTION

Airborne OELs for Components of Shell:

COMPONENT(S) CHEMICAL NAME Coastal Brand Shell Calcium Carbonate, $CaCO_3$		

1. Crystalline silica is normally measured as respirable dust.
2. Nuisance dust
3. Ventilation
4. Eye Protection
5. Skin protection, gloves etc.

EYE/FACE PROTECTION

Safety glasses with side shields should be worn as minimum protection. Dust goggles should be worn when excessively (visible) dusty conditions are present or are anticipated. If irritation persists, get medical attention immediately. There is potential for severe eye irritation if exposed to excessive concentrations of dust for those using contact lenses.

SKIN PROTECTION

Use appropriate protective gloves if manually handling the product.

SECTION IX— PHYSICAL AND CHEMICAL PROPERTIES	
APPEARANCE Shell is a mixture of fine to coarse angular white to gray particles ranging in size from 1/4" to 325 mesh.	ODORLESS
pH AND VISCOSITY Not applicable	MELTING POINT/FREEZING POINT Not applicable
BOILING POINT AND RANGE Not applicable	FLASH POINT AND FLAMMABILITY Not applicable
FLAMMABILITY/EXPLOSIVE LIMITS AND AUTOIGNITION TEMPERATURE Not applicable	EVAPORATION RATE AND DECOMPOSITION TEMPERATURE Not applicable
VAPOR PRESSURE AND VAPOR DENSITY IN AIR Not applicable	SPECIFIC GRAVITY. 2.75
SOLUBILITY IN WATER Insoluble	PARTITION COEFFICIENT: N-OCTANOL/WATER Not applicable

SECTION X – STABILITY AND REACTIVITY	
STABILITY Stable	CONDITIONS TO AVOID Contact with incompatible materials.
NOT FLAMMABLE	
HAZARDOUS POLYMERIZATION Not known to polymerize	

SECTION XI – TOXICOLOGICAL INFORMATION

Health Effects: The information below represents an overview of health effects caused by overexposure to one or more components in shell calcium.

Primary routes(s) of exposure: ■ Inhalation ■ Skin ■ Ingestion

EYE CONTACT: Direct contact with dust may cause irritation by mechanical abrasion or corrosive action.

SKIN CONTACT: Direct contact may cause irritation.

SKIN ABSORPTION: Not expected to be a significant route of exposure.

INGESTION: Small amounts swallowed during normal handling operations are not likely to cause injury.

INHALATION: Dust may irritate nose, throat, mucous membranes and respiratory tract

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE
Inhaling respirable dust and/or crystalline silica may aggravate existing respiratory system disease(s). Exposure to dust may aggravate existing skin and/or eye conditions. Smoking and obstructive/restrictive lung diseases may also exacerbate the effects of excessive exposure to this product.

Exposure route: Eyes, respiratory system.

Target organs: Eyes, skin, respiratory system.

Lower exposure limits may be appropriate for some individuals including persons with pre-existing medical conditions as described under medical conditions aggravated by exposure.

Aluminum Oxide:
Exposure route: Inhalation, ingestion, eye/skin contact.

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

Sodium Oxide:
Exposure route: Inhalation, ingestion, eye/skin contact.

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

Iron Oxide: (Ferric Oxide)
Exposure route: Inhalation, ingestion, skin

Target organs: Respiratory system, skin, eyes, neurological system

Potassium Oxide:
Exposure route: Inhalation, ingestion, eye/skin contact.

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

Calcium Oxide:

SECTION XI – TOXICOLOGICAL INFORMATION, CONTD.

Exposure route: Inhalation, ingestion, skin/eye contact.

Target organs: Eyes, skin, respiratory system.

Magnesium Oxide:
Exposure route: Inhalation, eye/skin contact.

Target organs: Eyes, respiratory system.

Calcium Carbonate:
Exposure route: Inhalation, skin/eye contact.

Target organs: Eyes, skin, respiratory system.

SECTION XII – ECOLOGICAL INFORMATION		
N/A		

SECTION XIII – DISPOSAL CONSIDERATION

Waste Disposal Method:

Collect and reuse clean materials. Dispose of waste materials only in accordance with applicable federal, state, and local laws and regulations.

SECTION XIV – TRANSPORT INFORMATION

DOT HAZARD CLASSIFICATION
None

PLACARD REQUIRED
None

Product is moved in bulk trucks, vans and trailers.

SECTION XV – REGULATORY INFORMATION

OSHA: Crystalline Silica is not listed as a carcinogen.
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).(The FDA standard primarily applies to products containing silica used in the coatings of food contact surfaces).
Calcium Carbonite: It is claimed that using pure calcium carbon does not cause pneumoconiosis. Adverse health effects have generally not been reported in literature amount workers using CaCo3.

SECTION XVI – OTHER INFORMATION

DEFINITIONS OF ACRONYMS/ABBREVIATIONS

ANSI: American National Standards Institute
CAS: Chemical Abstracts Service
CFR: US Code of Federal Regulations
EPA: Environmental Protection Agency
FDA: Food and Drug Administration
GHS: Globally Harmonized System
MSHA: Mine Safety and Health Administration
OEL: Occupational Exposure Limit
OSHA: Occupational Safety and Health Administration, US Department of Labor
RCRA: Resource Conservation and Recovery Act
SDS: Safety Data Sheet
TWA: Time-Weighted Average

User's Responsibility: The OSHA Hazard Communication Standard 29 CFR 1910.1200 requires that this SDS be made available to your employees who handle or may be exposed to this product. Educate and train your employees regarding applicable precautions. Instruct your employees to handle this product properly.

Disclaimer: The information contained in this document applies to this specific material as supplied by Core Industries, Inc. It is believed that the information contained in this SDS is accurate. The suggested precautions and recommendations are based on recognized good work practices and experience. They are not necessarily all-inclusive or fully adequate in every circumstance as not all use circumstances can be anticipated. It may not be valid for this material if it is used in combination with other materials. It is the user's responsibility to satisfy oneself as to the suitability and completeness of this information for one's own particular use. Since the actual use of the product described herein is beyond our control, Core Industries, Inc., assumes no liability arising out of the use of the product by others. Appropriate warnings and safe handling procedures should be provided to handlers and users.

For more information feel free to contact us at any time.

DATE OF PREPARATION 10/27/2015

Glue Guru

SAFETY DATA SHEET

Section 1. Identification of the material and the supplier

Product:	CANTAC POLY-TAC
Product Use:	Adhesive for industrial use.
New Zealand Supplier:	Glue Guru
Address:	18 Kaimahi Road Wairau Valley, Auckland
Telephone:	09 444 4878
Fax Number:	09 442 5975
NZ Emergency No:	**0800 766 764 (National Poison Centre)**
Date SDS Issued:	06 October 2017 ver 3

Section 2. Hazards Identification

This substance is hazardous according to:
New Zealand: **The *HSNO (Minimum Degrees of Hazard) Regulations 2001***
Australia: ***NOHSC:1008 (2004)***

Aerosol:
New Zealand Group Standard & EPA Approval Code:
Aerosols (Flammable)– HSR002515

Canister:
New Zealand Group Standard & EPA Approval Code:
Compressed Gases (Flammable)– HSR002532

Pictograms

Flammable Toxic Health Ecotoxic

HSNO Class.	Hazard Code	Hazard Statement	GHS Category
2.1.2A (Aerosol)	H222	Extremely flammable aerosol. (Aerosol only)	Category 1
2.1.1A(Canister)	H220	Extremely Flammable gas(canister only)	Category 1
6.3B	H316	Causes mild skin irritation.	Category 3
6.4A	H319	Causes serious eye irritation.	Category 2A
6.9A	H372	Causes damage to organs lungs through prolonged or repeated exposure	Category 1

9.1B	H411	Toxic to aquatic life with long lasting effects.	Category 2

Prevention Code	Prevention Statement
P102	Keep out of reach of children.
P103	Read label before use.
P104	Read safety data sheet before use
P210	Keep away from heat, sparks, open flames and hot surfaces. No smoking.
P211	Do not spray on an open flame or other ignition source.
P251	Pressurized container: Do not pierce or burn, even after use.
P260	Do not breathe fumes, gas or vapours.
P264	Wash hands thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P273	Avoid release to the environment.
P280	Wear protective clothing.

Response Code	Response Statement
P101	If medical advice is needed, have product container or label at hand.
P312	Call a POISON CENTER or doctor/physician if you feel unwell.
P314	Get medical advice/attention if you feel unwell.
P331	Do NOT induce vomiting.
P377	Leaking gas fire: Do not extinguish, unless leak can be stopped safely
P381	Eliminate all ignition sources if safe to do so.
P391	Collect spillage.
P305 + P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Storage Code	Storage Statement
P410 + P412	Protect from sunlight. Do not expose to temperatures exceeding 50 °C.
P403	Store in a well ventilated place

Disposal Code	Disposal Statement
P501	Dispose of according to the local authorities

Section 3. Composition of hazardous Ingredients

Ingredients	Wt%	CAS NUMBER.
N-Hexane	30-50%	110-54-3
Dimethyl Ether	30-50%	115-10-6
Acetone	1-5%	67-64-1

Section 4. First Aid Measures

Routes of Exposure:

If in Eyes — Immediately flush eyes with gentle but large stream of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician if needed.

If on Skin — Wash with plenty of soap and water.

If Swallowed — Do not induce vomiting. Get medical attention if needed.

If Inhaled | Remove from exposure. If there is difficulty in breathing, give oxygen. Obtain medical attention if needed.

Section 5. Fire Fighting Measures

Hazard Type	Flammable
Hazards from products	In the event of fire, the following can be released: Carbon dioxide (CO_2) Carbon monoxide (CO)
Suitable Extinguishing media	Carbon dioxide . Do not use full water jet.
Precautions for firefighters and special protective clothing	Use self-contained breathing apparatus. Wear protective clothing. Cool endangered containers with water spray jet. Suppress gases/vapours/mists with water spray
HAZCHEM CODE	**2YE**

Section 6. Accidental Release Measures

Use suitable respiratory protective equipment & protective gloves. No smoking or sources of ignition. Do not inhale vapours. Soak up with absorbent materials and collect in suitable containers for correct disposal. Do not empty into drains/water courses. Ventilate spill area.

Section 7. Handling and Storage

- Keep out of reach of children.
- Read label before use.
- Read safety data sheet before use
- Provide good ventilation of working area.
- Keep away from heat, sparks, open flames and 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 (Aerosol)
- Leaking gas fire: Do not extinguish, unless leak can be stopped safely(Canister)
- Do not breathe fumes, gas or vapours.
- Wash hands thoroughly after handling.
- Do not eat, drink or smoke when using this product.
- Avoid release to the environment.
- Wear protective clothing.
- Protect from sunlight. Do not expose to temperatures exceeding 50 °C.
- Containers which are opened must be carefully resealed and kept upright to prevent leakage. Always keep in containers of same material as the original one.
- Do not store together with: Acids or Oxidizing agents
- Store in a well ventilated place

Section 8 Exposure Controls / Personal Protection

Exposure Limit Values:

Occupational Exposure Standards (OESs) / EH40

N-Hexane - CAS no. 110-54-3
TWA 72 mg/m³ 20 ml/m³

Dimethyl ether
TWA 766 mg/m³ 400 ml/m³
STEL 958 mg/m³ 500 ml/m³

Engineering Controls

Ensure adequate ventilation. Local exhaust recommended.

Personal Protection

Respiratory Protection
If workplace exposure limits are exceeded, a respiration protection approved for this particular job must be worn. In case of aerosol and mist formation, take appropriate measures for breathing protection in the event workplace threshold values are not specified.

Hand Protection
Sufficient protection is given wearing suitable protective gloves checked according to i.e. EN 374, in the event of risk of skin contact with the product . Before use, the protective glove should be tested in any case for its specific work-station suitability (i.e. mechanical resistance, product compatibility and antistatic properties). Adhere to the manufacturer's instructions and information relating to the use, storage, care and replacement of protective gloves. Protective gloves shall be replaced immediately when physically damaged or worn. Design operations thus to avoid permanent use of protective gloves.
Appropriate Material PVA

Eye Protection
Chemical goggles or safety glasses with side shields

Skin Protection
Clothing as usual in the chemical industry.

Section 9 Physical and Chemical Properties

Physical State	Blue or clear
Odour	Solvent like
Flash Point	-41^0C
Vapor Pressure:	Not Determined
Solubility in Water:	Negligible
Lower and Upper explosion limit	3.4 – 18% vol
Specific Density	0.68 – 0.72g/cm^2

Section 10. Stability and Reactivity

Stability of Substance	Stable under normal conditions
Conditions to Avoid	Avoid heat, flames and other sources of ignition
Incompatible Materials	Acids; Oxidizing agents
Hazardous Decomposition Products	Toxic gases/vapours

Section 11 Toxicological Information

Acute Exposure:
Inhalation of vapours may lead to headache, drowsiness and dizziness. Inhalation of vapours in higher concentration may lead to irritation of eyes, nose and respiratory tract.
Repeated and prolonged skin contact may cause removal of natural fat from the skin and irritation of the skin. Eye contact with the product may lead to irritation.

Section 12. Ecotoxicological Information

HSNO Classes: 9.1B = Toxic to aquatic life with long lasting effects.
Do not allow to enter the waterways.

Section 13. Disposal Considerations

Dispose of in accordance with all local regulations.
Receptacles must be empty and pierced through disc near neck for disposal.

Section 14 Transport Information

This product is classified as a Dangerous Good for transport:
In New Zealand; NZS 5433:2012
In Australia: The Australian Dangerous Goods Code 7th edition

Aerosol:

Road Transport

UN No	1950
Class-primary	2.1
Packing Group	None allocated
Proper Shipping Name	AEROSOLS

Air Transport

UN No	1950
Class-primary	2.1
Packing Group	None allocated
Proper Shipping Name	AEROSOLS

Marine Transport

UN No	1950
Class-primary	2.1
Packing Group	None allocated
Proper Shipping Name	AEROSOLS

Canister:

Road Transport

Un No	3161
Class-primary	2.1
Packing Group	None Allocated
Proper Shipping Name	LIQUIFIED GAS, FLAMMABLE, N.O.S.

Air Transport

Un No	3161
Class-primary	2.1
Packing Group	None Allocated
Proper Shipping Name	LIQUIFIED GAS, FLAMMABLE, N.O.S.

Marine Transport

Un No	3161
Class-primary	2.1
Packing Group	None Allocated
Proper Shipping Name	LIQUIFIED GAS, FLAMMABLE, N.O.S.

Section 15 Regulatory Information

Aerosol:
EPA Approval Code: Aerosols (Flammable)– HSR002515
HSNO Classification: 2.1.2A, 6.1E(asp) 6.3B, 6.4A, 6.9A, 9.1B

Canister:
New Zealand Group Standard & EPA Approval Code:
Compressed Gases (Flammable)– HSR002532
HSNO Classification: 2.1.1A, 6.1E(asp) 6.3B, 6.4A, 6.9A, 9.1B

HSNO Controls in New Zealand:
Trigger quantities for this substance:

	Trigger Quantity	
	2.1.2A(Aerosol)	**2.1.1A(Canister)**
Approved Handler	3000 L (AWC)	100kg/L
Location Certificate	3000 L (AWC)	100kg/L
Tracking Trigger Quantities	Not applicable	Not applicable
Signage Trigger Quantities	3000 L (AWC)	250kg/L
Emergency Response Plan trigger Quantities	300 L (AWC)	300kg/L

***AWC = Aggregate Water Capacity**

Section 16 Other Information

1. HSNO Approved Code of Practice: Preparation of Safety Data Sheets, September 2006.

Disclaimer

This document has been issued by the Glue Guru and serves as their Safety Data Sheet ('SDS'). It is based on information concerning the product which has been provided to the Glue Guru or obtained from third party sources and is believed to represent the current state of knowledge as to the appropriate safety and handling precautions for the product at the time of issue. Further clarification regarding any aspect of the product should be obtained directly from the manufacturer. While Glue Guru have taken all due care to include accurate and up-to-date information in this SDS, it does not provide any warranty as to accuracy or completeness. As far as lawfully possible, Glue Guru accept no liability for any loss, injury or damage (including consequential loss) which may be suffered or incurred by any person as a consequence of their reliance on the information contained in this SDS

The information herein is given in good faith, but no warranty, express or implied is made.

Please contact the New Zealand distributor, Glue Guru, if further information is required.

Issue Date: 06 October 2017

Review Date: 06 October 2017

Taiwan Chlorine Industries Ltd.
SAFETY DATA SHEET (SDS)

SDS-TCI-Rev.7

I. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: Chlorine
Synonyms : Chlorine; Cl_2
Recommended use and restrictions on use : 1. Manufacture of chlorinated hydrocarbons, hydrogen chloride, polyvinyl chloride, hypochlorous acid, a metal chloride, water sterilization; 2. It has strong oxidation. If reacting with water, it will become corrosive. If contacting combustible materials, it could cause fire or lead to explosion.
Names, addresses, and phone numbers of the manufacturer or supplier : Taiwan Chlorine Industries Ltd. 25 Chung Chih Street, Hsiao Kang District, Kaohsiung, Taiwan Tel. (07) 8715171
Emergency contact phone numbers : Tel: 07-8716923 Fax: 07-8717289

II. HAZARD IDENTIFICATION

A. Chemical Hazard Classification :
Pressurized gas, oxidizing gas Level 1, Level 1 acute toxic substances (inhalation), corrosion / irritation Skin Level 1 substances, severe damage / irritation of the eyes Level 1 substances, hazardous substances (acute toxicity) Water Environment Section 1.

B. Labeling Information :

Hazard Symbols:

Warnings : Danger

Hazard Warning: The third class of toxic chemical substances; after exposure to chemicals, will immediately endanger human health or the biological lives.

1. Containing pressurized gas; may explode if heated
2. May cause or intensify fire; oxidizer
3. Fatal if inhaled
4. Cause severe skin burns and eye damage
5. Cause serious eye damage
6. Very toxic to aquatic organisms

Hazard Precautions:

1. Poisoning first aid: Immediately remove the victims from contaminated area and give first aid. If breathing is difficult, give oxygen or artificial respiration and rush to hospital for further treatment. If contacting with eyes and skin, rinse with water at least 15 minutes and rush to hospital for further treatment.
2. Contamination control measures: Install exhaust system and neutralization system; prepare Kit A, Kit B, Kit C tools; introducing waste water into the plant wastewater treatment system.
3. Emergency treatment: When dealing with chlorine leak, should wear the appropriate PPE. Use emergency tools to stop the leak, but do not spray water to the leaking points at the pipelines, the container and the trailer.

4. Regulations for the personnel who make emergency rescue: must wear proper PPE and evacuate the other persons to upwind places.
5. Keep fire and inflammables away from the storage area.

Other Hazards :
Major Symptoms : Irritation, cough, difficulty breathing, choking sensation, chest pain, vomiting, thirst, nausea.
Special Hazards : Can irritate the eyes, skin, respiratory system, lead to mucosal burns, skin frostbite and corrosive, or blindness if overexposed.

III. COMPOSITION, INFORMATION ON INGREDIENTS

Pure Substance :

Chinese and English Name : 氯 / Chlorine
Synonyms : Molecular Chlorine, Liquefied Chlorine Gas
Chemical Abstract Service No.（CAS NO.）: 7782-50-5
The Hazardous Ingredient (% of the content) : 95~100% (w/w)

IV. FIRST-AID MEASURES

Before rescue, personnel should wear proper PPE before entering the disaster area.

The first aid measures for different exposure routes :

A. INHALATION :
1. Remove the victims immediately to the upwind place with fresh air. Keep away or remove the pollutant.
2. If the victim can breathe, then place them in a more comfortable position to maintain their body temperature and take a rest while waiting for physician treatment.
3. If breathing is difficult, oxygen should be administered by qualified personnel.
4. If breathing stopped, immediately give "mouth to mouth" artificial respiration and CPR.
5. While taking the above first aid measures, contact the doctors to take further medical treatment as soon as possible.
6. After exposure or inhalation of chlorine, suggest the victims get more rest.

B. EYE/SKIN CONTACT :
1. Immediately flush the affected area with plenty of water (skin can be added with soap) at least 15 minutes (must remove contact lenses first).
2. If irritating, when using the drug treatment please do not use the chemical neutralization method.
3. Without professional physician instructions, do not impose any medical treatment.

The most important symptoms and reactions: irritation, hard breathing, burning sensation, overexposure may cause pulmonary edema.

For protection of emergency personnel: should wear C level protective clothing and do the first aid in the safe area.

Physician's Tip: When dealing with the symptoms, please pay more attention to observe the early symptoms of pulmonary edema which are easily ignored. Consider giving oxygen to help breathing.

V. FIRE FIGHTING MEASURES

Appropriate fire extinguishing media :
Small fires: dry chemicals, carbon dioxide.
Large fires: Flood with fine water spray, foam (due to chlorine itself is non-combustible, fire extinguishing agents are used to extinguish fires around).

Specific hazards may be encountered during fire-fighting :

1. Chlorine is heavier than air and it can fill in the low-lying areas.
2. It will generate toxic products when burned with the combustibles.
3. The container or cylinder may rupture or explode if exposed to heat.

Specific fire-fighting methods :

1. Firefighters should wear positive pressure self-contained breathing apparatus (SCBA) and the required protective clothing if they may be exposed to the harmful gases.
2. The chlorine containers should be promptly removed away from the fire. If it cannot be removed, notify the firefighters to cool them with water spray.
3. If the containers are leaking, do not spray water directly on leak.
4. The chlorine has combustion-supporting. If reacting with hydrogen, alcohol, ether, or metal may cause an explosion.
5. Chlorine may violently react with steel containers at temperature above 450 F(232℃) and burn.

Protective equipment and precautions for firefighters :

Fire-fighters must wear self-contained breathing apparatus and full fire-fighting turnout gear.

VI. ACCIDENTAL RELEASE MEASURES

Personal Precautions :

1. No one is allowed to access to the danger area until it is cleaned.
2. Only the trained personnel are responsible for cleaning up.
3. Only the personnel who wear positive pressure self-contained breathing apparatus (SCBA) and protective clothing and equipment are allowed to enter the danger area from the upwind place and take care of the victims and stop the release.

Environmental Precautions :

1. Remove all ignition sources.
2. Keep good ventilation in leakage area.
3. Notify the government health and safety and environmental protection units.

Steps to be taken if material is released or spilled :

1. Do not touch spilled material; use a cloth dipped with ammonia to find out the leaking points.
2. When liquid chlorine cylinder or steel cylinder container leak, should turn the leaking points up and stanch the leak.
3. Avoid chlorine flowing into sewer, ditch and other confined space.
4. Use caustic sodium, soda ash or lime liquid to neutralize the chlorine and then collect in a steel container.

Remark: Emergency brochure and tools, such as cylinders, ton containers and trailers, should be ready during chlorine transportation. TCI can provide the related data and trainings.

VII. HANDLING AND STORAGE

Handling :

1. The Chlorine staff should be well-aware of the risk of chlorine and the usage of PPE.
2. Follow the SOP when dealing with chlorine: use wrench correctly, the lid of the ton container should be closed and fastened during transportation and do not put the ton container into water or spray water on leak.
3. Make sure piping is dry and free of contamination of any type before admitting chlorine.
4. Never tamper with fusible plugs or safety devices on containers; never manifold containers from liquid valves. Check storage place and operation area and use ammonia to test leaks every day.

Storage :

1. The storage area should remain dry, ventilated and fire-proof, away from direct sunlight and flammable materials because heat will melt the safety fuse plug of cylinder / steel container or actuate the tank's safety valves.
2. Storage areas should be clearly marked, both empty and heavy containers should be placed separately, and there is no obstacle around. It has to have warning signs stated only specific personnel be allowed to enter. Storage areas shall be equipped with tools for stopping leaks and install a detecting alarm system. Hold safety trainings periodically.

VIII. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls :

1. Operate in a fully enclosed or isolated condition.
2. Supply sufficient fresh air to supplement the extracted mixed air from exhaust system.
3. Keep system dry to prevent metal corrosion.

Control Parameters :

1. 8-hour Time-Weighted Average (TWA) : --
2. Short-Term Exposure Limit (STEL) : --
3. Maximum exposure limits (CEILING) : 0.5ppm
4. Biological indicators BEIs : --

Personal Protective Equipment :

Respiratory Protection :

1. Chemical cartridge respirator: When operating the work of chlorine, the respirator should be carried at all times.
2. Below 5 ppm: Use a regulatory compliant full face piece air purifying respirator with appropriate chemical cartridges or positive-pressure, air-supplied respirator.
3. Above 5 ppm : Use SCBA
4. For unknown concentration : Use SCBA

Hand Protection : Butyl rubber, Neoprene, Tychem 10000, Teflon, Viton

Eye/Face Protection : Splash-proof goggles

Skin and Body Protection: Boots, aprons, or chemical suits should be used when necessary to prevent skin contact.

Hygiene Measures: After finished leak of chlorine, this area should be decontaminated; smoking and eating are prohibited in the workplace.

IX. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : Greenish-yellow gas or amber liquid	Odor : Pungent, irritating.
Odor threshold : 0.08ppm(detected)	Melting point : -101℃
PH value : acidic	Boiling point/Boiling point range : -34℃
Flammability (solid / gas) : --	Flash point : Noncombustible
Decomposition temperature : --	Test method : □ open cup □ closed Cup
Auto-ignition temperature : /	Explosive limits : -
Vapor pressure : 6.64 atm@ 20℃	Vapor density (air=1) : 2.48
Specific Gravity (Water=1): 1.468 @ 0℃	Solubility : 0.73g/100g@20℃(water)
Partition coefficient : n-Octanol / water : (log/Kow)--	Evaporation rate : NA

X. STABILITY AND REACTIVITY

Stability**:** Stable at normal temperature and pressure

Possible Hazard Reaction May Occur in the Following Conditions:

1. With gaseous hydrocarbons (methane, ethane): explosive reaction
2. With liquid, solid hydrocarbons (natural or synthetic rubber, naphtha, gasoline, wax, oil): burning or explosion of violent reaction.
3. With metal (aluminum powder, brass, copper, manganese, tin): violent or explosive reactionn.
4. With nitrogen compounds (ammonia): generate highly explosive nitrogen trichloride.
5. With hydrogen: spark can ignite significant concentrations of chlorine and hydrogen mixture.
6. With non-metallic (phosphorus, boron, activated carbon, silicon): ignite at room temperature.

Conditions to avoid : 1. Temperature over 121 ℃。2. Avoid contacting with moisture.

Materials to avoid :
Hydrocarbons, metal, non-metal, hydrogen, nitrogen compound.

Hazardous decomposition products : --

XI. TOXICOLOGICAL INFORMATION

Routes of exposure : INHALATION, SKIN CONTACT, EYE CONTACT

Symptoms: tingling, cough, dyspnea, choking sensation, chest pain, vomiting, pleural effusion, redness and blistering, frostbite, blindness, burns, nausea.

Acute Toxicity :

Skin :

1. Severe irritation at high concentrations can cause tingling, burning, redness, blistering.
2. Direct contact with its liquid can cause severe irritation, burns, and even frostbite.

Inhalation :

1. Severely irritate nose, throat and upper respiratory tract. If inhale too much, may cause lung water.
2. 0.2-2 ppm can cause nasal irritation, mild cough, dry mouth.
3. 1.0-2 ppm can cause significant irritation, cough and mild breathing difficulties and headaches.
4. 1-4 ppm intolerable.
5. 15-60 ppm severe respiratory damage, including bronchitis, pulmonary edema symptoms, it

may appear immediately or delayed up to 48 hours after exposed.
Eye :
1. Severe irritation, resulting in burning pain and tears.
2. Direct contact with liquid chlorine may cause burns and permanent damage, even blindness.

LD50 (Test animals, absorption means) : --
LC50 (Test animals, absorption means) : 293 ppm /1H (Rat, Inhaled).

Chronic or Long-term Toxicity :
1. Prolonged or frequent exposure to concentrations below 5ppm may affect breathing, cause inflammation of the nose, difficulty breathing, irregular heartbeat, chest pain, and erosion of tooth enamel.
2. ACGIH: A4 – It cannot be judged as resulting in human's cancer.
3. IARC: There is no IARC classification.
4. 565mg / Kg (2 weeks pregnant rats swallow) caused neonatal rats poisoned.

XII. ECOLOGICAL INFORMATION

Ecotoxicological : This product is toxic to fish and water, so when dealing with waste disposal, should keep away from lakes, rivers, ponds or other water sources.
LC50: 0.44 mg/1/96-hour --High toxic to water fish
EC50: 0.49mg/1/48-hour-- Extreme toxicity to aquatic invertebrate.
BCF：--

Persistence and Degradability :
Chlorine is a strong oxidant but not very stable in the water, so it can oxidize inorganic substances promptly in water. It also can oxidize organic substances.

Half-life (air) : --
Half-life (water surface) : --
Half-life (groundwater) : --
Half-life (soil) : --

Bioaccumulation: Because it will react with the cells and water, it is unlikely to accumulate.

Mobility in soil :

Other adverse effects : --

XIII. DISPOSAL CONSIDERATIONS

Waste Disposal Methods: Refer to Toxic Chemical Substances Control Act, and all applicable regulations.

XIV. TRANSPORT INFORMATION

UN Number : 1017

Proper Shipping Name : Chlorine

Transport Hazard Class : 2.3
Minor hazard class 5.1 for oxidizing substances, Class 8 corrosive substances.

Packing Group：--

Marine Pollutant (Y/N) : Y

Special Shipping Information: Road Traffic Safety Rule 84, Emergency response guide principles.

XV. REGULATORY INFORMATION

Applicable Regulations :	
1. Occupational Safety and Health Act	5. Rules of DG and Hazardous material labeling and identification
2. Specific chemical hazard prevention standards	6. Permissible Exposure standards in the workplace
3. Road safety rules.	7. Storage and disposal regulations for industrial wastes
4.Toxic and concerned chemical substances management regulations.	8. Labor safety rules for high-pressure gas

XVI. OTHER INFORMATION

References	1. EPA SDS data. 2. ITRI worker safety and health center number: 29 Chlorine Safety Data Sheet	
Organization that prepared the SDS	Company : Taiwan Chlorine Industries Ltd.	
	Address / Tel. : 25 Chung Chih Street, Hsiao Kang District Kaohsiung / (07) 8715171	
Person	Title : QA and Logistic Manager	Name : M.S. Liu
Date issued	Revised on Jan. 7, 2022	
Remarks	The above-mentioned symbol "--" means “The information is not available.”	

The above SDS comes from Taiwan Chlorine Industries Ltd. and refers to the proper information and documents. It is for reference only.

SAFETY DATA SHEET

Issuing Date January 5, 2015 **Revision Date** New **Revision Number** 0

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

Product identifier

Product Name **Clorox® Outdoor Bleach Cleaner**

Other means of identification

Synonyms None

Recommended use of the chemical and restrictions on use

Recommended use General purpose bleach for outdoor surfaces

Uses advised against No information available

Details of the supplier of the safety data sheet

Supplier Address
The Clorox Company
1221 Broadway
Oakland, CA 94612

Phone: 1-510-271-7000

Emergency telephone number

Emergency Phone Numbers For Medical Emergencies, call: 1-800-446-1014
For Transportation Emergencies, call Chemtrec: 1-800-424-9300

2. HAZARDS IDENTIFICATION

Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

Skin corrosion/irritation	Category 1
Serious eye damage/eye irritation	Category 1

GHS Label elements, including precautionary statements

Emergency Overview

Signal word **Danger**

Hazard Statements
Causes severe skin burns and eye damage
Causes serious eye damage

Appearance Clear, pale yellow **Physical State** Viscous liquid **Odor** Bleach

Precautionary Statements - Prevention
Do not breathe dusts or mists.
Wash face, hands and any exposed skin thoroughly after handling.
Wear protective gloves, protective clothing, face protection, and eye protection such as safety glasses.

Precautionary Statements - Response
Immediately call a poison center or doctor.
If swallowed: Rinse mouth. Do NOT induce vomiting.
If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water.
Wash contaminated clothing before reuse.
If inhaled: Remove person to fresh air and keep comfortable for breathing.
Specific treatment (see supplemental first aid instructions on this label).
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Precautionary Statements - Storage
Store locked up.

Precautionary Statements - Disposal
Dispose of contents in accordance with all applicable federal, state, and local regulations.

Hazards not otherwise classified (HNOC)
Although not expected, heart conditions or chronic respiratory problems such as asthma, chronic bronchitis, or obstructive lung disease may be aggravated by exposure to high concentrations of vapor or mist.

Unknown Toxicity
Not applicable.

Other information
Very toxic to aquatic life with long lasting effects.

Interactions with Other Chemicals
Reacts with other household chemicals such deck cleaners, wood bleaches, wood restorers, rust removers, wood or masonry finishes, toilet bowl cleaners, acids or products containing ammonia to produce hazardous gases, such as chlorine and other chlorinated compounds.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS-No	Weight %	Trade Secret
Sodium hypochlorite	7681-52-9	3 - 7	*
Sodium hydroxide	1310-73-2	0.1 - 1	*

* The exact percentage (concentration) of composition has been withheld as a trade secret.

4. FIRST AID MEASURES

First aid measures

General Advice Show this safety data sheet to the doctor in attendance.

Eye Contact Flush immediately with water for at least 15 minutes. If wearing contact lenses, remove after first 5 minutes. Call a doctor or poison control center immediately.

Skin Contact Remove contaminated clothing and wash skin thoroughly with water. If irritation persists, call a doctor.

Inhalation Move to fresh air. If breathing is affected, call a doctor.

Ingestion Drink a glassful of water. DO NOT induce vomiting unless told to do so by a poison control center or doctor. Call a doctor or poison control center immediately.

Protection of First-aiders Avoid contact with skin, eyes, and clothing. Use personal protective equipment as required. Wear personal protective clothing (see section 8).

Most important symptoms and effects, both acute and delayed

Most Important Symptoms and Effects Burning of eyes and skin.

Indication of any immediate medical attention and special treatment needed

Notes to Physician Treat symptomatically. Use of gastric lavage or emesis is contraindicated.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable Extinguishing Media
CAUTION: Use of water spray when fighting fire may be inefficient.

Specific Hazards Arising from the Chemical
This product causes burns to eyes, skin, and mucous membranes. Thermal decomposition can release sodium chlorate and irritating gases and vapors.

Explosion Data

Sensitivity to Mechanical Impact None.

Sensitivity to Static Discharge None.

Protective equipment and precautions for firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal Precautions Avoid contact with eyes, skin, and clothing. Ensure adequate ventilation. Use personal protective equipment as required. For spills of multiple products, responders should evaluate the MSDSs of the products for incompatibility with sodium hypochlorite. Breathing protection should be worn in enclosed and/or poorly-ventilated areas until hazard assessment is complete.

Other Information Refer to protective measures listed in Sections 7 and 8.

Environmental precautions

Environmental Precautions See Section 12 for ecological Information.

Methods and material for containment and cleaning up

Methods for Containment Prevent further leakage or spillage if safe to do so.

Methods for Cleaning Up Absorb and containerize. Wash residual down to sanitary sewer. Contact the sanitary treatment facility in advance to assure ability to process washed-down material.

7. HANDLING AND STORAGE

Precautions for safe handling

Handling Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes, and clothing. Do not eat, drink, or smoke when using this product.

Conditions for safe storage, including any incompatibilities

Storage Keep containers tightly closed in a dry, cool, and well-ventilated place.

Incompatible Products Deck cleaners, wood bleaches, wood restorers, rust removers, wood or masonry finishes, toilet bowl cleaners, acids, and products containing ammonia.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Sodium hydroxide 1310-73-2	Ceiling: 2 mg/m^3	TWA: 2 mg/m^3	IDLH: 10 mg/m^3 Ceiling: 2 mg/m^3
Sodium hypochlorite 7681-52-9	None	None	None

ACGIH TLV: American Conference of Governmental Industrial Hygienists - Threshold Limit Value. OSHA PEL: Occupational Safety and Health Administration - Permissible Exposure Limits. NIOSH IDLH: Immediately Dangerous to Life or Health.

Appropriate engineering controls

Engineering Measures Showers
Eyewash stations
Ventilation systems

Individual protection measures, such as personal protective equipment

Eye/Face Protection If splashes are likely to occur: Wear safety glasses with side shields (or goggles) or face shield.

Skin and Body Protection Wear rubber or neoprene gloves and protective clothing such as long-sleeved shirt.

Respiratory Protection If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

Hygiene Measures Wash hands after direct contact. Do not wear product-contaminated clothing for prolonged periods. Remove and wash contaminated clothing before re-use. Do not eat, drink, or smoke when using this product.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical and Chemical Properties

Physical State	Viscous liquid		
Appearance	Clear	**Odor**	Bleach
Color	Pale yellow	**Odor Threshold**	No information available

Property	**Values**	**Remarks/ Method**
pH	~12.9	None known
Melting/freezing point	No data available	None known
Boiling point / boiling range	No data available	None known
Flash Point	Not flammable	None known
Evaporation rate	No data available	None known
Flammability (solid, gas)	No data available	None known
Flammability Limits in Air		
Upper flammability limit	No data available	None known
Lower flammability limit	No data available	None known
Vapor pressure	No data available	None known
Vapor density	No data available	None known
Specific Gravity	~1.1	None known
Water Solubility	Soluble in water	None known
Solubility in other solvents	No data available	None known
Partition coefficient: n-octanol/water	No data available	None known
Autoignition temperature	No data available	None known
Decomposition temperature	No data available	None known
Kinematic viscosity	No data available	None known
Dynamic viscosity	No data available	None known
Explosive Properties	Not explosive	
Oxidizing Properties	No data available	

Other Information

Softening Point	No data available
VOC Content (%)	No data available
Particle Size	No data available
Particle Size Distribution	No data available

10. STABILITY AND REACTIVITY

Reactivity
Reacts with other household chemicals such deck cleaners, wood bleaches, wood restorers, rust removers, wood or masonry finishes, toilet bowl cleaners, acids or products containing ammonia to produce hazardous gases, such as chlorine and other chlorinated compounds.

Chemical stability
Stable under recommended storage conditions.

Possibility of Hazardous Reactions
None under normal processing.

Conditions to avoid
None known based on information supplied.

Incompatible materials
Deck cleaners, wood bleaches, wood restorers, rust removers, wood or masonry finishes, toilet bowl cleaners, acids, and products containing ammonia.

Hazardous Decomposition Products
None known based on information supplied.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information .

Inhalation Exposure to vapor or mist may irritate respiratory tract and cause coughing. Inhalation of high concentrations may cause pulmonary edema.

Eye Contact Corrosive. May cause severe damage to eyes.

Skin Contact May cause severe irritation to skin. Prolonged contact may cause burns to skin.

Ingestion Ingestion may cause burns to gastrointestinal tract and respiratory tract, nausea, vomiting, and diarrhea.

Component Information

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Sodium hypochlorite 7681-52-9	8200 mg/kg (Rat)	>10000 mg/kg (Rabbit)	-
Sodium hydroxide 1310-73-2	-	1350 mg/kg (Rabbit)	-

Information on toxicological effects

Symptoms May cause redness and tearing of the eyes. May cause burns to eyes. May cause redness or burns to skin. Inhalation may cause coughing.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Sensitization No information available.

Mutagenic Effects No information available.

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

Chemical Name	ACGIH	IARC	NTP	OSHA
Sodium hypochlorite 7681-52-9	-	Group 3	-	-

IARC (International Agency for Research on Cancer)
Group 3 - Not Classifiable as to Carcinogenicity in Humans

Reproductive Toxicity No information available.

STOT - single exposure No information available.

STOT - repeated exposure No information available.
Chronic Toxicity Carcinogenic potential is unknown.
Target Organ Effects Respiratory system, eyes, skin, gastrointestinal tract (GI).

Aspiration Hazard No information available.

Numerical measures of toxicity - Product Information

The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (oral)
40 g/kg
ATEmix (inhalation-dust/mist)
29 mg/L

12. ECOLOGICAL INFORMATION

Ecotoxicity
Very toxic to aquatic life with long lasting effects.

Persistence and Degradability
No information available.

Bioaccumulation
No information available.

Other adverse effects
No information available.

13. DISPOSAL CONSIDERATIONS

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

Contaminated Packaging
Do not reuse empty containers. Dispose of in accordance with all applicable federal, state, and local regulations.

14. TRANSPORT INFORMATION

DOT NOT REGULATED.

TDG

UN-No	UN3082
Proper Shipping Name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
Hazard Class	9
Packing Group	III
Description	UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (SODIUM HYPOCHLORITE), 9, III, MARINE POLLUTANT

ICAO

UN-No	UN3082
Proper Shipping Name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
Hazard Class	9
Packing Group	III
Description	UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (SODIUM HYPOCHLORITE), 9, III

IATA

UN-No	UN3082
Proper Shipping Name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
Hazard Class	9
Packing Group	III
Description	UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (SODIUM HYPOCHLORITE), 9, III

IMDG/IMO

UN-No	UN3082
Proper Shipping Name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
Hazard Class	9
Packing Group	III
EmS No.	F-A, S-F
Marine Pollutant	Product is a marine pollutant according to the criteria set by IMDG/IMO
Description	UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (SODIUM HYPOCHLORITE), 9, III, MARINE POLLUTANT

15. REGULATORY INFORMATION

Chemical Inventories

TSCA	All components of this product are either on the TSCA 8(b) Inventory or otherwise exempt from listing.
DSL/NDSL	All components are on the DSL or NDSL.

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

U.S. Federal Regulations

SARA 313
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

SARA 311/312 Hazard Categories

Acute Health Hazard	Yes
Chronic Health Hazard	No
Fire Hazard	No
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

Clean Water Act
This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Sodium hypochlorite 7681-52-9	100 lb			X
Sodium hydroxide 1310-73-2	1000 lb			X

CERCLA
This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

Chemical Name	Hazardous Substances RQs	Extremely Hazardous Substances RQs	RQ
Sodium hypochlorite 7681-52-9	100 lb	–	RQ 100 lb final RQ RQ 45.4 kg final RQ
Sodium hydroxide 1310-73-2	1000 lb	–	RQ 1000 lb final RQ RQ 454 kg final RQ

US State Regulations

California Proposition 65
This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania	Rhode Island	Illinois
Sodium hypochlorite 7681-52-9	X	X	X	X	
Sodium hydroxide 1310-73-2	X	X	X	X	

International Regulations

Canada
WHMIS Hazard Class
E - Corrosive material

16. OTHER INFORMATION

NFPA **Health Hazard** 3 **Flammability** 0 **Instability** 0 **Physical and Chemical Hazards** -

HMIS **Health Hazard** 3 **Flammability** 0 **Physical Hazard** 0 **Personal Protection** B

Prepared By
Product Stewardship
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Latham, NY 12110
1-800-572-6501

Revision Date New

Revision Note New

Reference 1059855/166110.001

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

End of Safety Data Sheet

SAFETY DATA SHEET

Product Name **CONCRETE (BORAL CONCRETE)**

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Supplier Name	**BORAL CONCRETE**
Address	Greystanes Rd, Sth Wentworthville, NSW, AUSTRALIA, 2145
Telephone	(02) 9688 9700
Fax	
Emergency	02 9688 9746
Synonym(s)	GROUT • MORTAR • PRE-MIXED CONCRETE • READY-MIXED CONCRETE
Use(s)	CONCRETE
SDS Date	22 Dec 2010

2. HAZARDS IDENTIFICATION

CLASSIFIED AS HAZARDOUS ACCORDING TO SAFE WORK AUSTRALIA CRITERIA

RISK PHRASES

R48/20 Harmful: danger of serious damage to health by prolonged exposure through inhalation.

SAFETY PHRASES

S22 Do not breathe dust.

NOT CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE

UN No.	None Allocated	**DG Class**	None Allocated	**Subsidiary Risk(s)**	None Allocated
Packing Group	None Allocated	**Hazchem Code**	None Allocated		

3. COMPOSITION/ INFORMATION ON INGREDIENTS

Ingredient	Formula	CAS No.	Content
QUARTZ (SILICA CRYSTALLINE)	Si-O2	14808-60-7	30-60%
GRAVEL	Not Available	Not Available	30-60%
PORTLAND CEMENT	Not available	65997-15-1	10-30%
WATER	H2O	7732-18-5	1-10%

4. FIRST AID MEASURES

Eye	If in eyes, hold eyelids apart and flush continuously with running water. Continue flushing until advised to stop by a Poisons Information Centre, a doctor, or for at least 15 minutes.
Inhalation	If inhaled, remove from contaminated area. Apply artificial respiration if not breathing.
Skin	If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water. Continue flushing with water until advised to stop by a Poisons Information Centre or a doctor.
Ingestion	For advice, contact a Poison Information Centre on 13 11 26 (Australia Wide) or a doctor (at once). If swallowed, do not induce vomiting.
Advice to Doctor	Treat symptomatically.

5. FIRE FIGHTING MEASURES

Flammability Non flammable. May evolve toxic gases if strongly heated.

Fire and Explosion No fire or explosion hazard exists.

Extinguishing Prevent contamination of drains or waterways.

Hazchem Code None Allocated

6. ACCIDENTAL RELEASE MEASURES

Spillage Contact emergency services where appropriate. Use personal protective equipment. Clear area of all unprotected personnel. Prevent spill entering drains or waterways. Contain spillage, then collect and place in suitable containers for reuse or disposal. Avoid generating dust.

7. STORAGE AND HANDLING

Storage Store in a cool, dry, well ventilated area, removed from moisture, oxidising agents, acids, ethanol, interhalogens (eg. chlorine trifluoride) and foodstuffs. Ensure packages are adequately labelled, protected from physical damage and sealed when not in use.

Handling Before use carefully read the product label. Use of safe work practices are recommended to avoid eye or skin contact and inhalation. Observe good personal hygiene, including washing hands before eating. Prohibit eating, drinking and smoking in contaminated areas.

8. EXPOSURE CONTROLS/ PERSONAL PROTECTION

Exposure Stds

Ingredient	Reference	TWA		STEL	
Portland Cement	SWA (AUS)	--	10 mg/m^3	--	--
Silica, Crystalline Quartz	SWA (AUS)	--	0.1 mg/m^3	--	--

Biological Limits No biological limit allocated.

Engineering Controls Avoid inhalation. Use in well ventilated areas. Where an inhalation risk exists, mechanical extraction ventilation is recommended. Maintain dust levels below the recommended exposure standard.

PPE Wear dust-proof goggles and PVC or rubber gloves. When using large quantities or where heavy contamination is likely, wear: coveralls. At high dust levels, wear: a Powered Air Purifying Respirator (PAPR) with Class P3 (Particulate) filter or a Class P3 (Particulate) respirator. Where an inhalation risk exists, wear: a Class P1 (Particulate) respirator.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	POWDER	**Solubility (water)**	INSOLUBLE
Odour	ODOURLESS	**Specific Gravity**	NOT AVAILABLE
pH	12 - 13	**% Volatiles**	NOT AVAILABLE
Vapour Pressure	NOT AVAILABLE	**Flammability**	NON FLAMMABLE
Vapour Density	NOT AVAILABLE	**Flash Point**	NOT RELEVANT
Boiling Point	NOT AVAILABLE	**Upper Explosion Limit**	NOT RELEVANT
Melting Point	NOT AVAILABLE	**Lower Explosion Limit**	NOT RELEVANT
Evaporation Rate	NOT AVAILABLE		
Autoignition Temperature	NOT AVAILABLE	**Decomposition Temperature**	NOT AVAILABLE
Partition Coefficient	NOT AVAILABLE	**Viscosity**	NOT AVAILABLE

10. STABILITY AND REACTIVITY

Chemical Stability	Stable under recommended conditions of storage.
Conditions to Avoid	Avoid heat, sparks, open flames and other ignition sources.
Material to Avoid	Incompatible with oxidising agents (eg. hypochlorites), ethanol, acids (eg. hydrofluoric acid) and interhalogens (eg. chlorine trifluoride). Water contact may increase product temperature 2°C to 3°C.
Hazardous Decomposition Products	May evolve toxic gases if heated to decomposition.
Hazardous Reactions	Polymerization is not expected to occur.

11. TOXICOLOGICAL INFORMATION

Health Hazard Summary	Slightly corrosive - irritant. This product has the potential to cause adverse health effects with over exposure. Use safe work practices to avoid eye or skin contact and inhalation. Once water is added, an inhalation hazard is not anticipated. Hexavalent chromium compounds may be present in trace amounts in cement products. Crystalline silica and hexavalent chromium compounds are classified as carcinogenic to humans (IARC Group 1).
Eye	Slightly corrosive - irritant. Contact may result in irritation, lacrimation, pain, redness, conjunctivitis and possible burns.
Inhalation	Slightly corrosive - irritant. Over exposure may result in irritation of the nose and throat, coughing and bronchitis. Hexavalent chromium is reported to cause respiratory sensitisation, however due to the trace amount present, a hazard is not anticipated under normal conditions of use. Chronic exposure to respirable silica may result in pulmonary fibrosis (silicosis). Crystalline silica is classified as carcinogenic to humans (IARC Group 1).
Skin	Slightly corrosive. Contact with powder or wetted form may result in rash and dermatitis. May cause sensitisation by skin contact.
Ingestion	Slightly corrosive. Ingestion may result in burns to the mouth and throat, nausea, vomiting and abdominal pain. Ingestion is considered unlikely due to product form.
Toxicity Data	QUARTZ (SILICA CRYSTALLINE) (14808-60-7) LCLo (Inhalation): 300 ug/m³/10 years (human) LDLo (Intratracheal): 200 mg/kg (rat) LDLo (Intravenous): 20 mg/kg (dog) TCLo (Inhalation): 16 000 000 particles/ft3/8 hours/17.9 years (human-fibrosis)

12. ECOLOGICAL INFORMATION

Environment	Limited ecotoxicity data was available for this product at the time this report was prepared. Ensure appropriate measures are taken to prevent this product from entering the environment.

13. DISPOSAL CONSIDERATIONS

Waste Disposal	Reuse or recycle where possible. Alternatively, ensure product is covered with moist soil to prevent dust generation and dispose of to an approved landfill site. Contact the manufacturer for additional information.
Legislation	Dispose of in accordance with relevant local legislation.

14. TRANSPORT INFORMATION

NOT CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE

Shipping Name	None Allocated				
UN No.	None Allocated	**DG Class**	None Allocated	**Subsidiary Risk(s)**	None Allocated
Packing Group	None Allocated	**Hazchem Code**	None Allocated		

15. REGULATORY INFORMATION

Poison Schedule	A poison schedule number has not been allocated to this product using the criteria in the Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP).
AICS	All chemicals listed on the Australian Inventory of Chemical Substances (AICS).

16. OTHER INFORMATION

Additional Information	CEMENT CONTACT DERMATITIS: Individuals using wet cement, mortar, grout or concrete could be at risk of developing cement dermatitis. Symptoms of exposure include itchy, tender, swollen, hot, cracked or blistering skin with the potential for sensitisation. The dermatitis is due to the presence of soluble (hexavalent) chromium.

IARC - GROUP 1 - PROVEN HUMAN CARCINOGEN. This product contains an ingredient for which there is sufficient evidence to have been classified by the International Agency for Research into Cancer as a human carcinogen. The use of products known to be human carcinogens should be strictly monitored and controlled.

RESPIRATORS: In general the use of respirators should be limited and engineering controls employed to avoid exposure. If respiratory equipment must be worn ensure correct respirator selection and training is undertaken. Remember that some respirators may be extremely uncomfortable when used for long periods. The use of air powered or air supplied respirators should be considered where prolonged or repeated use is necessary.

ABBREVIATIONS:
ACGIH - American Conference of Industrial Hygienists.
ADG - Australian Dangerous Goods.
BEI - Biological Exposure Indice(s).
CAS# - Chemical Abstract Service number - used to uniquely identify chemical compounds.
CNS - Central Nervous System.
EC No - European Community Number.
HSNO - Hazardous Substances and New Organisms.
IARC - International Agency for Research on Cancer.
mg/m³ - Milligrams per Cubic Metre.
NOS - Not Otherwise Specified.
pH - relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline).
ppm - Parts Per Million.
RTECS - Registry of Toxic Effects of Chemical Substances.
STEL - Short Term Exposure Limit.
SWA - Safe Work Australia.
TWA - Time Weighted Average.

HEALTH EFFECTS FROM EXPOSURE:
It should be noted that the effects from exposure to this product will depend on several factors including: frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application. Given that it is impractical to prepare a Chem Alert report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:
The recommendation for protective equipment contained within this Chem Alert report is provided as a guide only. Factors such as method of application, working environment, quantity used, product concentration and the availability of engineering controls should be considered before final selection of personal protective equipment is made.

Report Status

This document has been compiled by RMT on behalf of the manufacturer of the product and serves as the manufacturer's Safety Data Sheet ('SDS').

It is based on information concerning the product which has been provided to RMT by the manufacturer or obtained from third party sources and is believed to represent the current state of knowledge as to the appropriate safety and handling precautions for the product at the time of issue. Further clarification regarding any aspect of the product should be obtained directly from the manufacturer.

While RMT has taken all due care to include accurate and up-to-date information in this SDS, it does not provide any warranty as to accuracy or completeness. As far as lawfully possible, RMT accepts no liability for any loss, injury or damage (including consequential loss) which may be suffered or incurred by any person as a consequence of their reliance on the information contained in this SDS.

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SDS Date 22 Dec 2010

End of Report

SAFETY DATA SHEET

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

PRODUCT

Product Name: **DIESEL**
Product Description: Hydrocarbons and Additives
Product Code: 708652
Intended Use: Diesel fuel, Diesel engine fuel

Trade Names	Trade Names
AUTOMOTIVE DIESEL OIL	DIESEL
DIESEL (15 PPM S)	DIESEL (500 PPM S)
MARINE GAS OIL	ULTRA LOW SULFUR DIESEL

COMPANY IDENTIFICATION

Supplier: **Mobil Oil New Guinea Limited**
Regional Head Office
ExxonMobil Haus, Jacksons Parade
National Capital District Papua New Guinea

24 Hour Emergency Telephone +1 703 527 3887
Supplier General Contact (675) 322 2111

SECTION 2 HAZARDS IDENTIFICATION

This material is hazardous according to regulatory guidelines (see (M)SDS Section 15).

GHS CLASSIFICATION:

Flammable liquid: Category 4.
Acute inhalation toxicant: Category 4. Skin irritation: Category 2. Carcinogen: Category 2. Specific target organ toxicant (repeated exposure): Category 2. Aspiration toxicant: Category 1.

GHS Label Elements:

Pictogram:

Signal Word: Danger

Hazard Statements:

Physical: H227: Combustible liquid.
Health: H304: May be fatal if swallowed and enters airways. H315: Causes skin irritation. H332: Harmful if inhaled. H351: Suspected of causing cancer. H373: May cause damage to organs through prolonged or repeated exposure. Bone marrow, Liver, Thymus

Precautionary Statements:

Prevention: P201: Obtain special instructions before use. P202: Do not handle until all safety precautions have been read and understood. P210: Keep away from flames and hot surfaces. No smoking. P260: Do not breathe mist / vapours. P264: Wash skin thoroughly after handling. P271: Use only outdoors or in a well-ventilated area. P273: Avoid release to the environment. P280: Wear protective gloves/protective clothing/eye protection/face protection.
Response: P301 + P310: IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. P302 + P352: IF ON SKIN: Wash with plenty of soap and water. P304 + P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing. P308 + P313: IF exposed or concerned: Get medical advice/attention. P312: Call a POISON CENTER or doctor/physician if you feel unwell. P331: Do NOT induce vomiting. P332 + P313: If skin irritation occurs: Get medical advice/attention. P362 + P364: Take off contaminated clothing and wash it before reuse. P370 + P378: In case of fire: Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish. P391: Collect spillage.
Storage: P403 + P235: Store in a well-ventilated place. Keep cool. P405: Store locked up.
Disposal: P501: Dispose of contents and container in accordance with local regulations.

Contains: DIESEL OIL..C9-20

Other hazard information:

Physical / Chemical Hazards:

Material can accumulate static charges which may cause an ignition. Material can release vapours that readily form flammable mixtures. Vapour accumulation could flash and/or explode if ignited. Combustible.

Health Hazards:

High-pressure injection under skin may cause serious damage. May be irritating to the eyes, nose, throat, and lungs.

Environmental Hazards:

Expected to be toxic to aquatic organisms. May cause long-term adverse effects in the aquatic environment.

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 3 COMPOSITION / INFORMATION ON INGREDIENTS

This material is defined as a mixture.

Hazardous Substance(s) or Complex Substance(s) required for disclosure

Name	CAS#	Concentration*	GHS Hazard Codes
DIESEL OIL..C9-20	68334-30-5	> 99 %	H227, H304, H332, H351, H315, H373, H401, H411

Hazardous Constituent(s) Contained in Complex Substance(s) required for disclosure

Name	CAS#	Concentration*	GHS Hazard Codes
NAPHTHALENE	91-20-3	< 1%	H228(2), H302, H351, H400(M factor 1), H410(M factor 1)

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

NOTE: Composition may contain up to 0.5% performance additives and / or dyes. Other ingredients determined not to be hazardous up to 100%.

SECTION 4 FIRST AID MEASURES

INHALATION

Immediately remove from further exposure. Get immediate medical assistance. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection. Give supplemental oxygen, if available. If breathing has stopped, assist ventilation with a mechanical device.

SKIN CONTACT

Remove contaminated clothing. Dry wipe exposed skin and cleanse with waterless hand cleaner and follow by washing thoroughly with soap and water. For those providing assistance, avoid further skin contact to yourself or others. Wear impervious gloves. Launder contaminated clothing separately before reuse. Discard contaminated articles that cannot be laundered. 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

Seek immediate medical attention. Do not induce vomiting.

NOTE TO PHYSICIAN

If ingested, material may be aspirated into the lungs and cause chemical pneumonitis. Treat appropriately.

PRE-EXISTING MEDICAL CONDITIONS WHICH MAY BE AGGRAVATED BY EXPOSURE

Contains hydrocarbon solvent/petroleum hydrocarbons; skin contact may aggravate an existing dermatitis.

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 run-off from fire control or dilution from entering streams, sewers or drinking water supply. Fire-fighters 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: Combustible. Storage tank headspace may contain flammable atmosphere. Hazardous material. Firefighters should consider protective equipment indicated in Section 8.

Hazardous Combustion Products: Aldehydes, Incomplete combustion products, Oxides of carbon, Smoke, Fume, Sulphur oxides

FLAMMABILITY PROPERTIES

Flash Point [Method]: >62°C (144°F) [ASTM D-93]
Flammable Limits (Approximate volume % in air): LEL: 0.6 UEL: 7.0
Autoignition Temperature: N/D

Hazchem Code: 3Y

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.

PROTECTIVE MEASURES

Avoid contact with spilled material. Warn or evacuate occupants in surrounding and downwind areas if required, due to toxicity or flammability of the material. See Section 5 for fire fighting information. See the Hazard Identification Section for Significant Hazards. See Section 4 for First Aid Advice. See Section 8 for advice on the minimum requirements for personal protective equipment. Additional protective measures may be necessary, depending on the specific circumstances and/or the expert judgment of the emergency responders.

For emergency responders: Respiratory protection: half-face or full-face respirator with filter(s) for organic vapor and, when applicable, H2S, or Self Contained Breathing Apparatus (SCBA) can be used depending on the size of spill and potential level of exposure. If the exposure cannot be completely characterized or an oxygen deficient atmosphere is possible or anticipated, SCBA is recommended. Work gloves that are resistant to aromatic hydrocarbons are recommended. Note: gloves made of polyvinyl acetate (PVA) are not water-resistant and are not suitable for emergency use. Chemical goggles are recommended if splashes or contact with eyes is possible. Small spills: normal antistatic work clothes are usually adequate. Large spills: full body suit of chemical resistant, antistatic material is recommended.

SPILL MANAGEMENT

Land Spill: Eliminate all ignition sources (no smoking, flares, sparks or flames in immediate area). Stop leak if you can do so without risk. All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Prevent entry into waterways, sewer, basements or confined areas. A vapour-suppressing foam may be used to reduce vapour. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. Large Spills: Water spray may reduce vapour, but may not prevent ignition in enclosed spaces.

Water Spill: Stop leak if you can do so without risk. Confine the spill immediately with booms. Warn other shipping. Remove from the surface by skimming or with suitable absorbents. Seek the advice of a specialist before using dispersants.

Water spill and land spill recommendations are based on the most likely spill scenario for this material; however, geographic conditions, wind, temperature, (and in the case of a water spill) wave and current direction

and speed may greatly influence the appropriate action to be taken. For this reason, local experts should be consulted. Note: Local regulations may prescribe or limit action to be taken.

ENVIRONMENTAL PRECAUTIONS

Large Spills: Dyke 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 all personal contact. Do not siphon by mouth. Do not use as a cleaning solvent or other non-motor fuel uses. For use as a motor fuel only. It is dangerous and/or unlawful to put petrol into unapproved containers. Do not fill container while it is in or on a vehicle. Static electricity may ignite vapour and cause fire. Place container on ground when filling and keep nozzle in contact with container. Do not use electronic devices (including but not limited to cellular phones, computers, calculators, pagers or other electronic devices, etc.) during safety critical tasks, such as bulk fuel loading or unloading operations, or in storage areas where vapours may be present, unless the devices are certified intrinsically safe by an approved national testing agency and to the safety standards required by national and/or local laws and regulations. Prevent small spills and leakage to avoid slip hazard. Material can accumulate static charges which may cause an electrical spark (ignition source). When the material is handled in bulk, an electrical spark could ignite any flammable vapors from liquids or residues that may be present (e.g., during switch-loading operations). Use proper bonding and/or earthing procedures. However, bonding and earthing may not eliminate the hazard from static accumulation. Consult local applicable standards for guidance. Additional references include American Petroleum Institute 2003 (Protection Against Ignitions Arising out of Static, Lightning and Stray Currents) or National Fire Protection Agency 77 (Recommended Practice on Static Electricity) or CENELEC CLC/TR 50404 (Electrostatics - Code of practice for the avoidance of hazards due to static electricity).

Static Accumulator: This material is a static accumulator. A liquid is typically considered a nonconductive, static accumulator if its conductivity is below 100 pS/m (100x10E-12 Siemens per meter) and is considered a semiconductive, static accumulator if its conductivity is below 10,000 pS/m. Whether a liquid is nonconductive or semiconductive, the precautions are the same. A number of factors, for example liquid temperature, presence of contaminants, anti-static additives and filtration can greatly influence the conductivity of a liquid.

STORAGE

The type of container used to store the material may affect static accumulation and dissipation. Keep container closed. Handle containers with care. Open slowly in order to control possible pressure release. Store in a cool, well-ventilated area. Storage containers should be earthed and bonded. Fixed storage containers, transfer containers and associated equipment should be earthed and bonded to prevent accumulation of static charge. Keep away from incompatible materials.

Material is defined under the National Standard [NOHSC:1015] Storage and Handling of Workplace Dangerous Goods.

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE LIMIT VALUES

Exposure limits/standards (Note: Exposure limits are not additive)

Substance Name	Form	Limit/Standard			Note	Source
DIESEL OIL..C9-20	Stable Aerosol.	TWA	5 mg/m3		Skin	ExxonMobil
DIESEL OIL..C9-20	Vapour.	TWA	200 mg/m3		Skin	ExxonMobil
DIESEL OIL..C9-20 [total hydrocarb,	Inhalable	TWA	100 mg/m3		Skin	ACGIH

vapour&aerosol]	fraction and vapour					
NAPHTHALENE		STEL	79 mg/m3	15 ppm		Australia WES
NAPHTHALENE		TWA	52 mg/m3	10 ppm		Australia WES
NAPHTHALENE		TWA	10 ppm		Skin	ACGIH

NOTE: Limits/standards shown for guidance only. Follow applicable regulations.

Biological limits

Substance Name	Specimen	Sampling Time	Limit	Determinant	Source
NAPHTHALENE	No Biological Specimen provided	End of shift		1-Naphthol, with hydrolysis + 2-Naphthol, with hydrolysis	ACGIH BELs (BEIs)

ENGINEERING CONTROLS

The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Control measures to consider:

Use explosion-proof ventilation equipment to stay below exposure limits.

PERSONAL PROTECTION

Personal protective equipment selections vary based on potential exposure conditions such as applications, handling practices, concentration and ventilation. Information on the selection of protective equipment for use with this material, as provided below, is based upon intended, normal usage.

Respiratory Protection: If engineering controls do not maintain airborne contaminant concentrations at a level which is adequate to protect worker health, an approved respirator may be appropriate. Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable. Types of respirators to be considered for this material include:

Type AP filter material.

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/vapour warning properties are poor, or if air purifying filter capacity/rating may be exceeded.

Hand Protection: Any specific glove information provided is based on published literature and glove manufacturer data. Glove suitability and breakthrough time will differ depending on the specific use conditions. Contact the glove manufacturer for specific advice on glove selection and breakthrough times for your use conditions. Inspect and replace worn or damaged gloves. The types of gloves to be considered for this material include:

Nitrile,Viton

Chemical resistant gloves are recommended. If contact with forearms is likely wear gauntlet style gloves.

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:
Chemical/oil resistant clothing is recommended.

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

Comply with applicable environmental regulations limiting discharge to air, water and soil. Protect the environment by applying appropriate control measures to prevent or limit emissions.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Note: Physical and chemical properties are provided for safety, health and environmental considerations only and may not fully represent product specifications. Contact the Supplier for additional information.

GENERAL INFORMATION

Physical State: Liquid
Colour: Yellow
Odour: Petroleum/Solvent
Odour Threshold: N/D

IMPORTANT HEALTH, SAFETY, AND ENVIRONMENTAL INFORMATION

Relative Density (at 15 °C): 0.82 - 0.86
Flammability (Solid, Gas): N/A
Flash Point [Method]: >62°C (144°F) [ASTM D-93]
Flammable Limits (Approximate volume % in air): LEL: 0.6 UEL: 7.0
Autoignition Temperature: N/D
Boiling Point / Range: > 149°C (300°F)
Decomposition Temperature: N/D
Vapour Density (Air = 1): > 2 at 101 kPa
Vapour Pressure: < 0.067 kPa (0.5 mm Hg) at 20 °C
Evaporation Rate (n-butyl acetate = 1): N/D
pH: N/D
Log Pow (n-Octanol/Water Partition Coefficient): > 3.5
Solubility in Water: Negligible
Viscosity: <4.5 cSt (4.5 mm2/sec) at 40ºC
Oxidizing Properties: See Hazards Identification Section.

OTHER INFORMATION

Freezing Point: N/D
Melting Point: N/A
Pour Point: < 12°C (54°F)

SECTION 10 STABILITY AND REACTIVITY

STABILITY: Material is stable under normal conditions.

CONDITIONS TO AVOID: Open flames and high energy ignition sources.

INCOMPATIBLE MATERIALS: Halogens, Strong Acids, Strong Bases, Strong oxidisers

HAZARDOUS DECOMPOSITION PRODUCTS: Material does not decompose at ambient temperatures.

POSSIBILITY OF HAZARDOUS REACTIONS: Hazardous polymerization will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

INFORMATION ON TOXICOLOGICAL EFFECTS

Hazard Class	Conclusion / Remarks
Inhalation	
Acute Toxicity: (Rat) 4 hour(s) LC50 4100 mg/m3 (Vapor and aerosol)	Moderately toxic. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 403
Irritation: No end point data for material.	Elevated temperatures or mechanical action may form vapours, mist, or fumes which may be irritating to the eyes, nose, throat, or lungs.
Ingestion	
Acute Toxicity (Rat): LD50 > 5000 mg/kg	Minimally Toxic. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 401
Skin	
Acute Toxicity (Rabbit): LD50 > 5000 mg/kg	Minimally Toxic. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 434
Skin Corrosion/Irritation (Rabbit): Data available.	Irritating to the skin. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 404
Eye	
Serious Eye Damage/Irritation (Rabbit): Data available.	May cause mild, short-lasting discomfort to eyes. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 405
Sensitisation	
Respiratory Sensitization: No end point data for material.	Not expected to be a respiratory sensitizer.
Skin Sensitization: Data available.	Not expected to be a skin sensitizer. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 406
Aspiration: Data available.	May be fatal if swallowed and enters airways. Based on physico-chemical properties of the material.
Germ Cell Mutagenicity: Data available.	Not expected to be a germ cell mutagen. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 471 475
Carcinogenicity: Data available.	Caused cancer in laboratory animals, but the relevance to humans is uncertain. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 451
Reproductive Toxicity: Data available.	Not expected to be a reproductive toxicant. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 414
Lactation: No end point data for material.	Not expected to cause harm to breast-fed children.
Specific Target Organ Toxicity (STOT)	
Single Exposure: No end point data for material.	Not expected to cause organ damage from a single exposure.

Repeated Exposure: Data available.	Concentrated, prolonged or deliberate exposure may cause organ damage. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 410 413

TOXICITY FOR SUBSTANCES

NAME	ACUTE TOXICITY
NAPHTHALENE	Inhalation Lethality: 4 hour(s) LC50 > 0.4 mg/l (Max attainable vapor conc.) (Rat); Oral Lethality: LD 50 533 mg/kg (Mouse)

OTHER INFORMATION

For the product itself:

Target Organs Repeated Exposure: Bone marrow, Liver, Thymus

Vapour concentrations above recommended exposure levels are irritating to the eyes and the respiratory tract, may cause headaches and dizziness, are anaesthetic and may have other central nervous system effects. Small amounts of liquid aspirated into the lungs during ingestion or from vomiting may cause chemical pneumonitis or pulmonary edema.
Diesel exhaust fumes: Carcinogenic in animal tests. Inhalation exposures to exhaust for 2 years in test animals resulted in lung tumours and lymphoma. Extract of particulate produced skin tumours in test animals. Caused mutations in-vitro. Diesel fuel: Carcinogenic in animal tests. Caused mutations in-vitro. Repeated dermal exposures to high concentrations in test animals resulted in reduced litter size and litter weight, and increased fetal resorptions at maternally toxic doses. Dermal exposure to high concentrations resulted in severe skin irritation with weight loss and some mortality. Inhalation exposure to high concentrations resulted in respiratory tract irritation, lung changes/infiltration/accumulation, and reduction in lung function.
Contains:
NAPHTHALENE: Exposure to high concentrations of naphthalene may cause destruction of red blood cells, anemia, and cataracts. Naphthalene caused cancer in laboratory animal studies, but the relevance of these findings to humans is uncertain.

IARC Classification:
The following ingredients are cited on the lists below:

Chemical Name	CAS Number	List Citations
NAPHTHALENE	91-20-3	1, 3

--REGULATORY LISTS SEARCHED--
1 = IARC 1 2 = IARC 2A 3 = IARC 2B

SECTION 12 ECOLOGICAL INFORMATION

The information given is based on data for the material, components of the material, or for similar materials, through the application of bridging principals.

ECOTOXICITY

Material -- Expected to be toxic to aquatic organisms. May cause long-term adverse effects in the aquatic environment.

MOBILITY

More volatile component -- Highly volatile, will partition rapidly to air. Not expected to partition to sediment and wastewater solids.

Less volatile component -- Low solubility and floats and is expected to migrate from water to the land. Expected to partition to sediment and wastewater solids.

Majority of components -- Low potential to migrate through soil.

PERSISTENCE AND DEGRADABILITY

Biodegradation:

Material -- Expected to be inherently biodegradable

Atmospheric Oxidation:

Majority of components -- Expected to degrade rapidly in air

BIOACCUMULATION POTENTIAL

Majority of components -- Has the potential to bioaccumulate, however metabolism or physical properties may reduce the bioconcentration or limit bioavailability.

ECOLOGICAL DATA

Ecotoxicity

Test	Duration	Organism Type	Test Results
Aquatic - Acute Toxicity	48 hour(s)	Daphnia magna	EL50 1 - 1000 mg/l: data for similar materials
Aquatic - Acute Toxicity	96 hour(s)	Fish	LL50 1 - 100 mg/l: data for similar materials
Aquatic - Acute Toxicity	72 hour(s)	Pseudokirchneriella subcapitata	EL50 1 - 100 mg/l: data for similar materials
Aquatic - Chronic Toxicity	72 hour(s)	Pseudokirchneriella subcapitata	NOELR 1 - 10 mg/l: data for similar materials

Persistence, Degradability and Bioaccumulation Potential

Media	Test Type	Duration	Test Results
Water	Ready Biodegradability	28 day(s)	Percent Degraded < 60 : similar material

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.

Empty Container Warning Empty Container Warning (where applicable): Empty containers may contain residue and can be dangerous. Do not attempt to refill or clean containers without proper instructions. Empty drums should be completely drained and safely stored until appropriately reconditioned or disposed. Empty containers should be taken for recycling, recovery, or disposal through suitably qualified or licensed contractor and in accordance with

governmental regulations. DO NOT PRESSURISE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION. THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.

SECTION 14 TRANSPORT INFORMATION

LAND (ADG)

Proper Shipping Name: PETROLEUM DISTILLATES, N.O.S.
Dangerous Goods Class/Subsidiary Risk: 3
Hazchem Code: 3Y
UN Number: 1268
Packing Group: III
EPG: 3A1
Label(s): 3, EHS
Special Provisions: 109, 185

Footnote: Special Provision AU02 applies if shipped in one or more compartments of a tank vehicle or portable tank transporting other refined petroleum products.

SEA (IMDG)

Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Fuels, diesel)
Hazard Class & Division: 9
EMS Number: F-A, S-F
UN Number: 3082
Packing Group: III
Marine Pollutant: Yes
Label(s): 9
Transport Document Name: UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Fuels, diesel), 9, PG III, MARINE POLLUTANT

Footnote: Not subject to the provisions of UN3082 Environmentally hazardous substances liquid, n.o.s., if shipped in quantities of 5 liters or less per single or inner combination packaging as per IMDG code 2.10.2.7.

AIR (IATA)

Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Fuels, diesel)
Hazard Class & Division: 9
UN Number: 3082
Packing Group: III
Label(s) / Mark(s): 9, EHS
Transport Document Name: UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Fuels, diesel), 9, PG III

[Footnote: Not subject to the provisions of UN3082 Environmentally hazardous substances liquid, n.o.s., if shipped in quantities of 5 liters or less per single or inner combination packaging as per Special Provision A197.]

SECTION 15 REGULATORY INFORMATION

This material is considered hazardous according to Australia Model Work Health and Safety Regulations.

Product is regulated according to Australian Dangerous Goods Code.

Poison Schedule number allocated by the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) established under the Therapeutic Goods Act.
POISON SCHEDULE NUMBER: S5

AS1940 COMBUSTIBLE CLASS: C1

REGULATORY STATUS AND APPLICABLE LAWS AND REGULATIONS

Listed or exempt from listing/notification on the following chemical inventories (May contain substance(s) subject to notification to the EPA Active TSCA inventory prior to import to USA): AIIC, DSL, ENCS, IECSC, ISHL, KECI, PICCS, TCSI, TSCA

SECTION 16 OTHER INFORMATION

KEY TO ABBREVIATIONS AND ACRONYMS:

N/D = Not determined, N/A = Not applicable, STEL = Short-Term Exposure Limit, TWA = Time-Weighted Average

KEY TO THE H-CODES CONTAINED IN SECTION 3 OF THIS DOCUMENT (for information only):
H227: Combustible liquid; Flammable Liquid, Cat 4
H228(2): Flammable solid; Flammable Solid, Cat 2
H302: Harmful if swallowed; Acute Tox Oral, Cat 4
H304: May be fatal if swallowed and enters airways; Aspiration, Cat 1
H315: Causes skin irritation; Skin Corr/Irritation, Cat 2
H332: Harmful if inhaled; Acute Tox Inh, Cat 4
H351: Suspected of causing cancer; GHS Carcinogenicity, Cat 2
H373: May cause damage to organs through prolonged or repeated exposure; Target Organ, Repeated, Cat 2
H400: Very toxic to aquatic life; Acute Env Tox, Cat 1
H401: Toxic to aquatic life; Acute Env Tox, Cat 2
H410: Very toxic to aquatic life with long lasting effects; Chronic Env Tox, Cat 1
H411: Toxic to aquatic life with long lasting effects; Chronic Env Tox, Cat 2

THIS SAFETY DATA SHEET CONTAINS THE FOLLOWING REVISIONS:
Composition: Component Table information was modified.
Composition: No components information was added.
Composition: No components information was deleted.
GHS Health Symbol information was modified.
Section 01: Alternate Product Names Table information was modified.
Section 08: Biological Limits - Table information was modified.
Section 08: Exposure Limits Table information was modified.
Section 11 Substance Toxicology table information was modified.
Section 11: Tox List Cited Table information was modified.
Section 15: National Chemical Inventory Listing information was modified.

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DGN: 7110986XPG (1018371)

Prepared by: Exxon Mobil Corporation
EMBSI, Clinton NJ USA
Contact Point: See Section 1 for Local Contact number

End of (M)SDS

SAFETY DATA SHEET

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

As of the revision date above, this (M)SDS meets the regulations in United Arab Emirates.

PRODUCT

Product Name: **DIESEL**
Product Description: Hydrocarbons and Additives
Product Code: 708607-60
Intended Use: Diesel engine fuel

Trade Names	Trade Names
ADO .001%S -15CFPP(W) 0%A DIESEL	ADO .001%S 0%A NON-BIO
DIESEL	DIESEL EFFICIENT
GASOLIO AGRICOLO/MOTOPESCA	GASOLIO ARTICO/GASOLIO INVERNALE PREMIUM
GASOLIO AUTOTRAZIONE	SUPREME DIESEL
SYNERGY DIESEL	Synergy Diesel -18°
SYNERGY SUPREME+ DIESEL	

COMPANY IDENTIFICATION

Supplier: **ESSO ITALIANA S.R.L.**
VIALE CASTELLO DELLA MAGLIANA 25
00148 ROME
Italy

24 Hour Health Emergency	Not applicable
Supplier General Contact	800929014
MSDS Internet Address	www.msds.exxonmobil.com
E-Mail	sds-italy@exxonmobil.com

National Poison Centre: BAHRAIN +973 1787 5176 / LEBANON +961 1 6140 01 OR 2 OR 3 OR 6 / KUWAIT +965 246 8537 OR 241 8165 / UAE +971 2 4048 538 OR 540 OR 541

SECTION 2 HAZARDS IDENTIFICATION

This material is hazardous according to regulatory guidelines (see (M)SDS Section 15).

CLASSIFICATION OF SUBSTANCE OR MIXTURE:
Flammable liquid: Category 3.
Aspiration toxicant: Category 1.
Skin irritation: Category 2.
Acute inhalation toxicant: Category 4.
Carcinogen: Category 2.

Specific target organ toxicant (repeated exposure): Category 2.
Chronic aquatic toxicant: Category 2.

LABEL ELEMENTS:

Pictograms:

Signal Word: Danger

Hazard Statements:

Physical:
H226: Flammable liquid and vapor.
Health:
H304: May be fatal if swallowed and enters airways.
H315: Causes skin irritation.
H332: Harmful if inhaled.
H351: Suspected of causing cancer.
H373: May cause damage to organs through prolonged or repeated exposure. (Bone marrow, Liver, Thymus).
Environment:
H411: Toxic to aquatic life with long lasting effects.

Precautionary Statements:

Prevention:
P201: Obtain special instructions before use.
P202: Do not handle until all safety precautions have been read and understood.
P210: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233: Keep container tightly closed.
P240: Ground and bond container and receiving equipment.
P241: Use explosion-proof electrical, ventilating, and lighting equipment.
P242: Use non-sparking tools.
P243: Take action to prevent static discharges.
P260: Do not breathe mist / vapours.
P264: Wash skin thoroughly after handling.
P271: Use only outdoors or in a well-ventilated area.
P273: Avoid release to the environment.
P280: Wear protective gloves/protective clothing/eye protection/face protection.
Response:
P301 + P310: IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P303 + P361 + P353: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
P304 + P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P308 + P313: IF exposed or concerned: Get medical advice/ attention.
P312: Call a POISON CENTER or doctor/physician if you feel unwell.
P331: Do NOT induce vomiting.
P332 + P313: If skin irritation occurs: Get medical advice/ attention.
P362 + P364: Take off contaminated clothing and wash it before reuse.
P370 + P378: In case of fire: Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish.
P391: Collect spillage.

Storage:

P403 + P235: Store in a well-ventilated place. Keep cool.
P405: Store locked up.

Disposal:

P501: Dispose of contents and container in accordance with local regulations.

Contains: DIESEL OIL..C9-20

Other hazard information:

Physical / Chemical Hazards:

Material can accumulate static charges which may cause an ignition. Material can release vapors that readily form flammable mixtures. Vapor accumulation could flash and/or explode if ignited.

Health Hazards:

May cause central nervous system depression. High-pressure injection under skin may cause serious damage. Under conditions of poor personal hygiene and prolonged repeated contact, some polycyclic aromatic compounds (PACs) have been suspected as a cause of skin cancer in humans. May be irritating to the eyes, nose, throat, and lungs.

Environmental Hazards:

No additional hazards.

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 3 COMPOSITION / INFORMATION ON INGREDIENTS

This material is defined as a mixture.

Name	CAS#	Concentration*	GHS Hazard Codes
DIESEL OIL..C9-20	68334-30-5	> 89 %	H226, H304, H332, H351, H315, H373, H401, H411

* All concentrations are percent by weight unless material is a gas. Gas concentrations are in percent by volume.

NOTE: Composition may contain up to 0.5% performance additives and / or dyes.

SECTION 4 FIRST AID MEASURES

INHALATION

Immediately remove from further exposure. Get immediate medical assistance. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection. Give supplemental oxygen, if available. If breathing has stopped, assist ventilation with a mechanical device.

SKIN CONTACT

Remove contaminated clothing. Dry wipe exposed skin and cleanse with waterless hand cleaner and follow by washing thoroughly with soap and water. For those providing assistance, avoid further skin contact to yourself or others. Wear impervious gloves. Launder contaminated clothing separately before reuse. Discard contaminated articles that cannot be laundered. 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

Seek immediate medical attention. Do not induce vomiting.

NOTE TO PHYSICIAN

If ingested, material may be aspirated into the lungs and cause chemical pneumonitis. Treat appropriately.

PRE-EXISTING MEDICAL CONDITIONS WHICH MAY BE AGGRAVATED BY EXPOSURE

Contains hydrocarbon solvent/petroleum hydrocarbons; skin contact may aggravate an existing dermatitis.

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: Hazardous material. Firefighters should consider protective equipment indicated in Section 8.

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

FLAMMABILITY PROPERTIES

Flash Point [Method]: >56°C (133°F) [ASTM D-93]
Flammable Limits (Approximate volume % in air): LEL: 0.6 UEL: 7.0
Autoignition Temperature: >250°C (482°F)

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.

PROTECTIVE MEASURES

Avoid contact with spilled material. Warn or evacuate occupants in surrounding and downwind areas if required due to toxicity or flammability of the material. See Section 5 for fire fighting information. See the Hazard Identification Section for Significant Hazards. See Section 4 for First Aid Advice. See Section 8 for advice on the minimum requirements for personal protective equipment. Additional protective measures may be necessary, depending on the specific circumstances and/or the expert judgment of the emergency responders.

For emergency responders: Respiratory protection: half-face or full-face respirator with filter(s) for organic vapor and, when applicable, H2S, or Self Contained Breathing Apparatus (SCBA) can be used depending on the size of spill and potential level of exposure. If the exposure cannot be completely characterized or an oxygen deficient atmosphere is possible or anticipated, SCBA is recommended. Work gloves that are resistant to aromatic hydrocarbons are recommended. Note: gloves made of polyvinyl acetate (PVA) are not water-resistant and are not suitable for emergency use. Chemical goggles are recommended if splashes or contact with eyes is possible. Small spills: normal antistatic work clothes are usually adequate. Large spills: full body suit of chemical resistant, antistatic material is recommended.

SPILL MANAGEMENT

Land Spill: Eliminate all ignition sources (no smoking, flares, sparks or flames in immediate area). Stop leak if you can do it without risk. All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Prevent entry into waterways, sewer, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Use clean non-sparking tools to collect absorbed material. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Large Spills: Water spray may reduce vapor; but may not prevent ignition in closed spaces.

Water Spill: Stop leak if you can do it without risk. Eliminate sources of ignition. Warn other shipping. If the Flash Point exceeds the Ambient Temperature by 10 degrees C or more, use containment booms and remove from the surface by skimming or with suitable absorbents when conditions permit. If the Flash Point does not exceed the Ambient Air Temperature by at least 10C, use booms as a barrier to protect shorelines and allow material to evaporate. 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 all personal contact. Do not siphon by mouth. Do not use as a cleaning solvent or other non-motor fuel uses. For use as a motor fuel only. It is dangerous and/or unlawful to put fuel into unapproved containers. Do not fill container while it is in or on a vehicle. Static electricity may ignite vapors and cause fire. Place container on ground when filling and keep nozzle in contact with container. Do not use electronic devices

(including but not limited to cellular phones, computers, calculators, pagers or other electronic devices, etc.) during safety critical tasks, such as bulk fuel loading or unloading operations, or in storage areas where vapors may be present, unless the devices are certified intrinsically safe by an approved national testing agency and to the safety standards required by national and/or local laws and regulations. Prevent small spills and leakage to avoid slip hazard. Material can accumulate static charges which may cause an electrical spark (ignition source). Use proper bonding and/or ground procedures. However, bonding and grounds may not eliminate the hazard from static accumulation. Consult local applicable standards for guidance. Additional references include American Petroleum Institute 2003 (Protection Against Ignitions Arising out of Static, Lightning and Stray Currents) or National Fire Protection Agency 77 (Recommended Practice on Static Electricity) or CENELEC CLC/TR 50404 (Electrostatics - Code of practice for the avoidance of hazards due to static electricity).

Static Accumulator: This material is a static accumulator. A liquid is typically considered a nonconductive, static accumulator if its conductivity is below 100 pS/m (100x10E-12 Siemens per meter) and is considered a semiconductive, static accumulator if its conductivity is below 10,000 pS/m. Whether a liquid is nonconductive or semiconductive, the precautions are the same. A number of factors, for example liquid temperature, presence of contaminants, anti-static additives and filtration can greatly influence the conductivity of a liquid.

STORAGE

The type of container used to store the material may affect static accumulation and dissipation. Keep container closed. Handle containers with care. Open slowly in order to control possible pressure release. Store in a cool, well-ventilated area. Storage containers should be grounded and bonded. Fixed storage containers, transfer containers and associated equipment should be grounded and bonded to prevent accumulation of static charge. Keep away from incompatible materials.

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE LIMIT VALUES

Exposure limits/standards (Note: Exposure limits are not additive)

Substance Name	Form	Limit / Standard			Note	Source
DIESEL OIL..C9-20 [total hydrocarbon vapor]	Inhalable fraction and vapor	TWA	100 mg/m3		Skin	Abu Dhabi TLVs
DIESEL OIL..C9-20	Stable Aerosol.	TWA	5 mg/m3		Skin	ExxonMobil Middle East Marketing Corporation
DIESEL OIL..C9-20	Vapor.	TWA	200 mg/m3		Skin	ExxonMobil Middle East Marketing Corporation
DIESEL OIL..C9-20 [total hydrocarb, vapor&aerosol]	Inhalable fraction and vapor	TWA	100 mg/m3		Skin	ACGIH

Note: Information about recommended monitoring procedures can be obtained from the relevant agency(ies)/institute(s):

ENGINEERING CONTROLS

The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Control measures to consider:
Use explosion-proof ventilation equipment to stay below exposure limits.

PERSONAL PROTECTION

Personal protective equipment selections vary based on potential exposure conditions such as applications, handling practices, concentration and ventilation. Information on the selection of protective equipment for use with this material, as provided below, is based upon intended, normal usage.

Respiratory Protection: If engineering controls do not maintain airborne contaminant concentrations at a level which is adequate to protect worker health, an approved respirator may be appropriate. Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable. Types of respirators to be considered for this material include:
Half-face filter respirator Type AP filter material.

For high airborne concentrations, use an approved supplied-air respirator, operated in positive pressure mode. Supplied air respirators with an escape bottle may be appropriate when oxygen levels are inadequate, gas/vapor warning properties are poor, or if air purifying filter capacity/rating may be exceeded.

Hand Protection: Any specific glove information provided is based on published literature and glove manufacturer data. Glove suitability and breakthrough time will differ depending on the specific use conditions. Contact the glove manufacturer for specific advice on glove selection and breakthrough times for your use conditions. Inspect and replace worn or damaged gloves. The types of gloves to be considered for this material include:
Chemical resistant gloves are recommended. If contact with forearms is likely wear gauntlet style gloves.

Eye Protection: If contact with material is likely, chemical goggles 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:
Chemical/oil resistant clothing is recommended.

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

Comply with applicable environmental regulations limiting discharge to air, water and soil. Protect the environment by applying appropriate control measures to prevent or limit emissions.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Note: Physical and chemical properties are provided for safety, health and environmental considerations only and may not fully represent product specifications. Contact the Supplier for additional information.

GENERAL INFORMATION

Physical State: Liquid
Color: Light Colored
Odor: Petroleum/Solvent
Odor Threshold: N/D

IMPORTANT HEALTH, SAFETY, AND ENVIRONMENTAL INFORMATION

Relative Density (at 15 °C): 0.82 - 0.845 [EN ISO 3675]
Density (at 15 ºC): 820 kg/m³ (6.84 lbs/gal, 0.82 kg/dm³) - 845 kg/m³ (7.05 lbs/gal, 0.85 kg/dm³) [EN ISO 3675]
Flammability (Solid, Gas): N/A
Flash Point [Method]: >56°C (133°F) [ASTM D-93]
Flammable Limits (Approximate volume % in air): LEL: 0.6 UEL: 7.0
Autoignition Temperature: >250°C (482°F)
Boiling Point / Range: > 180°C (356°F)
Decomposition Temperature: N/D
Vapor Density (Air = 1): N/D
Vapor Pressure: < 0.04 kPa (0.3 mm Hg) at 20 °C
Evaporation Rate (n-butyl acetate = 1): N/D
pH: N/A
Log Pow (n-Octanol/Water Partition Coefficient): > 3.5
Solubility in Water: Negligible
Viscosity: 2 cSt (2 mm2/sec) at 40 °C - 4 cSt (4 mm2/sec) at 40 °C
Oxidizing Properties: See Hazards Identification Section.

OTHER INFORMATION

Freezing Point: N/D
Melting Point: N/D

SECTION 10 STABILITY AND REACTIVITY

STABILITY: Material is stable under normal conditions.

CONDITIONS TO AVOID: Open flames and high energy ignition sources.

MATERIALS TO AVOID: Halogens, Strong Acids, Strong Bases, Strong oxidizers

HAZARDOUS DECOMPOSITION PRODUCTS: Material does not decompose at ambient temperatures.

POSSIBILITY OF HAZARDOUS REACTIONS: Hazardous polymerization will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

ACUTE TOXICITY

Route of Exposure	Conclusion / Remarks
Inhalation	
Toxicity (Rat): LC50 > 4000 mg/m3	Moderately toxic. Based on test data for structurally similar materials.
Irritation: No end point data for material.	Elevated temperatures or mechanical action may form vapors, mist, or fumes which may be irritating to the eyes, nose, throat, or

	lungs.
INGESTION	
Toxicity (Rat): LD50 > 5000 mg/kg	Minimally Toxic. Based on test data for structurally similar materials.
Skin	
Toxicity (Rabbit): LD50 > 5000 mg/kg	Minimally Toxic. Based on test data for structurally similar materials.
Irritation (Rabbit): Data available.	Irritating to the skin. 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.

OTHER HEALTH EFFECTS FROM SHORT AND LONG TERM EXPOSURE
Anticipated health effects from sub-chronic, chronic, respiratory or skin sensitization, mutagenicity, reproductive toxicity, carcinogenicity, target organ toxicity (single exposure or repeated exposure), aspiration toxicity and other effects based on human experience and/or experimental data.

For the product itself:

Vapor concentrations above recommended exposure levels are irritating to the eyes and the respiratory tract, may cause headaches and dizziness, are anesthetic and may have other central nervous system effects.
Small amounts of liquid aspirated into the lungs during ingestion or from vomiting may cause chemical pneumonitis or pulmonary edema.
Diesel fuel: Caused cancer in animal tests. Caused mutations in vitro. Repeated dermal exposures to high concentrations in test animals resulted in reduced litter size and litter weight, and increased fetal resorptions at maternally toxic doses. Dermal exposure to high concentrations resulted in severe skin irritation with weight loss and some mortality. Inhalation exposure to high concentrations resulted in respiratory tract irritation, lung changes/infiltration/accumulation, and reduction in lung function.
Diesel exhaust fumes: Carcinogenic in animal tests. Inhalation exposures to exhaust for 2 years in test animals resulted in lung tumors and lymphoma. Extract of particulate produced skin tumors in test animals. Caused mutations in vitro.

Contains:
An ingredient or ingredients that are classified as toxic to a specific target organ from a repeated exposure.

SECTION 12 ECOLOGICAL INFORMATION

The information given is based on data for the material, components of the material, or for similar materials, through the application of bridging principals.

ECOTOXICITY
Material -- Expected to be toxic to aquatic organisms. May cause long-term adverse effects in the aquatic environment.

MOBILITY
More volatile component -- Highly volatile, will partition rapidly to air. Not expected to partition to sediment and wastewater solids.

Less volatile component -- Low solubility and floats and is expected to migrate from water to the land. Expected to partition to sediment and wastewater solids.
Majority of components -- Low potential to migrate through soil.

PERSISTENCE AND DEGRADABILITY
Biodegradation:
Material -- Expected to be inherently biodegradable
Atmospheric Oxidation:
Majority of components -- Expected to degrade rapidly in air

BIOACCUMULATION POTENTIAL
Majority of components -- Has the potential to bioaccumulate, however metabolism or physical properties may reduce the bioconcentration or limit bioavailability.

ECOLOGICAL DATA

Ecotoxicity

Test	Duration	Organism Type	Test Results
Aquatic - ACUTE TOXICITY	48 hour(s)	Daphnia magna	EL50 1 - 1000 mg/l: data for similar materials
Aquatic - ACUTE TOXICITY	96 hour(s)	Fish	LL50 1 - 100 mg/l: data for similar materials
Aquatic - ACUTE TOXICITY	72 hour(s)	Pseudokirchneriella subcapitata	EL50 1 - 100 mg/l: data for similar materials
Aquatic - Chronic Toxicity	72 hour(s)	Pseudokirchneriella subcapitata	NOELR 1 - 10 mg/l: data for similar materials

Persistence, Degradability and Bioaccumulation Potential

Media	Test Type	Duration	Test Results
Water	Ready Biodegradability	28 day(s)	Percent Degraded < 60 : similar material

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.

Empty Container Warning Empty Container Warning (where applicable): Empty containers may contain residue and can be dangerous. Do not attempt to refill or clean containers without proper instructions. Empty drums should be completely drained and safely stored until appropriately reconditioned or disposed. Empty containers should be taken for recycling, recovery, or disposal through suitably qualified or licensed contractor and in accordance with governmental regulations. DO NOT PRESSURISE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION. THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.

SECTION 14 TRANSPORT INFORMATION

LAND (ADR/RID)

Proper Shipping Name: DIESEL FUEL, GAS OIL OR HEATING OIL, LIGHT
Proper Shipping Name Suffix: Special Provision 640L
Hazard Class: 3
Classification Code: F1
UN Number: 1202
Packing Group: III
Label(s) / Mark(s): 3, EHS
Hazard ID Number: 30
Hazchem EAC: 3Y

SEA (IMDG)

Proper Shipping Name: DIESEL FUEL, GAS OIL OR HEATING OIL, LIGHT
Hazard Class & Division: 3
EMS Number: F-E, S-E
UN Number: 1202
Packing Group: III
Marine Pollutant: Yes
Label(s): 3
Transport Document Name: UN1202, DIESEL FUEL, GAS OIL OR HEATING OIL, LIGHT, 3, PG III, (56°C c.c.), MARINE POLLUTANT

AIR (IATA)

Proper Shipping Name: DIESEL FUEL, GAS OIL OR HEATING OIL, LIGHT
Hazard Class & Division: 3
UN Number: 1202
Packing Group: III
Label(s) / Mark(s): 3
Transport Document Name: UN1202, DIESEL FUEL, GAS OIL OR HEATING OIL, LIGHT, 3, PG III

SECTION 15 REGULATORY INFORMATION

This material is considered hazardous according to the Classification of Chemicals based on Globally Harmonized System of Classification and Labelling of Chemicals (GHS).

REGULATORY STATUS AND APPLICABLE LAWS AND REGULATIONS

Listed or exempt from listing/notification on the following chemical inventories : AIIC, DSL, IECSC, KECI, PICCS, TCSI, TSCA

SECTION 16 OTHER INFORMATION

N/D = Not determined, N/A = Not applicable
KEY TO THE H-CODES CONTAINED IN SECTION 3 OF THIS DOCUMENT (for information only):
H226: Flammable liquid and vapor; Flammable Liquid, Cat 3
H304: May be fatal if swallowed and enters airways; Aspiration, Cat 1
H315: Causes skin irritation; Skin Corr/Irritation, Cat 2
H332: Harmful if inhaled; Acute Tox Inh, Cat 4

H351: Suspected of causing cancer; GHS Carcinogenicity, Cat 2
H373: May cause damage to organs through prolonged or repeated exposure; Target Organ, Repeated, Cat 2
H401: Toxic to aquatic life; Acute Env Tox, Cat 2
H411: Toxic to aquatic life with long lasting effects; Chronic Env Tox, Cat 2

THIS SAFETY DATA SHEET CONTAINS THE FOLLOWING REVISIONS:
No revision information

Internal Use Only
MHC: 1A, 0B, 2, 0, 4, 1 PPEC: C

DGN: 7106759XIT (1017892)

SAFETY DATA SHEET

DIESEL ADDITIVE - GARDX

Compilation date: 25/11/2015

Revision date: 10/12/2015 **Revision No:**1.1

Section 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product name: DIESEL ADDITIVE - GARDX

Product code: T1062

1.2. Relevant identified uses of the substance or mixture and uses advised against

1.3. Details of the supplier of the safety data sheet

Company name: GardX International Ltd
Unit 7, Clovelly Business Park, Clovelly Road
Southbourne, Emsworth
Hampshire
PO10 8PE
United Kingdom

Tel: 01243 376 426

Fax: 01243 370 909

Email: info@gardx.co.uk

1.4. Emergency telephone number

Emergency tel: 01405 768 815
(office hours only)

Section 2: Hazards identification

2.1. Classification of the substance or mixture

Classification under CLP: Asp. Tox. 1: H304; Aquatic Chronic 3: H412; -: EUH066

Most important adverse effects: Repeated exposure may cause skin dryness or cracking. May be fatal if swallowed and enters airways. Harmful to aquatic life with long lasting effects.

2.2. Label elements

Label elements:

Hazard statements: EUH066: Repeated exposure may cause skin dryness or cracking.
H304: May be fatal if swallowed and enters airways.
H412: Harmful to aquatic life with long lasting effects.

Hazard pictograms: GHS08: Health hazard

[cont...]

Signal words: Danger

Precautionary statements: P273: Avoid release to the environment.
P280: Wear protective gloves.
P301+310: IF SWALLOWED: Immediately call a POISON CENTER/doctor/first aid.
P331: Do NOT induce vomiting.
P405: Store locked up.
P501: Dispose of contents/container to authorised waste disposal site.

2.3. Other hazards

PBT: This product is not identified as a PBT/vPvB substance.

Section 3: Composition/information on ingredients

3.2. Mixtures

Hazardous ingredients:

HYDROCARBONS, C11-14, N-ALKANES, ISOALKANES, CYCLIC, <2% AROMATICS - REACH registered number(s): 01-2119456620-43

EINECS	CAS	PBT / WEL	CLP Classification	Percent
926-141-6	-	-	Asp. Tox. 1: H304; -: EUH066	>70%

2-ETHYLHEXYL NITRATE

248-363-6	27247-96-7	-	Acute Tox. 4: H302+312+332; Aquatic Chronic 2: H411; -: EUH044; -: EUH066	1-5%

HYDROCARBONS, C9, AROMATICS

918-668-5	64742-95-6	-	Flam. Liq. 3: H226; Asp. Tox. 1: H304; STOT SE 3: H335; Aquatic Chronic 2: H411; STOT SE 3: H336	1-5%

Section 4: First aid measures

4.1. Description of first aid measures

Skin contact: Wash immediately with plenty of soap and water. Remove all contaminated clothes and footwear immediately unless stuck to skin.

Eye contact: Bathe the eye with running water for 15 minutes. Consult a doctor.

Ingestion: Do not induce vomiting. Wash out mouth with water. Consult a doctor.

Inhalation: Move to fresh air in case of accidental inhalation of vapours.

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

Skin contact: There may be mild irritation at the site of contact.

Eye contact: There may be irritation and redness.

Ingestion: Nausea and stomach pain may occur. There may be vomiting and diarrhoea.

Inhalation: There may be irritation of the throat with a feeling of tightness in the chest. Exposure may cause coughing or wheezing.

[cont...]

Delayed / immediate effects: Immediate effects can be expected after short-term exposure.

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

Immediate / special treatment: Do not induce vomiting. Eye bathing equipment should be available on the premises.

Section 5: Fire-fighting measures

5.1. Extinguishing media

Extinguishing media: Use water spray to cool containers. Suitable extinguishing media for the surrounding fire should be used.

5.2. Special hazards arising from the substance or mixture

Exposure hazards: In combustion emits toxic fumes.

5.3. Advice for fire-fighters

Advice for fire-fighters: Wear self-contained breathing apparatus. Wear protective clothing to prevent contact with skin and eyes.

Section 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions: Refer to section 8 of SDS for personal protection details. Turn leaking containers leak-side up to prevent the escape of liquid.

6.2. Environmental precautions

Environmental precautions: Do not discharge into drains or rivers. Contain the spillage using bunding.

6.3. Methods and material for containment and cleaning up

Clean-up procedures: Absorb into dry earth or sand. Transfer to a closable, labelled salvage container for disposal by an appropriate method.

6.4. Reference to other sections

Reference to other sections: Refer to section 8 of SDS.

Section 7: Handling and storage

7.1. Precautions for safe handling

Handling requirements: Ensure there is sufficient ventilation of the area.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions: Store in a cool, well ventilated area. Keep away from direct sunlight.

Suitable packaging: Must only be kept in original packaging.

7.3. Specific end use(s)

Section 8: Exposure controls/personal protection

[cont...]

8.1. Control parameters

Hazardous ingredients:

HYDROCARBONS, C11-14, N-ALKANES, ISOALKANES, CYCLIC, <2% AROMATICS

Workplace exposure limits: **Respirable dust**

State	8 hour TWA	15 min. STEL	8 hour TWA	15 min. STEL
UK	1200mg/m3	-	-	-

DNEL/PNEC Values

DNEL / PNEC No data available.

8.2. Exposure controls

Engineering measures: Ensure there is sufficient ventilation of the area.

Respiratory protection: Respiratory protection not required.

Hand protection: Gloves (solvent-resistant). Breakthrough time of the glove material > 4 hours.

Eye protection: Safety glasses. Ensure eye bath is to hand.

Skin protection: Protective clothing.

Environmental: Prevent from entering in public sewers or the immediate environment.

Section 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

State: Liquid

Colour: Yellow-brown

Odour: Characteristic odour

Evaporation rate: Slow

Oxidising: Not applicable.

Solubility in water: Insoluble

Also soluble in: Most organic solvents.

Viscosity: Non-viscous

Kinematic viscosity: <7.0

Viscosity test method: Kinematic viscosity in 10-6 m2/s at 40°C (ISO 3219)

Boiling point/range°C: 170-250

Melting point/range°C: No data available.

Flammability limits %: lower: No data available.

upper: No data available.

Flash point°C: 70

Part.coeff. n-octanol/water: No data available.

Autoflammability°C: No data available.

Vapour pressure: No data available.

Relative density: 0.825

pH: Not applicable.

VOC g/l: No data available.

9.2. Other information

Other information: No data available.

[cont...]

Section 10: Stability and reactivity

10.1. Reactivity

Reactivity: Stable under recommended transport or storage conditions.

10.2. Chemical stability

Chemical stability: Stable under normal conditions.

10.3. Possibility of hazardous reactions

Hazardous reactions: Hazardous reactions will not occur under normal transport or storage conditions. Decomposition may occur on exposure to conditions or materials listed below.

10.4. Conditions to avoid

Conditions to avoid: Heat. Hot surfaces. Sources of ignition.

10.5. Incompatible materials

Materials to avoid: Oxidising agents. Reducing agents.

10.6. Hazardous decomposition products

Haz. decomp. products: In combustion emits toxic fumes.

Section 11: Toxicological information

11.1. Information on toxicological effects

Hazardous ingredients:

HYDROCARBONS, C11-14, N-ALKANES, ISOALKANES, CYCLIC, <2% AROMATICS

DERMAL	RBT	LD50	>5000	mg/kg
ORAL	RAT	LD50	>5000	mg/kg
VAPOURS	RAT	4H LC50	>5000	mg/kg

2-ETHYLHEXYL NITRATE

ORAL	RAT	LD50	>10	g/kg

HYDROCARBONS, C9, AROMATICS

DERMAL	RBT	LD50	3160	mg/l
ORAL	RAT	LD50	3492	mg/kg
VAPOURS	RAT	4H LC50	6193	mg/l

Relevant hazards for substance:

Hazard	Route	Basis
Aspiration hazard	-	Hazardous: calculated

[cont...]

Symptoms / routes of exposure

Skin contact: There may be mild irritation at the site of contact.

Eye contact: There may be irritation and redness.

Ingestion: Nausea and stomach pain may occur. There may be vomiting and diarrhoea.

Inhalation: There may be irritation of the throat with a feeling of tightness in the chest. Exposure may cause coughing or wheezing.

Delayed / immediate effects: Immediate effects can be expected after short-term exposure.

Section 12: Ecological information

12.1. Toxicity

Hazardous ingredients:

HYDROCARBONS, C11-14, N-ALKANES, ISOALKANES, CYCLIC, <2% AROMATICS

ALGAE	72H IC50	20	mg/l
Daphnia magna	48H EC50	>250	mg/l
RAINBOW TROUT (Oncorhynchus mykiss)	96H LC50	>1000	mg/l

2-ETHYLHEXYL NITRATE

ALGAE	72H ErC50	3.22	mg/l
DAPHNIA	48H EC50	>12.6	mg/l
FISH	96H LC50	2.0	mg/l

12.2. Persistence and degradability

Persistence and degradability: Biodegradable.

12.3. Bioaccumulative potential

Bioaccumulative potential: Bioaccumulation potential.

12.4. Mobility in soil

Mobility: Volatile. Insoluble in water. Floats on water.

12.5. Results of PBT and vPvB assessment

PBT identification: This product is not identified as a PBT/vPvB substance.

12.6. Other adverse effects

Other adverse effects: Harmful to aquatic organisms.

Section 13: Disposal considerations

13.1. Waste treatment methods

Disposal operations: Transfer to a suitable container and arrange for collection by specialised disposal company.

NB: The user's attention is drawn to the possible existence of regional or national regulations regarding disposal.

[cont...]

Section 14: Transport information

Transport class: This product does not require a classification for transport.

Section 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

15.2. Chemical Safety Assessment

Section 16: Other information

Other information

Other information: This safety data sheet is prepared in accordance with Commission Regulation (EU) No 453/2010.

* indicates text in the SDS which has changed since the last revision.

Phrases used in s.2 and s.3: EUH044: Risk of explosion if heated under confinement.

EUH066: Repeated exposure may cause skin dryness or cracking.

H226: Flammable liquid and vapour.

H302+312+332: Harmful if swallowed, in contact with skin or if inhaled.

H304: May be fatal if swallowed and enters airways.

H335: May cause respiratory irritation.

H336: May cause drowsiness or dizziness.

H411: Toxic to aquatic life with long lasting effects.

H412: Harmful to aquatic life with long lasting effects.

Legal disclaimer: The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. This company shall not be held liable for any damage resulting from handling or from contact with the above product.

PRODUCT SAFETY DATA SHEET

1. Identification of the Substance/Preparation & Supplier.

Product Name: **Diesel Additive T1062**

Product Type: **Fuel Treatment**

Supplier: Unit 7 Clovelly Business Park, Clovelly Road, Southbourne Industrial Estate, Southbourne, Emsworth, Hampshire PO10 8PE

Emergency information: Emergency phone number (Office hours only): 01405 768815
Fax no: 01405 768908

2. Hazards Identification.

Hazard designation:
Xn Harmful

Information pertaining to particular dangers for man and environment:
R65: Harmful: may cause lung damage if swallowed
R66: Repeated exposure may cause skin dryness or cracking

Classification system:
The health and environmental hazards of this preparation have been assessed by the conventional method described In annex II and III of the preparations Directive 1999/45 EC.

3. Composition/Information on Ingredients.

Dangerous components:

Hazardous component:	EINECS	Cas No.	Index	Risk Phrases:	Concentration:
Petroleum Distillate	265-149-8	64742-47-8	F, Xn	R65, R66,	75-85%
2-EthyHexyl Nitrate	248-363-6	27247-96-7	Xn	R20/21	1-5%
Solvent Naphtha	265-198-5	64742-94-5	Xn, N	R65, R66, R51/53	<2.5%

Additional information: For the wording of the listed risk phrases refer to section 16.

4. First Aid Measures.

Immediate medical attention is required.

Eye Contact: Flush with clean water for 15minutes. If irritation persists, obtain medical attention.

Skin Contact: Remove contaminated clothing. Wash off with soap and water. The application of skin reconditioning (emollient) cream, can be beneficial.

Inhalation: Remove to fresh air. If symptoms persist, seek medical advice.

Ingestion: Water to drink and rinse may be beneficial. **Aspiration Hazard. May cause rapid absorption via lungs, resulting in injury to other body systems. Do not induce vomiting without medical advice.**

5. Fire Fighting Measures:

Suitable Extinguishing Media: Foam, Dry Powder, Co2, Sand, Earth, Fine Water Spray suitable.

Unsuitable Extinguishing Media for Reasons of Safety: Water Jet.

Special Hazards caused by the material, its products of combustion or flue gases: Not classed as flammable but, inherently combustible. If involved in fire, may evolve noxious fumes.

Protective Equipment: Self-contained breathing apparatus may be required.

6. Accidental Release Measures.

Personal safety precautions: Remove ignition sources. Wear protective equipment. Keep unprotected persons away. Use protective clothing, chemical eye goggles and PVC or rubber gloves.

Measures for environmental protection: Do not allow product to soak into drains or water courses.
Inform authorities in case of contamination of water or sewage system.

Methods for cleaning/collecting: Soak liquid in absorbent material and collect solids in a container. Wash down floor area as spillages can be slippery**.**
Dispose only in accordance with Local Authority regulations, via authorised waste disposal agent. Advice can be obtained from the Waste Regulation Authority whether special waste regulations apply to this product.

7. Handling and Storage.

Handling:
Information for safe handling: Keep in tightly closed containers. Take note of emission threshold.

Storage:
Requirements to be met by storerooms and containers: Store between 10-35ºC. Store in mild steel, stainless steel or polyethylene containers.

Information about storage in a common storage facility: Store in a cool dry place away from heat or sources of combustion.

Specific Uses: To be used as a Diesel Additive.

8. Exposure Controls/Personal Protection.

Exposure limit values:

Ingredient Name		8hr TWA	15min STEL
Petroleum Distillates	WEL	5mg/m3	10mg/m3
2-EthyHexyl Nitrate	TLV	1ppm Self assessed	

Occupational exposure controls:

Respiratory Protection:	Unlikely to be necessary. Avoid breathing mists or vapours.
Hand:	PVC or rubber gloves are recommended.
Eyes:	Safety eye goggles should be worn.
Skin:	Use protective clothing. Remove contaminated clothing and wash with soap and water.

Environmental exposure controls:
Dispose only in accordance with Local Authority regulations, via authorised waste disposal agent.

9. Physical and Chemical Properties.

Appearance:	Clear Brown Fluid
Odour:	Solvent
Boiling Range:	173-250ºC
Flash Point:	>60ºC
Water Solubility:	Insoluble
Viscosity @ 40ºC:	<7.0c/st
Vapour Density:	>1
Specific Gravity @ 20ºC:	0.83 typical
Solubility in Organics:	Soluble in many
Freezing Point:	<0ºC

10. Stability and Reactivity.

Conditions to Avoid: Protect against naked flames, hot surfaces and other high temperature sources.

Materials to Avoid: Strong oxidising agents.

Hazardous Decomposition Products: Oxides of carbon, water vapour and unidentified organic and inorganic compounds, some of which may be toxic may be produced. Product is stable under normal conditions.

11. Toxicological Information.

Toxic Dose LD50 Oral (rat) 5000mg/kg

Eyes:	Likely to cause irritation and stinging.
Skin:	Prolonged or repeated contact may lead to de-fatting of the skin and/or slight irritation.
Inhalation:	Excessive exposure to mists caused by atomising systems may cause irritation to eyes and respiratory tract, possible inflammation of the lungs.
Ingestion:	Aspiration Hazard. May cause lung damage if material gets into lungs after swallowing, breathing vapour, spray or vomiting swallowed material. Swallowing of small amounts is not likely to cause serious discomfort. If swallowed in larger quantities, may cause vomiting and diarrhoea.

12. Ecological Information.

Eco-toxicity: Hazardous to aquatic life.

Mobility: The product should not be allowed to enter drains or watercourses or be deposited where it can affect ground or surface waters. Avoid transfer into the environment.

Persistence and Degradability: Product is readily biodegradable.

Bio-accumulative Potential: Not expected to bio-accumulate.

13. Disposal Recommendations.

Product should be disposed of via an authorised waste disposal contractor in accordance with all local and national regulations.
Dispose of empty containers in accordance with local and national regulations.
Advice can be obtained from the Waste Regulation Authority whether special waste regulations apply to this product.

14. Transport Information.

Product is not classified as hazardous for transport.

15. Regulatory Information.

Designation according to EC guidelines:
The product has been classified and labelled in accordance with EC Directives / Ordinance on Hazardous Materials (CHIP).

Hazard Symbol:

Classification:	Xn	Harmful
Risk Phrases:	R65:	Harmful: may cause lung damage if swallowed
	R66:	Repeated exposure may cause skin dryness or cracking
Safety Phrases:	S24/25:	Avoid contact with skin and eyes
	S37:	Wear suitable gloves
	S62:	If swallowed, do not induce vomiting, seek medical advice and show this container or label

National Regulations:

Regulations which may apply in event of accident:
Control of Major Accident Hazards (COMAH)
Critical quantity values according to the regulations on accidents should be adhered to.

16. Other Information.

Do not mix with other chemicals.
The information provided in this data sheet has been compiled in accordance with the requirements of the Chemicals (Hazard information and packaging) Regulations 2002 (CHIP 3).
This data sheet does not constitute an assessment of the workplace risks as required under the provisions of the Health & Safety at Work act and the Control of Substances Hazardous to Health (COSHH).

R-phrases relevant to the products hazardous ingredients:

R20/21:	Harmful by inhalation and in contact with skin
R51/53:	Toxic to aquatic organisms. May cause long term adverse effects in the aquatic environment
R65:	Harmful: may cause lung damage if swallowed
R66:	Repeated exposure may cause skin dryness or cracking

Training Advice: Users should be trained in good industrial hygiene practise.

Recommended Restrictions on Use:

Department issuing data specification sheet: Health and Safety Department

Contact: Malcolm Gibson. Tel (0)1405 768815, E-Mail: malcolm@technikraft.co.uk

***Date compared to the previous version altered.**

Legal Disclaimer:

The information supplied above is based upon the present state of our knowledge of the product at the time of publication. It is given in good faith and no warranty is implied with respect to the specification or quality of the product. The user must satisfy himself that the product is entirely suitable for his purpose.

SAFETY DATA SHEET

1. Identification

Product identifier	**Diesel Cooling System Additive**
Other means of identification	
FIR No.	184845
Recommended use	Antifreeze/Coolant Additive (Reinhibitor) For Use In Diesel Engine Cooling Systems
Recommended restrictions	None known.
Manufacturer/Importer/Supplier/Distributor information	
Company name	Ford Motor Company Canada, Limited
Address	P.O. Box 2000 Oakville, Ontario L6K 1C8 Canada
Telephone	1-800-565-3673
SDS Information	1-800-448-2063 (USA and Canada) fordsds.com
Emergency telephone number(s)	Poison Control Centre: USA and Canada: 1-800-959-3673 INFOTRAC (Transportation): USA and Canada: 1-800-535-5053

2. Hazard(s) identification

Physical hazards	Not classified.	
Health hazards	Serious eye damage/eye irritation	Category 2A
	Germ cell mutagenicity	Category 2
	Reproductive toxicity	Category 2
	Specific target organ toxicity following single exposure	Category 1
	Specific target organ toxicity following repeated exposure	Category 2
Environmental hazards	Hazardous to the aquatic environment, acute hazard	Category 2
	Hazardous to the aquatic environment, long-term hazard	Category 3

Label elements

Signal word	Danger
Hazard statement	Causes serious eye irritation. Suspected of causing genetic defects. Causes damage to organs. Suspected of damaging fertility or the unborn child. May cause damage to organs through prolonged or repeated exposure. Toxic to aquatic life. Harmful to aquatic life with long lasting effects.
Precautionary statement	
Prevention	Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe mist or vapour. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection.
Response	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. IF exposed or concerned: Call a POISON CENTER/doctor.

Storage	Store locked up.
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.
Other hazards	Irritating to respiratory system. May be irritating to the skin. May be harmful if swallowed. May be harmful if absorbed through skin.
Supplemental information	None.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Potassium nitrate		7757-79-1	2.5
Sodium nitrite		7632-00-0	2.1
Sodium Molybdate		7631-95-0	1.3

All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

Inhalation	Move to fresh air. Call a physician if symptoms develop or persist.
Skin contact	Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention if irritation develops and persists.
Eye contact	Immediately flush 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 centre immediately. Rinse mouth. Do not induce vomiting.
Most important symptoms/effects, acute and delayed	Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. 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. If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance.

5. Fire-fighting measures

Suitable extinguishing media	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	Upon decomposition, this product emits carbon monoxide, carbon dioxide and/or low molecular weight hydrocarbons.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire fighting equipment/instructions	Move containers from fire area if you can do so without risk.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Avoid contact with eyes, skin, and clothing. Do not breathe mist or vapour. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep people away from and upwind of spill/leak. Keep unnecessary personnel away. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. Wear appropriate protective equipment and clothing during clean-up. For personal protection, see section 8 of the SDS.

Methods and materials for containment and cleaning up

This product is miscible in water. Prevent product from entering drains.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water.

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

Never return spills to original containers for re-use. Put material in suitable, covered, labeled containers. For waste disposal, see section 13 of the SDS.

Environmental precautions

Avoid release to the environment. Inform appropriate managerial or supervisory personnel of all environmental releases. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Pregnant or breastfeeding women must not handle this product. Avoid contact with eyes, skin, and clothing. Do not breathe mist or vapour. When using, do not eat, drink or smoke. Provide adequate ventilation. Should be handled in closed systems, if possible. Avoid release to the environment. Observe good industrial hygiene practices. Wash hands thoroughly after handling. Wear appropriate personal protective equipment. For personal protection, see section 8 of the SDS.

Conditions for safe storage, including any incompatibilities

Store locked up. Store in original tightly closed container. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
Sodium Molybdate (CAS 7631-95-0)	TWA	0.5 mg/m3	Respirable fraction.

Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2)

Components	Type	Value	Form
Sodium Molybdate (CAS 7631-95-0)	TWA	0.5 mg/m3	Respirable.

Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended)

Components	Type	Value	Form
Sodium Molybdate (CAS 7631-95-0)	TWA	0.5 mg/m3	Respirable.

Canada. Manitoba OELs (Reg. 217/2006, The Workplace Safety And Health Act)

Components	Type	Value	Form
Sodium Molybdate (CAS 7631-95-0)	TWA	0.5 mg/m3	Respirable fraction.

Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents)

Components	Type	Value	Form
Sodium Molybdate (CAS 7631-95-0)	TWA	0.5 mg/m3	Respirable fraction.

Canada. Quebec OELs. (Ministry of Labour - Regulation Respecting the Quality of the Work Environment)

Components	Type	Value
Sodium Molybdate (CAS 7631-95-0)	TWA	5 mg/m3

Biological limit values

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

Appropriate engineering controls

Use adequate ventilation to control airborne concentrations below the exposure limits/guidelines. If user operations generate a vapor, dust and/or mist, use process enclosure, appropriate local exhaust ventilation, or other engineering controls to control airborne levels below the recommended exposure limits/guidelines. Eye wash fountain and emergency showers are recommended.

Individual protection measures, such as personal protective equipment

Eye/face protection	Wear safety glasses with side shields (or goggles).
Skin protection	
Hand protection	Suitable chemical protective gloves should be worn when the potential exists for skin exposure. The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other. Neoprene gloves are recommended. Nitrile gloves are recommended.
Other	Wear appropriate chemical resistant clothing if applicable.
Respiratory protection	If engineering controls do not maintain airborne concentrations to a level which is adequate to protect worker health, an approved respirator must be worn. Respirator selection, use and maintenance should be in accordance with the requirements of OSHA Respiratory Protection Standard 29 CFR 1910.134 and/or Canadian Standard CSA Z94.4.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
General hygiene considerations	Observe any medical surveillance requirements. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance	
Physical state	Liquid.
Form	Liquid.
Colour	Blue.
Odour	Odourless.
Odour threshold	Not available.
pH	10.5 ASTM D1293
pH Concentration	100 % v/v
Melting point/freezing point	Not available.
Initial boiling point and boiling range	100 °C (212 °F)
Flash point	Not available.
Evaporation rate	Not available.
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit – upper (%)	Not available.
Vapour pressure	760 mm Hg
Vapor pressure temp.	100 °C (212 °F)
Vapour density	Not available.
Relative density	1.13 - 1.15
Relative density temperature	4 °C (39.2 °F)
Solubility(ies)	
Solubility (water)	Complete
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Contact with incompatible materials.
Incompatible materials	Strong acids. Reducing Agents. Halogenated materials. Alcohols.
Hazardous decomposition products	Upon decomposition, this product emits carbon monoxide, carbon dioxide and/or low molecular weight hydrocarbons. Nitrogen oxides (NOx). Oxides of phosphorus. Sulphur oxides.

11. Toxicological information

Information on likely routes of exposure

Inhalation	May cause damage to organs by inhalation. May cause damage to organs through prolonged or repeated exposure by inhalation. Irritating to respiratory system.
Skin contact	May be harmful in contact with skin. May be irritating to the skin.
Eye contact	Causes serious eye irritation.
Ingestion	May be harmful if swallowed.
Symptoms related to the physical, chemical and toxicological characteristics	Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision.

Information on toxicological effects

Acute toxicity

Components	Species	Calculated/Test Results
Potassium nitrate (CAS 7757-79-1)		
Acute		
Oral		
LD50	Rabbit	1166 mg/kg
Sodium nitrite (CAS 7632-00-0)		
Acute		
Inhalation		
LC50	Rat	5.5 mg/l, 4 Hours
Oral		
LD50	Mouse	175 mg/kg
	Rabbit	186 mg/kg
	Rat	85 mg/kg
Other		
LD50	Mouse	158 mg/kg
	Rat	65 mg/kg

Skin corrosion/irritation	Prolonged skin contact may cause temporary irritation.
Serious eye damage/eye irritation	Causes serious eye irritation.

Respiratory or skin sensitisation

Canada - Alberta OELs: Irritant

Sodium Molybdate (CAS 7631-95-0)	Irritant

Respiratory sensitisation	Not a respiratory sensitizer.
Skin sensitisation	This product is not expected to cause skin sensitisation.
Germ cell mutagenicity	Suspected of causing genetic defects.
Carcinogenicity	This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.
Reproductive toxicity	Suspected of damaging fertility or the unborn child.
Specific target organ toxicity - single exposure	Causes damage to organs. Blood.

Specific target organ toxicity - repeated exposure	May cause damage to organs through prolonged or repeated exposure. Blood.
Aspiration hazard	Not an aspiration hazard.
Chronic effects	May cause damage to organs through prolonged or repeated exposure. Prolonged inhalation may be harmful.

12. Ecological information

Ecotoxicity Toxic to aquatic life. Harmful to aquatic life with long lasting effects.

Components		Species	Calculated/Test Results
Potassium nitrate (CAS 7757-79-1)			
Aquatic			
Fish	LC50	Western mosquitofish (Gambusia affinis)	22.5 mg/l, 96 hours
Sodium Molybdate (CAS 7631-95-0)			
Aquatic			
Crustacea	EC50	Tubificid worm (Tubifex tubifex)	42.48 - 65.64 mg/l, 48 hours
Fish	LC50	Striped bass (Morone saxatilis)	> 79.8 mg/l, 96 hours
Sodium nitrite (CAS 7632-00-0)			
Aquatic			
Crustacea	EC50	Greasyback shrimp (Metapenaeus ensis)	16.14 - 26.61 mg/l, 48 hours
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss)	0.13 - 0.26 mg/l, 96 hours

Persistence and degradability	No data is available on the degradability of this product.
Bioaccumulative potential	No data available.
Mobility in soil	No data available. This product is miscible in water and may not disperse in soil.
Other adverse effects	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.
Local disposal regulations	Dispose in accordance with all applicable regulations.
Waste from residues / unused products	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

TDG

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not established.

15. Regulatory information

International Inventories

All components are listed on the Canadian Domestic Substances List (DSL) or Non-Domestic Substances List (NDSL), or are exempt.

16. Other information

Issue date	23-January-2017
Version	01
Preparation Information and Disclaimer	This document was prepared by FCSD-Toxicology, Ford Motor Company, Diagnostic Service Center II, 1800 Fairlane Drive, Allen Park, MI 48101, USA, based in part on information provided by the manufacturer. The information on this data sheet represents our current data and is accurate to the best of our knowledge as to the proper handling of this product under normal conditions and in accordance with the application specified on the packaging and/or technical guidance literature. Any other use of the product which involves using the product in combination with any other product or any other process is the responsibility of the user. To the extent that there are any differences between this product's Safety Data Sheet (SDS) and the consumer packaged product labels, the SDS should be followed.
Revision information	Composition / Information on Ingredients: Ingredients Physical & Chemical Properties: Multiple Properties Toxicological Information: Toxicological Data Ecological Information: Ecotoxicity GHS: Classification
Part number(s)	VC-8

SAFETY DATA SHEET
FAST ORANGE

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

PRODUCT NAME: FAST ORANGE

SUPPLIER:
Permatex Europe
Unit 3 Shipton Way
Express Business Park
Northampton Road, Rushden
Northants
NN10 6GL
+44 (0)870 458 9686
enquiries@permatex.eu

2 HAZARDS IDENTIFICATION

Not regarded as a health or environmental hazard under current legislation.

3 COMPOSITION/INFORMATION ON INGREDIENTS

COMPOSITION COMMENTS

This Safety Data Sheet has been prepared in accordance with the requirements of EC Directive 76/768/EEC.

4 FIRST-AID MEASURES

GENERAL INFORMATION

In case of accident or if you feel unwell, seek medical advice immediately (show label where possible).

INHALATION

Fresh air and rest.

INGESTION

DO NOT INDUCE VOMITING! Move injured person into fresh air and keep person calm under observation. If necessary, seek hospital and bring these instructions.

SKIN CONTACT

Remove contaminated clothing immediately and wash skin with soap and water. Get medical attention if irritation persists after washing.

EYE CONTACT

Promptly wash eyes with plenty of water while lifting the eye lids. Continue to rinse for at least 15 minutes. Get medical attention if any discomfort continues.

5 FIRE-FIGHTING MEASURES

EXTINGUISHING MEDIA

Fire can be extinguished using: Carbon dioxide (CO_2). Dry chemicals. Foam.

UNUSUAL FIRE & EXPLOSION HAZARDS

No unusual fire or explosion hazards noted.

6 ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS

In case of spills, beware of slippery floors and surfaces.

SPILL CLEAN UP METHODS

Flush away spillage with plenty of water.

7 HANDLING AND STORAGE

USAGE PRECAUTIONS

Avoid contact with eyes.

STORAGE PRECAUTIONS

Keep above the chemical's freezing point.

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING MEASURES

No particular ventilation requirements.

RESPIRATORY EQUIPMENT

Respiratory protection not required.

9 PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE	Creamy liquid		
COLOUR	White / off-white		
ODOUR	Orange		
SOLUBILITY	Soluble in water		
RELATIVE DENSITY	1.02	EVAPORATION RATE	<1 (butyl acetate = 1)
pH-VALUE, CONC. SOLUTION	6.0-7.7	FLASH POINT (°C)	>95
VOLATILE ORGANIC COMPOUND (VOC)	7.0		

10 STABILITY AND REACTIVITY

STABILITY

No particular stability concerns.

CONDITIONS TO AVOID

Avoid frost.

11 TOXICOLOGICAL INFORMATION

INHALATION

No specific health warnings noted.

EYE CONTACT

Irritating and may cause redness and pain.

Other Health Effects

May cause sensitisation by skin contact.

TARGET ORGANS

Eyes.

12 ECOLOGICAL INFORMATION

DEGRADABILITY

The product is biodegradable.

13 DISPOSAL CONSIDERATIONS

DISPOSAL METHODS

Dispose of waste and residues in accordance with local authority requirements.

14 TRANSPORT INFORMATION

GENERAL	The product is not covered by international regulation on the transport of dangerous goods (IMDG, IATA, ADR/RID). No transport warning sign required.
MARINE POLLUTANT	No.

FAST ORANGE

15 REGULATORY INFORMATION

RISK PHRASES

NC	Not classified.

SAFETY PHRASES

NC	Not classified.

16 OTHER INFORMATION

REVISION DATE	17/10/2008
REV. NO./REPL. SDS GENERATED	1

SAFETY DATA SHEET

FLOOR PAINT BLUE

Section 1. Product and company identification

GHS product identifier : FLOOR PAINT BLUE

Product type : Liquid.

Relevant identified uses of the substance or mixture and uses advised against

Not applicable.

Product use : Waterborne coating for interior and exterior use.

Details of the supplier of the safety data sheet

Pinturas INCA SA
Carlos A. López 7897, Montevideo Uruguay
CP 12400
www.inca.com.uy

e-mail address of person responsible for this SDS : inca@akzonobel.com

Emergency telephone number

Telephone number : (598) 2320 08 91 (24 horas)
CIAC: 0800 1401 (local)
CIAT: 1722 (local)

Version : **5.01**

Date of previous issue : 7-6-2018

Section 2. Hazards identification

Classification of the substance or mixture : Not classified.

Ingredients of unknown toxicity : 0%

Ingredients of unknown ecotoxicity : 0%

GHS label elements

Signal word : No signal word.

Hazard statements : No known significant effects or critical hazards.

Precautionary statements

General :

Section 2. Hazards identification

Keep out of reach of children. If medical advice is needed, have product container or label at hand.

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

Response : Call a POISON CENTER or doctor if you feel unwell.

Storage : Not applicable.

Disposal : Dispose of contents and container in accordance with all local, regional, national or international regulations.

Hazardous ingredients : 1-isopropyl-2,2-dimethyltrimethylene diisobutyrate
IPBC

Other hazards which do not result in classification : None known.

Section 3. Composition/information on ingredients

Ingredient name	%	CAS number
1-isopropyl-2,2-dimethyltrimethylene diisobutyrate	1 - < 2.5	6846-50-0
IPBC	0 - < 1	55406-53-6

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

Eye contact : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.

Inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

Skin contact : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.

Ingestion : Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : No known significant effects or critical hazards.

Inhalation : No known significant effects or critical hazards.

Skin contact : No known significant effects or critical hazards.

Ingestion : No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact : No specific data.

Inhalation : No specific data.

Skin contact : No specific data.

Ingestion : No specific data.

Indication of immediate medical attention and special treatment needed, if necessary

Section 4. First aid measures

Notes to physician : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

Specific treatments : No specific treatment.

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

See toxicological information (Section 11)

Section 5. Firefighting measures

Extinguishing media

Suitable extinguishing media : Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media : None known.

Specific hazards arising from the chemical : In a fire or if heated, a pressure increase will occur and the container may burst.

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

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.

For emergency responders : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and material for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill : Stop leak if without risk. Move containers from spill area. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8).

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8.2 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Titanium dioxide	**ACGIH TLV (United States, 3/2016).** TWA: 10 mg/m³ 8 hours.

Appropriate engineering controls : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

Skin protection

Hand protection

Gloves : For all types of exposure, a glove with protection class of 2 or higher (breakthrough time >30 minutes according to EN374) is recommended. Recommended gloves: Nitrile, thickness ≥ 0.12 mm.

NOTICE: The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all relevant workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), potential body reactions to glove materials, as well as the instructions/specifications provided by the glove supplier.

The user must check that the final choice of type of glove selected for handling this product is the most appropriate and takes into account the particular conditions of use, as included in the user's risk assessment.

Section 8. Exposure controls/personal protection

Gloves should be replaced regularly and if there is any sign of damage to the glove material.

Always ensure that the gloves are free from defects and that they are stored and used correctly.

Body protection : Personnel should wear antistatic clothing made of natural fibres or of high-temperature-resistant synthetic fibres.

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 : If workers are exposed to concentrations above the exposure limit, they must use appropriate, certified respirators.

OLD LEAD-BASED PAINTS:

When surfaces are to be prepared for painting, account should be taken of the age of the property and the possibility that lead-pigmented paint might be present. There is a possibility that ingestion or inhalation of scrapings or dust arising from the preparation work could cause health effects. As a working rule you should assume that this will be the case if the age of the property is pre 1960.

Where possible wet sanding or chemical stripping methods should be used with surfaces of this type to avoid the creation of dust. When dry sanding cannot be avoided, and effective local exhaust ventilation is not available, it is recommended that a dust respirator is worn, that is approved for use with lead dusts, and its type selected on the basis of the COSHH assessment, taking into account the Workplace Exposure Limit for lead in air. Furthermore, steps should be taken to ensure containment of the dusts created, and that all practicable measures are taken to clean up thoroughly all deposits of dusts in and around the affected area.

Respiratory protection in case of dust or spray mist formation. (particle filter EN143 type P2) Respiratory protection in case of vapour formation. (half mask with combination filter A2-P2 til concentrations of 0,5 Vol%.)

The current Control of Lead at Work Regulations approved code of practice should be consulted for advice on protective clothing and personal hygiene precautions. Care should also be taken to exclude visitors, members of the household and especially children from the affected area, during the actual work and the subsequent clean up operations. All scrapings, dust, etc. should be disposed of by the professional painting contractor as Hazardous Waste.

Extra precautions will also need to be taken when burning off old lead-based paints because fumes containing lead will be produced. It is recommended that a respirator, approved for use with particulate fumes of lead is selected on the basis of the COSHH assessment, taking into account the Workplace Exposure Limit for lead in air. Similar precautions to those given above about sanding should be taken with reference to protective clothing, disposal of scrapings and dusts, and exclusion of other personnel and especially children from the building during actual work and the subsequent clean up operations.

Avoid the inhalation of dust. Wear suitable face mask if dry sanding. Special precautions should be taken during surface preparation of pre-1960s paint surfaces over wood and metal as they may contain harmful lead.

Environmental exposure controls : Do not allow to enter drains or watercourses.

Section 9. Physical and chemical properties

Appearance

Physical state : Liquid.

Colour : Various: See label.

Odour : Not available.

Odour threshold : Not available.

pH : 9

Melting point : Not available.

Initial boiling point and boiling range : 100°C

Flash point : Not applicable.

Burning time : Not applicable.

Burning rate : Not applicable.

Evaporation rate : Not available.

Flammability (solid, gas) : Not available.

Lower and upper explosive (flammable) limits : Not available.

Vapour pressure : Not available.

Vapour density : Not available.

Relative density : 1,265

Solubility : Easily soluble in the following materials: cold water.

Solubility in water : Not available.

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

Auto-ignition temperature : Not available.

Decomposition temperature : Not available.

SADT : Not available.

Viscosity : Kinematic (room temperature): 13,5 cm^2/s

Section 10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid : No specific data.

Incompatible materials : No specific data.

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
IPBC	LD50 Oral	Rat	1470 mg/kg	-

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Not available.					

Sensitisation

Not available.

Mutagenicity

Not available.

Carcinogenicity

Not available.

Reproductive toxicity

Not available.

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Name	Category	Route of exposure	Target organs
IPBC	Category 1	Not determined	Not determined

Aspiration hazard

Not available.

Information on 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 : No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : No specific data.

Inhalation : No specific data.

Skin contact : No specific data.

Ingestion : No specific data.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Short term exposure

Potential immediate effects : Not available.

Section 11. Toxicological information

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

Product/ingredient name	Result	Species	Exposure
IPBC	Acute EC50 0,022 mg/l Acute EC50 0,16 ppm Fresh water Acute LC50 67 µg/l Fresh water	Algae - Scenedesmus subspicatus Daphnia - Daphnia magna Fish - Oncorhynchus mykiss - Juvenile (Fledgling, Hatchling, Weanling)	72 hours 48 hours 96 hours

Persistence/degradability

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
IPBC	-	-	Readily

Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
IPBC	2,81	-	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 minimised wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: Transport information

	Road	IMDG
14.1. UN number	Not regulated.	Not regulated.
14.2. UN proper shipping name	Not applicable.	Not applicable.
14.3. Transport hazard class(es) **Class** **Subsidiary class**	Not applicable. -	Not applicable. -
14.4. Packing group	Not applicable.	Not applicable.
14.5. Environmental hazards **Marine pollutant** **Marine pollutant substances**	No.	No. Not available.
14.6. 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.	
HI/Kemler number **Emergency schedules (EmS)**	Not available.	Not applicable.

14.7 Transport in bulk according to Annex II of Marpol and the IBC Code : Not applicable.

Additional information	-	-

Section 15. Regulatory information

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol (Annexes A, B, C, E)

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Inform Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

Inventory list

Australia	:	At least one component is not listed.
Canada	:	At least one component is not listed.
China	:	At least one component is not listed.
Europe	:	At least one component is not listed.
Japan	:	**Japan inventory (ENCS)**: At least one component is not listed. **Japan inventory (ISHL)**: At least one component is not listed.
Malaysia	:	At least one component is not listed.
New Zealand	:	At least one component is not listed.
Philippines	:	At least one component is not listed.
Republic of Korea	:	At least one component is not listed.
Turkey	:	At least one component is not listed.
Taiwan	:	At least one component is not listed.
United States	:	At least one component is not listed.

Section 16. Other information

History

Date of printing	:	23-12-2018
Date of issue/Date of revision	:	23-12-2018
Date of previous issue	:	7-6-2018
Version	:	5.01
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 = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution) UN = United Nations

Classification	Justification
Not classified.	

References : Not available.

Section 16. Other information

Notice to reader

IMPORTANT NOTE The information in this data sheet is not intended to be exhaustive and is based on the present state of our knowledge and on current laws: any person using the product for any purpose other than that specifically recommended in the technical data sheet without first obtaining written confirmation from us as to the suitability of the product for the intended purpose does so at his own risk. It is always the responsibility of the user to take all necessary steps to fulfill the demands set out in the local rules and legislation. Always read the Material Data Sheet and the Technical Data Sheet for this product if available. All advice we give or any statement made about the product by us (whether in this data sheet or otherwise) is correct to the best of our knowledge but we have no control over the quality or the condition of the substrate or the many factors affecting the use and application of the product. Therefore, unless we specifically agree in writing otherwise, we do not accept any liability whatsoever for the performance of the product or for any loss or damage arising out of the use of the product. All products supplied and technical advice given are subject to our standard terms and conditions of sale. You should request a copy of this document and review it carefully. The information contained in this data sheet is subject to modification from time to time in the light of experience and our policy of continuous development. It is the user's responsibility to verify that this data sheet is current prior to using the product.

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Head Office
AkzoNobel Decorative Coatings BV, Christian Neefestraat 2, 1077 WW Amsterdam, The Netherlands

GASOLINE

SAFETY DATA SHEET

IP&E Guam
IP&E Saipan
Revision Date: January 1, 2014

1. Product Identification

Product Name:	Gasoline
Synonyms:	Mogas, Motor Gasoline, Regular Unleaded Gasoline, Premium Unleaded Gasoline
Product Code:	Not Available
Product Type:	Fuel for spark ignition internal combustion engines designed to run on unleaded fuel.
Supplier:	IP&E Holdings, LLC. (dba: IP&E Guam)
Address:	643 Chalan San Antonio, Suite 100 Tamuning, Guam 96913-3644
Contact Number:	Guam: +1-671-647-0000 Saipan: +1-670-323-0647
Emergency Number:	Guam: +1-671-797-0464 (Field Operations Manager) Saipan: +1-670-287-4380 (Depot Manager)

2. Hazards Identification

Classification of the: substance or mixture

Flammable liquids: Category 1
Skin corrosion/irritation: Category 2
Germ Cell Mutagen: Category 1B
Carcinogen: Category 1B
Reproductive toxicant (developmental): Category 2
Target organ toxicant (central nervous system): Category 3
Aspiration toxicant: Category 1
Acute aquatic toxicant: Category 2
Chronic aquatic toxicant: Category 2

GHS Labels:

GHS precautionary statements:

Signal Word: Danger

Hazard Statements:
H224: Extremely flammable liquid and vapor
H304: May be fatal is swallowed and enters airways
H315: Causes skin irritation.
H332: Harmful if inhaled.
H336: May cause drowsiness or dizziness.
H340: May cause genetic defects.
H350: May cause cancer.
H361: Suspected of damaging the unborn child.
H411: Toxic to aquatic wildlife with long lasting effects.
H332: May cause damage to organs through prolonged or repeated exposure.
H319: Causes serious eye irritation.

Precautionary Statements:

General:
P101: If medical advice is needed, have product container or label at hand.
P102: Keep out of reach of children.
P103: Read label before use.

Prevention:
P210: Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P233: Keep container tightly closed.
P273: Avoid release to the environment.
P240: Ground/Bond container and receiving equipment.
P241: Use explosion-proof electrical/ventilating/lighting/equipment.
P242: Use only non-sparking tools.
P243: Take precautionary measures against static discharge.
P260: Do not breathe dust/fume/gas/mist/vapors/spray
P264: Wash hands thoroughly after handling.
P271: Use only outdoors or in a well-ventilated.
P280: Wear protective gloves/eye protection/face protection.

Response:
P362: Take off contaminated clothing and wash before reuse.
P302+P352: If on skin, wash with plenty of soap and water.
P303+P361+P353: If on skin (or hair), remove/take off immediately all contaminated clothing, rinse skin with water/shower.
P332+P313: If skin irritation occurs, Get medical advice/attention.
P337+P313: If eye irritation occurs, Get medical advice/attention.
P305+P351+P338: If in eyes, rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P301+P310: If swallowed, immediately call a poison center of doctor/physician.
P331: Do not include vomiting.
P304+P340: If inhaled, remove victim to fresh air and keep at rest position comfortable for breathing.
P321: If person is not breathing, provide artificial respiration. If there is labored respiration, certified person should manage oxygen.
P370+P378: In case of fire, use dry chemicals, CO2, water spray, firefighting foam for extinction.

Storage:
P403+P233+P235: Store in a well-ventilated place, Keep container tightly closed, Keep cool.
P405: Store locked up.

Disposal:
P501: Dispose of contents/container in accordance with regulations.

NFPA Classification: Health = 1; Fire = 3; Reactivity = 0

Human Health Hazards: Category 2 carcinogen, may cause cancer; may cause lung damage if swallowed; aspiration may cause chemical pneumonitis, which can be fatal; skin irritant; prolonged/repeated contact with skin may cause dafting and/or dermatitis; prolonged exposure to vapor concentrations may affect the central nervous system.

Safety Hazards: Extremely flammable; will float and can be reignited on surface water; ignition from vapors possible from large distances.

Environmental Hazards: Harmful to aquatic organisms; may cause long-term adverse effects in the environment; may penetrate soil and affect ground water; not readily biodegradable; has the potential to bio accumulate; persists under anaerobic conditions.

3. Composition/ Information on Ingredients

Name	CAS Number	Concentration %
Gasoline	8006-61-9	100%
Ethanol	64-17-5	Up to 10%
Toluene	108-88-33	Up to 10%
Benzene	71-43-2	Up to 2%
Cyclohexane	110-82-7	Up to 1%
Ethylbenzene	100-41-4	Up to 3%
Naphthalene	91-20-3	Up to 1%
N-Hexane	110-54-3	Up to 5%
1,2,4 - Trimethylbenzene	95-63-6	Up to 8%
Xylene	1330-20-7	Up to 10%
Cumene	98-82-8	Up to 0.5%

4. First-Aid Measures

Symptoms and Effects: Eye contact may cause transient irritation; ingestion may cause digestive tract irritation, diarrhea or vomiting; aspiration may cause chemical pneumonitis, which may be fatal; prolonged exposure to vapor concentrations may cause impairment of judgment, headache, dizziness, nausea, eye irritation, upper respiratory tract irritation; cardiac irregularities; convulsion, asphyxiation, unconsciousness or death.

First Aid – Inhalation: Move to fresh air. If breathing but unconscious, place in the recovery position. If breathing has stopped, apply artificial respiration. If no heartbeat, provide external cardiac compression. Monitor breathing and pulse. OBTAIN MEDICAL ATTENTION IMMEDIATELY.

First Aid – Skin Contact: Wash skin with water and soap.

First Aid – Eye Contact: Flush eye with water. If persistent irritation occurs, obtain medical attention.

First Aid – Ingestion:	Do not induce vomiting. Protect the airway if vomiting begins. Do not give anything by mouth. If breathing but unconscious, place in the recovery position. If breathing has stopped, apply artificial respiration. If no heartbeat, provide external cardiac compression. Monitor breathing and pulse. OBTAIN MEDICAL ATTENTION IMMEDIATELY.
Advice to Physicians:	Treat symptomatically. Diagnosis of ingestion is by the characteristic odor on the victim's breath and from the history of events. In cases of ingestion, consider gastric lavage. In cases of chemical pneumonitis, consider antibiotic and corticosteroid therapy. Administration of medicinal liquid paraffin may reduce absorption from the digestive tract.

5. Fire-Fighting Measures

Specific Hazards:	Hazardous combustion elements include may include carbon monoxide, oxides of nitrogen, unburnt hydrocarbons; will float and can be reignited on surface water; ignition from vapors possible from large distances.
Extinguishing Media:	Foam, water spray or fog. For small fires, dry chemical powder, carbon dioxide, sand or earth may be used.
Unsuitable Extinguishing Media:	Water and halon extinguishers should be avoided.
Protective Equipment:	Not Available
Other Information:	Keep adjacent drums and tanks cool by spraying with water.

6. Accidental Release Measures

Personal Precautions:	Vapor may travel along the ground for considerable distances. Remove all possible sources of ignition in the surrounding area and evacuate all personnel. Avoid contact with the skin, eyes and clothing. Immediately remove all contaminated clothing, nothing that the clothing may be a fire hazard.
Personal Protection:	Impervious overalls; nitrile rubber gloves; safety shoes; safety glasses.
Environmental Precautions:	Prevent from entering into drains, ditches or rivers. Use appropriate containment, such as absorbent booms, to avoid environmental contamination.
Clean-Up Methods:	Absorb or contain liquid with sand, earth or spill control material. Allow to evaporate or use a non-sparking shovel and place in a labelled sealable container for subsequent safe disposal. Do not disperse using water.
Other Information:	Observe all applicable local regulations. Notify local authorities as required.

7. Handling and Storage

Handling:	Do not eat, drink or smoke while handling. Use only in well-ventilated areas. Take precautionary measures against static discharges. Earth or bond all equipment.
Storage:	Locate tanks away from heat and other sources of ignition. Drums should be staked no more than 3 high. This product must never be stored in buildings occupied by people. Small volumes may be stored in a suitably designed portable container. Such containers should be stored in well-ventilated areas or flameproof cabinets. Do not store in unsuitable, unlabeled or incorrectly labeled containers. Keep container tightly closed in a dry, well-ventilated place away from direct sunlight and other sources of heat or ignition. Keep in a bunded area. Prevent ingress of water. Keep out of reach of children.
Product Transfer:	Electrostatic charges may be generated during pumping. Ensure electrical continuity by bonding all equipment. Avoid splash filling. Wait 10 minutes after tank filling before opening hatches or manholes.
Recommended Materials:	For containers, use mild steel where it does not present an unnecessary fire hazard. For container linings, use amine-adduct cured epoxy paint. For seals and gaskets, use compressed asbestos fibre, PTFE, Viton A, Viton B.

8. Exposure Controls/ Personal Protection

Engineering Control Measures:	Provide exhaust ventilation or other engineering controls to keep airborne concentrations of vapors below their respective occupational exposure limits. Ensure that eyewash stations and safety showers are close to the workstation location.
Respiratory Protection:	Not normally required. In a confined space, self-contained breathing apparatus may be required.
Hand Protection:	PVC or nitrile rubber gloves.
Eye Protection:	Monogoggles.
Body Protection:	Wear overalls to minimize contamination of personal clothing. Launder overalls and undergarments regularly. Wear safety shoes.
Occupational Exposure Standards:	Not Available

9. Physical and Chemical Properties

Property	Unit	91R (RUL)		95R (PUL)	
		Min	Max	Min	Max
Appearance		Clear & Bright		Clear & Bright	
Color		Orange		Undyed	
API Gravity @ 15.6°C	API		Report		Report
Density @ 15°C	Kg/L		Report		Report
SG @ 15.6°C			Report		Report
Distillation - IBP	°C		Report		Report
Distillation - 10% Evaporation	°C		70		74
Distillation - 50% Evaporation	°C	75	120	75	120
Distillation - 90% Evaporation	°C		185		185
Distillation - FBP	°C		225		225
Distillation - Residue	%Vol		2		2
Distillation - Loss	%Vol		Report		Report
RVP @ 37.8°C	PSI or kPa		11 or 75		11 or 75
Sulfur	wt ppm		1000		1000
Existent Gum	mg/ 100ml		5		5
Mercaptan Sulfur	ppm		15		15
Induction Period @ 100°C	min	240		240	
Research Octane No. (RON)		91		95	
Motor Octane No. (MON)			Report		Report
Anti-Knock Index		87		91	
Copper Corrosion @3hrs @50°C			1		1
Lead Content	gmPb/Usg		0.05		0.05
MTBE	%Vol		0.5		0.5
Phosphorus	g/L		0.005		Report
Fe			Nil Addition		Nil Addition
Mn			Nil Addition		Nil Addition
Benzene	%Vol		Report		Report
Ethylbenzene	%Vol		Report		Report
Toluene	%Vol		Report		Report
Total Aromatics	%Vol		Report		Report
Xylene	%Vol		Report		Report
Additive - Dye - Type			Report		Report
Additive - Dye - Concentration	Vol ppm		Report		Report
Silver Strip Corrosion			1		1

10. Stability and Reactivity

Stability and Reactivity: Stable under normal ambient temperature. The liquid and vapor are extremely flammable with the vapor able to cause flash fire.

Incompatibility: Product is reactive with strong oxidizers.

Hazardous Polymerization: Not expected to occur.

Conditions to Avoid: Heat, sparks, open flames and buildup of static electricity. Avoid high temperatures and all sources of ignition. Keep away from strong oxidizing agents.

11. Toxicological Information

Carcinogenicity: Benzene has been identified by the EPA and IARC as a human carcinogen. Gasoline mixtures are listed as a possible carcinogen by IARC and NIOSH.

Target Organs: Potential gasoline components that have demonstrated developmental and or target organ issues include n-hexane, toluene, benzene, ethyl benzene, trimethylbenzene, cyclohexane and naphthalene.

12. Ecological Information

Ecological Information: This product is potentially toxic to aquatic organisms and should be kept out of sewage and drainage systems and all bodies of water. On release to the environment, the lighter product components will readily evaporate, but the remainder may become dispersed in the water or absorb to soil. Primary components of this product are considered biodegradable in aerobic conditions.

13. Disposal Considerations

Precautions: See Section 8

Waste Disposal: Disposal of this product, solutions and any by-products should comply with all applicable federal, state and local environmental regulations.

14. Transport Information

Regulatory Information	UN Number	Emergency Response Guidebook	Proper Shipping Name	Class	Packing Group
DOT Classification	UN1203	Guide 128	Gasoline, UN1203	3	II
International Maritime Dangerous Goods (IMDG)	UN1203	Guide 128	Gasoline, UN1203	3	II
International Civil Aviation Org / International Air Transport Assoc (ICAO, IATA)	UN1203	Guide 128	Gasoline, UN1203	3	II

15. Regulatory Information

This product contains the following chemicals subject to the reporting requirements of SARA 302, SARA 304, SARA 313, CERCLA and 40 CFR 372.

Chemical Name	CAS Number	Material Concentration	CERCLA / SARA Section 302 TPQ (lbs)	CERCLA / SARA Section 304 TPQ (lbs)
Cumene	98-82-8	<0.5		5000
Benzene	71-43-2	<2.0		10
Cyclohexane	110-82-7	<1		1000
Ethylbenzene	100-41-4	<2		1000
Trimethylbenzene	95-63-6	<8		
Naphthalene	91-20-3	<1		100
N-Hexane	110-54-3	<5		5000
Toluene	108-88-3	<10		1000
Xylenes	1330-20-7	<10		100

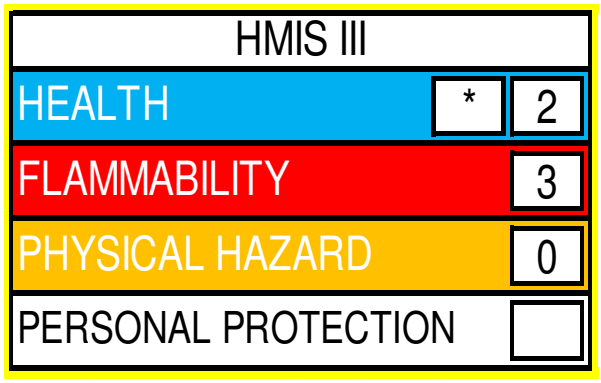
EPA SARA 311 / 312 Title III Hazard Categories:

Acute Health Hazard	Yes
Chronic Health Hazard	Yes
Fire Hazard	Yes
Pressure Hazard	No
Reactive Hazard	No

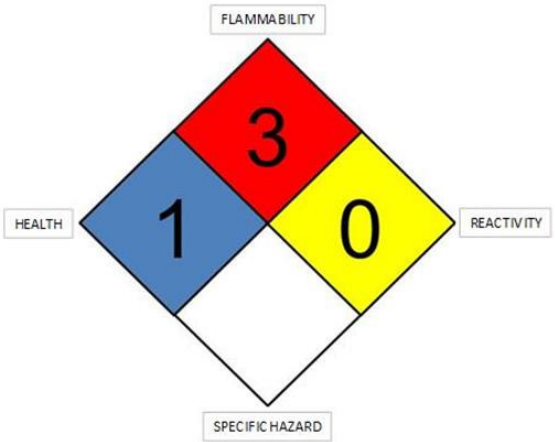
This product may contain chemicals that have been identified as a carcinogen by NTP, IARC or OSHA.

16. Other Information

Hazardous Material Information System (USA):



National Fire Protection Association (USA):



SAFETY DATA SHEET

(SOLAS regulation VI/5-1 format)

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

PRODUCT

Product Name: **GASOLINE**
Product Description: Petroleum Hydrocarbons
Product Code: 709719-60
Intended Use: Fuel
MARPOL Annex I Category: Gasoline and spirits
See Section 14 for transportation information related to the Bill of Lading, other shipping documents

COMPANY IDENTIFICATION

Country	Company	Emergency Telephone Number
International Sales	ExxonMobil Marine Fuels Ermyn House MP 31 Ermyn Way Leatherhead, KT22 8UX UK	(UK) (+44) (0) 23 8089 1558
Australia	MOBIL OIL AUSTRALIA PTY LTD A.B.N. 88 004 052 984 664 Collins St Docklands Victoria 3008 Australia	+1 609 737 4411
Belgium	ExxonMobil Petroleum & Chemical BV Polderdijkweg Haven 447 - 2030 Antwerpen, Belgium	+32 (0) 487 545 780
Canada	Imperial Oil 505 Quarry Park Boulevard SE Calgary, AB T2C 5N1 Canada	1-866-232-9563
Fiji	Mobil Oil Australia Pty Ltd - t/a Mobil Oil Fiji Level 6, ANZ House, 25 Victoria Parade, Suva, Fiji Islands	+1 609 737 4411
France	Esso SAF Tour Manhattan La Defense 2 5/6 Place de l'Iris 92400 Courbevoie France	+33 08 1000 3353
Hong Kong	ExxonMobil Hong Kong Limited: 2201, 22/F, Central Plaza 18 Harbour Road, Wanchai, Hong Kong	+1 609 737 4411
Italy	Esso Italiana SRL Viale Castello della Magliana 25 Rome 00148 Italy	+39 0382 24444
New Zealand	Mobil Oil New Zealand Limited Vero Centre 48 Shortland Street Auckland 1140 New Zealand	National Poison Center +64 3 479 7248 Freephone 0800 764 766
Norway	Esso Norge AS	Emergency: (NO) +47 33 37 73 00

	Drammensveien 149 Skøyen N-0213 Oslo, Norway	Poison: (NO) +47 22 59 13 00
Singapore	ExxonMobil Asia Pacific Pte Limited 1 HarbourFront Place #06-00 HarbourFront Tower One Singapore 098633	01-609-737-4411
Thailand	Esso (Thailand) Public Company Limited 3195/17-29 Rama 4 Road, Klong Ton, Klong Toey District Bangkok, Thailand 10110	+1-609-737-4411
United Kingdom	Esso Petroleum Company Limited Ermyn House MP 31 Ermyn Way Leatherhead, KT22 8UX UK	+32 (0) 487 545 780
United States	ExxonMobil Oil Corporation 22777 Springwoods Village Parkway Spring, TX 77389 USA	+1 609 737 4411

This (M)SDS is a document with no country specific information included.

SECTION 2 HAZARDS IDENTIFICATION

This material is hazardous according to UN GHS Criteria. Classification includes all GHS hazard classes. For hazard categories with two cut-off/concentration limits, classification was based on the higher limit.

GHS CLASSIFICATION:

Flammable liquid: Category 1.
Skin irritation: Category 2.
Germ Cell Mutagen: Category 1B.
Carcinogen: Category 1B.
Reproductive toxicant (developmental): Category 2.
Reproductive toxicant (fertility): Category 2.
Specific target organ toxicant (central nervous system): Category 3.
Aspiration toxicant: Category 1.
Acute aquatic toxicant: Category 2.
Chronic aquatic toxicant: Category 2.

GHS Label Elements:
Pictogram:

Signal Word: Danger

Hazard Statements:

Physical: H224: Extremely flammable liquid and vapour.
Health: H304: May be fatal if swallowed and enters airways. H315: Causes skin irritation. H336: May cause drowsiness or dizziness. H340: May cause genetic defects. H350: May cause cancer. H361: Suspected of damaging fertility or the unborn child.

Environmental: H411: Toxic to aquatic life with long lasting effects.

Precautionary Statements:

Prevention: P201: Obtain special instructions before use. P202: Do not handle until all safety precautions have been read and understood. P210: Keep away from heat/sparks/open flames/hot surfaces. -- No smoking. P233: Keep container tightly closed. P240: Ground/bond container and receiving equipment. P241: Use explosion-proof electrical, ventilating and lighting equipment. P242: Use only non-sparking tools. P243: Take precautionary measures against static discharge. P261: Avoid breathing mist / vapours. P264: Wash skin thoroughly after handling. P271: Use only outdoors or in a well-ventilated area. P273: Avoid release to the environment. P280: Wear protective gloves/protective clothing/eye protection/face protection.
Response: P301 + P310: IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. P303 + P361 + P353: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. P304 + P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing. P308 + P313: IF exposed or concerned: Get medical advice/attention. P312: Call a POISON CENTER or doctor/physician if you feel unwell. P331: Do NOT induce vomiting. P332 + P313: If skin irritation occurs: Get medical advice/attention. P362 + P364: Take off contaminated clothing and wash it before reuse. P370 + P378: In case of fire: Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish. P391: Collect spillage.
Storage: P403 + P235: Store in a well-ventilated place. Keep cool. P405: Store locked up.
Disposal: P501: Dispose of contents and container in accordance with local regulations.

Contains: Naphtha (petroleum), full-range alkylate; Aromatic hydrocarbons, C7-12, C8-rich; Naphtha (petroleum), hydrotreated heavy; Naphtha (petroleum), full-range straight-run; Gasoline; Naphtha (petroleum), light catalytic reformed; Naphtha (petroleum), catalytic reformed; Naphtha (petroleum), hydrotreated light; Naphtha (petroleum), isomerization; Naphtha (petroleum),light steam-cracked, debenzenized; Naphtha (petroleum), unsweetened

Other hazard information:

PHYSICAL / CHEMICAL HAZARDS

Material can accumulate static charges which may cause an ignition. Material can release vapours that readily form flammable mixtures. Vapour accumulation could flash and/or explode if ignited.

HEALTH HAZARDS

High-pressure injection under skin may cause serious damage. May be irritating to the eyes, nose, throat, and lungs. Exposure to benzene is associated with cancer (acute myeloid leukaemia and myelodysplastic syndrome), damage to the blood-producing system, and serious blood disorders (see Section 11).

ENVIRONMENTAL HAZARDS

No additional hazards.

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 3 COMPOSITION / INFORMATION ON INGREDIENTS

This material is defined as a mixture.

Hazardous Substance(s) or Complex Substance(s) required for disclosure

Name	CAS#	Concentration*	GHS Hazard Codes

ALKENES, C6-10, HYDROFORMYLATION PRODUCTS, LOW-BOILING	None	0 - 10%	H225, H304, H336, H315, H401, H411
Naphtha (petroleum), full-range alkylate	64741-64-6	0 - 35%	H224, H304, H336, H315, H401, H411
Naphtha (petroleum), full-range alkylate, butane-contg.	68527-27-5	0 - 20%	H224, H304, H336, H315, H401, H411
Aromatic hydrocarbons, C7-12, C8-rich	93571-75-6	0 - 10%	H226, H304, H336, H340(1B), H350(1B), H361(D), H315, H401, H411
Naphtha (petroleum), hydrotreated heavy	64742-48-9	0 - 10%	H225, H304, H336, H340(1B), H350(1B), H361(D), H315, H401, H411
butane	106-97-8	0 - 20%	H220, H280
Naphtha (petroleum), full-range straight-run	64741-42-0	0 - 10%	H224, H304, H336, H340(1B), H350(1B), H361(D), H315, H401, H411
Gasoline	86290-81-5	0 - 10%	H224, H304, H336, H340(1B), H350(1B), H361(D), H315, H401, H411
Naphtha (petroleum), light catalytic cracked	64741-55-5	0 - 70%	H224, H304, H336, H340(1B), H350(1B), H361(D), H315, H401, H411
Naphtha (petroleum), light catalytic reformed	64741-63-5	0 - 10%	H225, H304, H336, H340(1B), H350(1B), H361(D), H361(F), H315, H401, H411
Naphtha (petroleum), catalytic reformed	68955-35-1	0 - 45%	H225, H304, H336, H340(1B), H350(1B), H361(D), H315, H401, H411
Naphtha (petroleum), hydrotreated light	64742-49-0	0 - 20%	H224, H304, H336, H340(1B), H350(1B), H361(D), H315, H401, H411
Naphtha (petroleum), isomerization	64741-70-4	0 - 10%	H224, H304, H336, H340(1B), H350(1B), H361(F), H315, H401, H411
Naphtha (petroleum),light steam-cracked, debenzenized	68527-26-4	< 10%	H225, H304, H336, H340(1B), H350(1B), H361(D), H315, H373, H401, H411
Naphtha (petroleum), solvent-refined light	64741-84-0	< 10%	H225, H304, H340(1B), H350(1B), H361(F), H315, H373, H401, H411
Naphtha (petroleum), unsweetened	68783-12-0	0 - 10%	H225, H304, H336, H340(1B), H350(1B), H361(D), H315, H401, H411

Hazardous Constituent(s) Contained in Complex Substance(s) required for disclosure

Name	CAS#	Concentration*	GHS Hazard Codes
benzene	71-43-2	0.1 - 1%	H225, H303, H304, H340(1B), H350(1A), H315, H319(2A), H372, H401, H412
ethylbenzene	100-41-4	< 1%	H225, H304, H332, H373, H401, H412
n-hexane	110-54-3	> 3 %	H225, H304, H336, H361(F), H315, H373, H401, H411
naphthalene	91-20-3	< 10%	H228(2), H302, H351, H400(M factor 1), H410(M factor 1)
toluene	108-88-3	> 3 %	H225, H304, H336,

			H361(D), H315, H373, H401, H412
xylene	1330-20-7	< 10%	H226, H303, H304, H312, H332, H335, H315, H320(2B), H373, H401, H412

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

SECTION 4 FIRST AID MEASURES

INHALATION

Immediately remove from further exposure. Get immediate medical assistance. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection. Give supplemental oxygen, if available. If breathing has stopped, assist ventilation with a mechanical device.

SKIN CONTACT

Wash contact areas with soap and water. Remove contaminated clothing. Launder contaminated clothing before reuse. 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

Seek immediate medical attention. Do not induce vomiting.

ACUTE AND DELAYED SYMPTOMS/EFFECTS

See Toxicological Section

NOTE TO PHYSICIAN

If ingested, material may be aspirated into the lungs and cause chemical pneumonitis. Treat appropriately. This material, or a component, may be associated with cardiac sensitization following very high exposures (well above occupational exposure limits) or with concurrent exposure to high stress levels or heart-stimulating substances like epinephrine. Administration of such substances should be avoided.

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. If a leak or spill has not ignited, use water spray to disperse the vapours and to protect personnel attempting to stop a leak. Prevent run-off from fire control or dilution from entering streams, sewers or drinking water supply. Fire-fighters 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: Extremely Flammable. Vapour is flammable and heavier than air. Vapour may travel across the ground and reach remote ignition sources, causing a flashback fire danger. Hazardous material. Firefighters should consider protective equipment indicated in Section 8.

Hazardous Combustion Products: Aldehydes, Incomplete combustion products, Oxides of carbon, Smoke, Fume, Sulphur oxides

FLAMMABILITY PROPERTIES

Flash Point [Method]: <-35°C (-31°F) [Estimated]
Flammable Limits (Approximate volume % in air): LEL: 1.4 UEL: 7.6
Autoignition Temperature: >250°C (482°F)

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.

PROTECTIVE MEASURES

Avoid contact with spilled material. Warn or evacuate occupants in surrounding and downwind areas if required, due to toxicity or flammability of the material. See Section 5 for fire fighting information. See the Hazard Identification Section for Significant Hazards. See Section 4 for First Aid Advice. See Section 8 for advice on the minimum requirements for personal protective equipment. Additional protective measures may be necessary, depending on the specific circumstances and/or the expert judgment of the emergency responders.

For emergency responders: Respiratory protection: half-face or full-face respirator with filter(s) for organic vapor and, when applicable, H2S, or Self Contained Breathing Apparatus (SCBA) can be used depending on the size of spill and potential level of exposure. If the exposure cannot be completely characterized or an oxygen deficient atmosphere is possible or anticipated, SCBA is recommended. Work gloves that are resistant to aromatic hydrocarbons are recommended. Note: gloves made of polyvinyl acetate (PVA) are not water-resistant and are not suitable for emergency use. Chemical goggles are recommended if splashes or contact with eyes is possible. Small spills: normal antistatic work clothes are usually adequate. Large spills: full body suit of chemical resistant, antistatic material is recommended.

SPILL MANAGEMENT

Land Spill: Eliminate all ignition sources (no smoking, flares, sparks or flames in immediate area). Stop leak if you can do so without risk. All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Prevent entry into waterways, sewer, basements or confined areas. A vapour-suppressing foam may be used to reduce vapour. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. Large Spills: Water spray may reduce vapour, but may not prevent ignition in enclosed spaces.

Water Spill: Eliminate all ignition sources (no smoking, flares, sparks or flames in immediate area). Stop leak if you can do so without risk. Do not confine in area of spill. Advise occupants and shipping in downwind areas of fire and explosion hazard and warn them to stay clear. Allow liquid to evaporate from the surface. 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: Dyke 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 all personal contact. Prevent exposure to ignition sources, for example use non-sparking tools and explosion-proof equipment. Potentially toxic/irritating fumes/vapour may be evolved from heated or agitated material. Do not siphon by mouth. Use only with adequate ventilation. Do not use as a cleaning solvent or other non-motor fuel uses. For use as a motor fuel only. It is dangerous and/or unlawful to put petrol into unapproved containers. Do not fill container while it is in or on a vehicle. Static electricity may ignite vapour and cause fire. Place container on ground when filling and keep nozzle in contact with container. Do not use electronic devices (including but not limited to cellular phones, computers, calculators, pagers or other electronic devices, etc.) during safety critical tasks, such as bulk fuel loading or unloading operations, or in storage areas where vapours may be present, unless the devices are certified intrinsically safe by an approved national testing agency and to the safety standards required by national and/or local laws and regulations. Prevent small spills and leakage to avoid slip hazard. Material can accumulate static charges which may cause an electrical spark (ignition source). Use proper bonding and/or ground procedures. However, bonding and grounds may not eliminate the hazard from static accumulation. Consult local applicable standards for guidance. Additional references include American Petroleum Institute 2003 (Protection Against Ignitions Arising out of Static, Lightning and Stray Currents) or National Fire Protection Agency 77 (Recommended Practice on Static Electricity) or CENELEC CLC/TR 50404 (Electrostatics - Code of practice for the avoidance of hazards due to static electricity).

Static Accumulator: This material is a static accumulator. A liquid is typically considered a nonconductive, static accumulator if its conductivity is below 100 pS/m (100x10E-12 Siemens per meter) and is considered a semiconductive, static accumulator if its conductivity is below 10,000 pS/m. Whether a liquid is nonconductive or semiconductive, the precautions are the same. A number of factors, for example liquid temperature, presence of contaminants, anti-static additives and filtration can greatly influence the conductivity of a liquid.

STORAGE

Ample fire water supply should be available. A fixed sprinkler/deluge system is recommended. The type of container used to store the material may affect static accumulation and dissipation. Keep container closed. Handle containers with care. Open slowly in order to control possible pressure release. Store in a cool, well-ventilated area. Outside or detached storage preferred. Keep away from incompatible materials. Storage containers should be earthed and bonded. Fixed storage containers, transfer containers and associated equipment should be earthed and bonded to prevent accumulation of static charge.

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE LIMIT VALUES

Exposure limits/standards (Note: Exposure limits are not additive)

Substance Name	Form	Limit/Standard			Note	Source	Year
benzene		TWA	3.25 mg/m3	1 ppm	Skin	EU. Dir. 04/37/EC Annex III A	2019
benzene		STEL	1 ppm		Skin	ExxonMobil	2020

benzene		TWA	0.5 ppm		Skin	ExxonMobil	2020
butane		STEL	1000 ppm			ACGIH	2020
ethylbenzene		TWA	20 ppm			ACGIH	2020
Gasoline		STEL	200 ppm			ExxonMobil	2020
Gasoline		TWA	100 ppm			ExxonMobil	2020
Naphtha (petroleum), light catalytic reformed		STEL	200 ppm			ExxonMobil	2020
Naphtha (petroleum), light catalytic reformed		TWA	100 ppm			ExxonMobil	2020
Low boiling point naphtha	Vapour.	STEL	200 ppm			ExxonMobil	2020
Low boiling point naphtha	Vapour.	TWA	100 ppm			ExxonMobil	2020
n-hexane		TWA	50 ppm		Skin	ACGIH	2020
naphthalene		TWA	10 ppm		Skin	ACGIH	2020
toluene		TWA	20 ppm			ACGIH	2020
xylene		STEL	150 ppm			ACGIH	2020
xylene		TWA	100 ppm			ACGIH	2020

Biological limits

Substance Name	Specimen	Sampling Time	Limit	Determinant	Source
benzene	Creatinine in urine	End of shift	25 ug/g	S-Phenylmercapturic acid	ACGIH BELs (BEIs)
benzene	Creatinine in urine	End of shift	500 ug/g	t,t-Muconic acid	ACGIH BELs (BEIs)
ethylbenzene	Creatinine in urine	End of shift	0.15 g/g	Sum of mandelic acid and phenylglyoxylic acid	ACGIH BELs (BEIs)
n-hexane	Urine	End of shift	0.5 mg/l	2,5-Hexanedione, without hydrolysis	ACGIH BELs (BEIs)
naphthalene	No Biological Specimen provided	End of shift		1-Naphthol, with hydrolysis + 2-Naphthol, with hydrolysis	ACGIH BELs (BEIs)
toluene	Blood	Prior to last shift of work wk	0.02 mg/l	Toluene	ACGIH BELs (BEIs)
toluene	Creatinine in urine	End of shift	0.3 mg/g	o-Cresol, with hydrolysis	ACGIH BELs (BEIs)
toluene	Urine	End of shift	0.03 mg/l	Toluene	ACGIH BELs (BEIs)
xylene	Creatinine in urine	End of shift	1.5 g/g	Methylhippuric acids	ACGIH BELs (BEIs)

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:
Use explosion-proof ventilation equipment to stay below exposure limits.

PERSONAL PROTECTION

Personal protective equipment selections vary based on potential exposure conditions such as applications, handling practices, concentration and ventilation. Information on the selection of protective equipment for use with this material, as provided below, is based upon intended, normal usage.

Respiratory Protection: If engineering controls do not maintain airborne contaminant concentrations at a level which is adequate to protect worker health, an approved respirator may be appropriate. Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable. Types of respirators to be considered for this material include:

Half-face filter respirator

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/vapour warning properties are poor, or if air purifying filter capacity/rating may be exceeded.

Hand Protection: Any specific glove information provided is based on published literature and glove manufacturer data. Glove suitability and breakthrough time will differ depending on the specific use conditions. Contact the glove manufacturer for specific advice on glove selection and breakthrough times for your use conditions. Inspect and replace worn or damaged gloves. The types of gloves to be considered for this material include:

Chemical resistant gloves are recommended. Nitrile,Viton

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:

Chemical/oil resistant clothing is recommended.

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

Comply with applicable environmental regulations limiting discharge to air, water and soil. Protect the environment by applying appropriate control measures to prevent or limit emissions.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Note: Physical and chemical properties are provided for safety, health and environmental considerations only and may not fully represent product specifications. Contact the Supplier for additional information.

GENERAL INFORMATION

Physical State: Liquid
Colour: Pale Yellow
Odour: Characteristic
Odour Threshold: N/D

IMPORTANT HEALTH, SAFETY, AND ENVIRONMENTAL INFORMATION

Relative Density (at 15 °C): < 1
Density (at 15 ºC): 620 kg/m3 (5.17 lbs/gal, 0.62 kg/dm3) - 880 kg/m3 (7.34 lbs/gal, 0.88 kg/dm3)
Flammability (Solid, Gas): N/A
Flash Point [Method]: <-35°C (-31°F) [Estimated]
Flammable Limits (Approximate volume % in air): LEL: 1.4 UEL: 7.6
Autoignition Temperature: >250°C (482°F)
Boiling Point / Range: <= 35°C (95°F) [EN ISO 3405]
Decomposition Temperature: N/D
Vapour Density (Air = 1): > 1 at 101 kPa
Vapour Pressure: [N/D at 20ºC] | 4 kPa (30 mm Hg) at 37.8 °C - 240 kPa (1800 mm Hg) at 37.8°C
Evaporation Rate (n-butyl acetate = 1): N/D
pH: N/A
Log Pow (n-Octanol/Water Partition Coefficient): > 3.5
Solubility in Water: Negligible
Viscosity: <1 cSt (1 mm2/sec) at 40ºC
Oxidizing Properties: See Hazards Identification Section.

OTHER INFORMATION

Freezing Point: N/D
Melting Point: N/D

SECTION 10 STABILITY AND REACTIVITY

STABILITY: Material is stable under normal conditions.

CONDITIONS TO AVOID: Heat, sparks, flame, and build up of static electricity.

MATERIALS TO AVOID: Alkalies, Halogens, Strong Acids, Strong oxidisers

HAZARDOUS DECOMPOSITION PRODUCTS: Material does not decompose at ambient temperatures.

POSSIBILITY OF HAZARDOUS REACTIONS: Hazardous polymerization will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

INFORMATION ON TOXICOLOGICAL EFFECTS

Hazard Class	Conclusion / Remarks
Inhalation	
Acute Toxicity: No end point data for material.	Minimally Toxic. Based on assessment of the components.
Irritation: No end point data for material.	Elevated temperatures or mechanical action may form vapours, mist, or fumes which may be irritating to the eyes, nose, throat, or lungs.
Ingestion	
Acute Toxicity: No end point data for material.	Minimally Toxic. Based on assessment of the components.
Skin	
Acute Toxicity: No end point data for material.	Minimally Toxic. Based on assessment of the components.

Skin Corrosion/Irritation: No end point data for material.	Irritating to the skin. Based on assessment of the components.
Eye	
Serious Eye Damage/Irritation: No end point data for material.	May cause mild, short-lasting discomfort to eyes. Based on assessment of the components.
Sensitisation	
Respiratory Sensitization: No end point data for material.	Not expected to be a respiratory sensitizer.
Skin Sensitization: No end point data for material.	Not expected to be a skin sensitizer. Based on assessment of the components.
Aspiration: No end point data for material.	May be fatal if swallowed and enters airways. Based on physico-chemical properties of the material.
Germ Cell Mutagenicity: No end point data for material.	Caused genetic effects in laboratory animals, but the relevance to humans is uncertain. Based on assessment of the components.
Carcinogenicity: No end point data for material.	Caused cancer in laboratory animals. Based on assessment of the components.
Reproductive Toxicity: No end point data for material.	Caused damage to fertility in laboratory animals, but the relevance to humans is uncertain. Caused damage to the fetus in laboratory animals, but the relevance to humans is uncertain. Based on assessment of the components.
Lactation: No end point data for material.	Not expected to cause harm to breast-fed children.
Specific Target Organ Toxicity (STOT)	
Single Exposure: No end point data for material.	May cause drowsiness or dizziness. Based on assessment of the components.
Repeated Exposure: No end point data for material.	Not expected to cause organ damage from prolonged or repeated exposure. Based on assessment of the components.

TOXICITY FOR SUBSTANCES

NAME	ACUTE TOXICITY
ethylbenzene	Inhalation Lethality: 4 hour(s) LC50 17.8 mg/l (Vapour) (Rat); Oral Lethality: LD 50 3.5 g/kg (Rat)
naphthalene	Inhalation Lethality: 4 hour(s) LC50 > 0.4 mg/l (Max attainable vapor conc.) (Rat); Oral Lethality: LD 50 533 mg/kg (Mouse)

OTHER INFORMATION

For the product itself:

Laboratory animal studies have shown that prolonged and repeated inhalation exposure to light hydrocarbon vapours in the same boiling range as this product can produce adverse kidney effects in male rats. However, these effects were not observed in similar studies with female rats, male and female mice, or in limited studies with other animal species. Additionally, in a number of human studies, there was no clinical evidence of such effects at normal occupational levels. In 1991, The U.S. EPA determined that the male rat kidney is not useful for assessing human risk. Vapour concentrations above recommended exposure levels are irritating to the eyes and the respiratory tract, may cause headaches and dizziness, are anaesthetic and may have other central nervous system effects. Small amounts of liquid aspirated into the lungs during ingestion or from vomiting may cause chemical pneumonitis or pulmonary edema. Exposure to this material, or one of its components, in situations where there is the potential for high levels, such as in confined spaces or with abuse, may result in abnormal heart rhythm (arrhythmia). High-level exposure to hydrocarbons (above occupational exposure limits) may initiate arrhythmia in a worker that is undergoing stress or is taking a heart-stimulating substance such as epinephrine, a nasal decongestant, or an asthma or cardiovascular drug.

Contains:

BENZENE: Caused cancer (acute myeloid leukemia and myelodysplastic syndrome), damage to the blood-producing system, and serious blood disorders in human studies. Caused genetic effects and effects on the immune system in

laboratory animal and some human studies. Caused toxicity to the fetus and cancer in laboratory animal studies. NAPHTHALENE: Exposure to high concentrations of naphthalene may cause destruction of red blood cells, anemia, and cataracts. Naphthalene caused cancer in laboratory animal studies, but the relevance of these findings to humans is uncertain.

N-HEXANE: Prolonged and/or repeated exposures to n-Hexane can cause progressive and potentially irreversible damage to the peripheral nervous system (e.g. fingers, feet, arms, legs, etc.). Simultaneous exposure to Methyl Ethyl Ketone (MEK) or Methyl Isobutyl Ketone (MIBK) and n-Hexane can potentiate the risk of adverse effects from n-Hexane on the peripheral nervous system. n-Hexane has been shown to cause testicular damage at high doses in male rats. The relevance of this effect for humans is unknown. Petroleum naphtha: Carcinogenic in animal tests. Chronic inhalation studies resulted in liver tumours in female mice and kidney tumours in male rats. Neither result considered significant for human health risk assessment by United States EPA and others. Did not cause mutations in-vitro. Inhalation of vapours did not result in reproductive or developmental effects in test animals. Inhalation of high concentrations in animals resulted in reversible central nervous system depression, but no persistent toxic effect on the nervous system. Non-sensitizing in test animals. TOLUENE : Concentrated, prolonged or deliberate inhalation may cause brain and nervous system damage. Prolonged and repeated exposure of pregnant animals (> 1500 ppm) have been reported to cause adverse fetal developmental effects. ETHYLBENZENE: Caused cancer in laboratory animal studies. The relevance of these findings to humans is uncertain.

IARC Classification:
The following ingredients are cited on the lists below:

Chemical Name	CAS Number	List Citations
benzene	71-43-2	1
ethylbenzene	100-41-4	3
Gasoline	86290-81-5	3
naphthalene	91-20-3	3

--REGULATORY LISTS SEARCHED--

1 = IARC 1 2 = IARC 2A 3 = IARC 2B

SECTION 12 ECOLOGICAL INFORMATION

The information given is based on data for the material, components of the material, or for similar materials, through the application of bridging principals.

ECOTOXICITY

Material -- Expected to be toxic to aquatic organisms. May cause long-term adverse effects in the aquatic environment.

MOBILITY

Majority of components -- Highly volatile, will partition rapidly to air. Not expected to partition to sediment and wastewater solids.

Low molecular wt. component -- Moderate potential to migrate through soil.

High molecular wt. component -- Low potential to migrate through soil.

PERSISTENCE AND DEGRADABILITY

Biodegradation:

Material -- Expected to be inherently biodegradable

Atmospheric Oxidation:

Majority of components -- Expected to degrade rapidly in air

BIOACCUMULATION POTENTIAL

Majority of components -- Has the potential to bioaccumulate, however metabolism or physical properties may reduce the bioconcentration or limit bioavailability.

OTHER ECOLOGICAL INFORMATION

VOC:

INTERNATIONAL OIL POLLUTION COMPENSATION (IOPC)

Material is considered a non-persistent oil.

SECTION 13 DISPOSAL CONSIDERATIONS

DISPOSAL METHODS

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.

MARPOL - see International Convention for the Prevention of Pollution from Ships (MARPOL 73/78) which provides technical aspects at controlling pollutions from ships.

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.

Empty Container Warning Empty Container Warning (where applicable): Empty containers may contain residue and can be dangerous. Do not attempt to refill or clean containers without proper instructions. Empty drums should be completely drained and safely stored until appropriately reconditioned or disposed. Empty containers should be taken for recycling, recovery, or disposal through suitably qualified or licensed contractor and in accordance with governmental regulations. DO NOT PRESSURISE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION. THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.

SECTION 14 TRANSPORT INFORMATION

SEA (IMDG)

Proper Shipping Name: MOTOR SPIRIT or GASOLINE or PETROL
Hazard Class & Division: 3
EMS Number: F-E, S-E
UN Number: 1203
Packing Group: II
Marine Pollutant: Yes
Label(s): 3
Transport Document Name: UN1203, MOTOR SPIRIT or GASOLINE or PETROL, 3, PG II, (< -35°C c.c.), MARINE POLLUTANT (Petroleum naphtha)

Note - this material is being carried under the scope of MARPOL Annex I

SECTION 15 REGULATORY INFORMATION

REGULATORY STATUS AND APPLICABLE LAWS AND REGULATIONS

Listed or exempt from listing/notification on the following chemical inventories (May contain substance(s) subject to notification to the EPA Active TSCA inventory prior to import to USA): NDSL

SECTION 16 OTHER INFORMATION

N/D = Not determined, N/A = Not applicable
KEY TO THE H-CODES CONTAINED IN SECTION 3 OF THIS DOCUMENT (for information only):
H220: Extremely flammable gas; Flammable Gas, Cat 1
H224: Extremely flammable liquid and vapor; Flammable Liquid, Cat 1
H225: Highly flammable liquid and vapor; Flammable Liquid, Cat 2
H226: Flammable liquid and vapour; Flammable Liquid, Cat 3
H280: Contains gas under pressure; may explode if heated; Pressurized Gas
H302: Harmful if swallowed; Acute Tox Oral, Cat 4
H303: May be harmful if swallowed; Acute Tox Oral, Cat 5
H304: May be fatal if swallowed and enters airways; Aspiration, Cat 1
H312: Harmful in contact with skin; Acute Tox Dermal, Cat 4
H315: Causes skin irritation; Skin Corr/Irritation, Cat 2
H319(2A): Causes serious eye irritation; Serious Eye Damage/Irr, Cat 2A
H320(2B): Causes eye irritation; Serious Eye Damage/Irr, Cat 2B
H332: Harmful if inhaled; Acute Tox Inh, Cat 4
H335: May cause respiratory irritation; Target Organ Single, Resp Irr
H336: May cause drowsiness or dizziness; Target Organ Single, Narcotic
H340(1B): May cause genetic defects; Germ Cell Mutagenicity, Cat 1B
H350(1A): May cause cancer; Carcinogenicity, Cat 1A
H350(1B): May cause cancer; Carcinogenicity, Cat 1B
H351: Suspected of causing cancer; GHS Carcinogenicity, Cat 2
H361(D): Suspected of damaging the unborn child; Repro Tox, Cat 2 (Develop)
H361(F): Suspected of damaging fertility; Repro Tox, Cat 2 (Fertility)
H372: Causes damage to organs through prolonged or repeated exposure; Target Organ, Repeated, Cat 1
H373: May cause damage to organs through prolonged or repeated exposure; Target Organ, Repeated, Cat 2
H400: Very toxic to aquatic life; Acute Env Tox, Cat 1
H401: Toxic to aquatic life; Acute Env Tox, Cat 2
H410: Very toxic to aquatic life with long lasting effects; Chronic Env Tox, Cat 1
H411: Toxic to aquatic life with long lasting effects; Chronic Env Tox, Cat 2
H412: Harmful to aquatic life with long lasting effects; Chronic Env Tox, Cat 3

THIS MATERIAL SAFETY DATA SHEET CONTAINS THE FOLLOWING REVISIONS:
Section 01: Product Code information was modified.
Section 08: Biological Limits - Table information was modified.
Section 08: Exposure Limits Table information was modified.
Section 11 Substance Toxicology table information was added.
Section 11: Aspiration Conclusion information was added.
Section 11: Aspiration Test Data information was added.
Section 11: Carcinogen Conclusion information was added.
Section 11: Carcinogen Test Comment information was added.
Section 11: Carcinogen Test Data information was added.
Section 11: Dermal Irritation Test Data information was added.

Section 11: Dermal Irritation Test Data information was deleted.
Section 11: Dermal Lethality Test Data information was added.
Section 11: Dermal Lethality Test Data information was deleted.
Section 11: Eye Irritation Test Data information was added.
Section 11: Eye Irritation Test Data information was deleted.
Section 11: Inhalation Lethality Test Data information was added.
Section 11: Inhalation Lethality Test Data information was deleted.
Section 11: Lactation Conclusion information was added.
Section 11: Lactation Test Data information was added.
Section 11: Mutagen Conclusion information was added.
Section 11: Mutagen Test Comment information was added.
Section 11: Mutagen Test Data information was added.
Section 11: Oral Lethality Test Data information was added.
Section 11: Oral Lethality Test Data information was deleted.
Section 11: Other Health Effects information was added.
Section 11: Reproductive Conclusion information was added.
Section 11: Reproductive Test Comment information was added.
Section 11: Reproductive Test Data information was added.
Section 11: Respiratory Sensitization Conclusion information was added.
Section 11: Respiratory Sensitization Test Data information was added.
Section 11: Skin Sensitization Conclusion information was added.
Section 11: Skin Sensitization Test Comment information was added.
Section 11: Skin Sensitization Test Data information was added.
Section 11: Target Organ Toxicity - Repeat Conclusion information was added.
Section 11: Target Organ Toxicity - Repeat Test Comment information was added.
Section 11: Target Organ Toxicity - Repeat Test Data information was added.
Section 11: Target Organ Toxicity - Single Conclusion information was added.
Section 11: Target Organ Toxicity - Single Test Comment information was added.
Section 11: Target Organ Toxicity - Single Test Data information was added.
Revision Date: 18 Sep 2020

DGN: 7187221I (1028202)

SAFETY DATA SHEET

Prepared according to OSHA, GHS and ANSI Z400.1-2004 standards

1. PRODUCT AND COMPANY INFORMATION

Product/Chemical Name: Chlorinated Polyvinyl Chloride/ Solvent Mixture
Trade Names: Gold PVC Glue and Multi Plastic Pipe Glue
Recommended Use: Solvent Cement for PVC/CPVC Materials
Product Part Number(s): 04303, 08303, 16303, 32303, 04441, 08441, 16441, 32441
Manufacturer: Gorilla PVC Cement LLC P.O. Box 530308 West Palm Beach, FL 33403
Phone 1-888-367-4583 1-866-782-4583
In case of Emergency: CHEMTREC 1-800-424-9300 (U.S. and Canada)

2. HAZARDS IDENTIFICATION

Appearance: Product comes in a variety of colors.
Odor: Ether-like

GHS SYMBOLS:

SIGNAL WORD: DANGER

Hazard Classification:

Flammable liquids	**Category 2**
Eye Irritant	**Category 2A**

Hazard Statements:

Extremely Flammable liquid and vapors.
Causes serious eye irritation.
May cause serious eye irritation.
Keep out of reach of children.
Read label before use.
Keep away from heat/ sparks/ open flames/ hot surfaces- DO NOT SMOKE.
Keep container tightly closed.
Do not breathe vapors.
Use only in open air and well-ventilated places.

Principal Hazards:

Skin or Eyes: Contact with this product can be irritating to contaminated skin and eyes. Vapors of this product can redden and irritate the eyes. If the eyes are contaminated with splashes, sprays or mists of this product, reddening tearing, and corneal opacity can occur. The liquid can be mildly to severely irritating to contaminated skin (depending on duration of exposure). Prolonged or repeated skin over-exposures can lead to dermatitis. Skin absorption is a potential route of overexposure for Cyclohexanone (a component of this product).

Inhalation: : Inhalation of vapors, mists, or sprays of this product can be irritating to the nose, throat, mucous membranes, and other tissues of the respiratory system. Symptoms of overexposure can include coughing, sneezing, and shortness of breath. Additionally, the components of this product are central nervous system depressants. Symptoms of over-exposure can include drowsiness, dizziness, fatigue, headache, nausea, and general anesthetic effects. Inhalation of high concentrations of this product (as may occur in a poorly-ventilated area) may be fatal. Based on clinical studies involving test animals, Cyclohexanone and Tetrahydrofuran, components of this product, may cause liver and kidney damage after long-term inhalation overexposures.

This product must be used with adequate ventilation. Mechanical exhaust may be needed. Ensure exposure to vapors is minimized by use of appropriate engineering controls, work practices, and personal protective equipment, as described in the remainder of this document.

Ingestion: Ingestion is not anticipated to be a significant route of occupational overexposure for this product. If ingestion occurs, refer to Section 4 (First-Aid Measures) and get medical help immediately. If ingestion of this product does occur, symptoms of such over-exposure can include nausea, vomiting, and other symptoms described for "Inhalation". Ingestion can also lead to liver and kidney damage. Ingestion of this product may be fatal.

Injection: Injection is not anticipated to be a significant route of over-exposure for this product. If injection does occur (i.e. through a puncture by an object contaminated with the product), local irritation and swelling can occur. Additional symptoms may include those described for "Inhalation".

See section 11 for complete health hazard information

3. COMPOSITION/ INFORMATION ON INGREDIENTS

Hazardous ingredients:

CAS NUMER	INGREDIENT/ CHEMICAL NAME	PERCENT BY WEIGHT
109-99-9	TETRAHYDROFURAN	20-50
78-93-3	METHYL ETHYL KETONE	10-40
68648-82-8	CHLORINATED POLYVINYL CHLORIDE RESIN	<25
108-94-1	CYCLOHEXANONE	5-25
67-64-1	ACETONE	0-20
112945-52-5	SILICON DIOXIDE	<3
106-88-7	1,2 BUTYLENE DIOXIDE	<1

4. FIRST AID MEASURES

Eye Contact

If this product's liquid or vapors enter the eyes, open victim's eyes while under gently running water. Use sufficient force to open eyelids. Have victim "roll" eyes. Minimum flushing is for 15 minutes. The contaminated individual must seek immediate medical attention.

Skin Contact

If this product contaminates the skin, immediately begin decontamination with running water. Minimum flushing is for 15 minutes. Remove exposed or contaminated clothing, taking care not to contaminate eyes. The contaminated individual must seek medical attention if any adverse effect occurs.

Inhalation

If vapors, mists, or sprays of this product are inhaled, remove victim to fresh air. If necessary, use artificial respiration to support vital functions. Remove or cover gross contamination to avoid exposure to rescuers.

Ingestion

If this product is swallowed, CALL PHYSICIAN OR POISON CONTROL CENTER FOR MOST CURRENT INFORMATION. If professional advice is not available, do not induce vomiting. The contaminated individual should drink milk, egg whites, or large quantities of water. Never induce vomiting or give diluents (milk or water) to someone who is unconscious, having convulsions, or unable to swallow.

The contaminated individual must be taken for medical attention, especially if any adverse effect occurs. Rescuers should be taken for medical attention, if necessary. Take a copy of label and MSDS to health professional with victim.

5. FIRE FIGHTING MEASURES

Flash Point

Methyl Ethyl Ketone: -9°C (15°F) Tetrahydrofuran: -15.5°C (4.1°F)

Extinguishing Media

Foam, CO_2 or Dry Chemical. Cool fire exposed container with water.

Fire-Fighting Instructions

Incipient fire responders should wear eye protection. Structural firefighters must wear Self-Contained Breathing Apparatus and full protective equipment. If it is safe to do so, allow small fires involving this product to burn-out, while protecting exposures. If possible, prevent runoff water from entering storm drains, bodies of water, or other environmentally sensitive areas. If necessary, rinse contaminated equipment thoroughly before returning such equipment to service.

Unusual Fire or Explosion Hazards

This is a Class I-B Flammable Liquid. When involved in a fire, this material may ignite and produce irritating vapors and toxic gases (e.g., carbon monoxide, carbon dioxide). This material will readily ignite at room temperature. The vapors are heavier than air and may travel to a source of ignition, and flash back to a leak or open container. Tetrahydrofuran can form potentially explosive peroxides; closed containers contaminated with peroxides can rupture violently in the heat of a fire. Another component, 1,2-Butylene Oxide, can undergo hazardous polymerization.

Explosion Sensitivity to Mechanical Impact: Not sensitive.

Explosion Sensitivity to Static Discharge: The vapors of this product can be ignited by static electrical energy.

6. ACCIDENTAL RELEASE MEASURES

Spill /Leak Procedures

In case of a spill, clear the affected area and protect people. Uncontrolled releases should be responded to by trained personnel using pre-planned procedures. Proper protective equipment should be used. Small releases (e.g., 1-pint) must be cleaned-up by personnel wearing gloves, goggles, and appropriate eye protection. Face shields must be worn if splashes or sprays of this product may be generated. In the event of a non-incidental release (e.g., five, 1-gallon containers leaking simultaneously in a poorly-ventilated area), the minimum Personal Protective Equipment should be Level B: triple-gloves (rubber gloves and nitrile gloves, over latex gloves), chemically resistant suit and boots, hard-hat, and Self-Contained Breathing Apparatus. Level B should always be used during responses in which the oxygen level is below 19.5% or unknown.

Waste Disposal Method

Dispose of in accordance with U.S. Federal, State, or local procedures, the applicable standards of Canada and its Provinces, or the appropriate requirements of European Community member States (see Section 13, Disposal Considerations).

Cleanup:

Eliminate all sources of ignition before spill clean-up begins. Use non- sparking tools. Absorb spilled liquid with activated carbon, polypads or other suitable absorbent materials. Monitor the area for combustible vapors and the level of oxygen. Monitoring must indicate less than 10% of the LEL (see Section 5, Fire- Fighting Measures) and greater than 19.5 % Oxygen is in the atmosphere before personnel are permitted in the area without Level B Protection. Place all spill residues in an appropriate container and seal. Place the bulk of any spilled material into drums.

7. HANDLING AND STORAGE

Precautions to Be Taken in Handling and Storing

Keep away from heat, sparks and flame. Avoid breathing vapor.

Handling Precautions

All employees who handle this material should be trained to handle it safely. Containers of this product must be properly labeled. If this mixture is used in other types of containers, only use portable containers approved for flammable liquids. Post "NO SMOKING" signs, where appropriate in storage and use areas. Use non-sparking tools. Bond and ground during transfer of material. Empty containers may contain residual flammable liquid or vapors. Therefore, empty containers should be handled with care. Do not expose "empty" containers to welding touches, or any other source of ignition.

Storage Requirements

Store containers of the product in a cool, dry location, away from direct sunlight, sources of intense heat, or where freezing is possible. Material should be stored in secondary containers, or in a designated area, as appropriate. Storage areas should be made of fire-resistant materials. Inspect all incoming containers before storage, to ensure containers are properly labeled and not damaged. Refer to NFPA 30, Flammable and Combustible Liquids Code for additional information on storage.

8. EXPOSURE CONTROLS/ PERSONAL PROTECTION

Component Exposure Limits:

Tetrahydrofuran (109-99-9)

ACGIH: 50 ppm TWA; 100 ppm STEL
Skin - potential significant contribution to overall exposure by the cutaneous route
OSHA: 200 ppm TWA; 590 mg/m3 TWA
NIOSH: 200 ppm TWA; 590 mg/m3 TWA; 250 ppm STEL; 735 mg/m3 STEL

Methyl Ethyl Ketone (78-93-3)

ACGIH: 200 ppm TWA; 300 ppm STEL
OSHA: 200 ppm TWA; 590 mg/m3 TWA
NIOSH: 200 ppm TWA; 590 mg/m3 TWA; 300 ppm STEL; 885 mg/m3 STEL

Cyclohexanone (108-94-1)

ACGIH: 20 ppm TWA; 50 ppm STEL
Skin - potential significant contribution to overall exposure by the cutaneous route
OSHA: 50 ppm TWA; 200 mg/m3 TWA
NIOSH: 25 ppm TWA; 100 mg/m3 TWA
Potential for dermal absorption

Acetone (67-64-1)

ACGIH: 500 ppm TWA; 750 ppm STEL
OSHA: 1000 ppm TWA; 2400 mg/m3 TWA
NIOSH: 250 ppm TWA; 590 mg/m3 TWA

Ventilation: Mechanical exhaust may be needed. If the product is used in a confined area, provide sufficient mechanical (general and/or local exhaust) ventilation to maintain exposure below TLV(s). Explosion-proof equipment is required.

Respiratory Protection: Respiratory protection is not generally needed when using this product. Maintain airborne contaminant concentrations below guidelines listed in this section. If respiratory protection is needed, use only protection authorized in 29 CFR 1910.134 or applicable State regulations. Use supplied air respiration protection if oxygen levels are below 19.5% or are unknown. Respiratory protection guidelines for Tetrahydrofuran (a component of this product) are provided as follows.

NIOSH/OSHA RECOMMENDATIONS FOR TETRAHYDROFURAN CONCENTRATIONS IN AIR UP TO 2000 ppm: Supplied Air Respirator (SAR) operated in a continuous-flow mode, full-facepiece chemical cartridge respirator with organic vapor cartridge(s), gas mask with organic vapor canister, powered air-purifying respirator with organic vapor cartridge(s), full-facepiece Self-Contained Breathing Apparatus (SCBA), or full-facepiece SAR.

EMERGENCY OR PLANNED ENTRY INTO UNKNOWN CONCENTRA TIONS OR IDLH CONDITIONS: Positive pressure, full-facepiece SCBA or positive pressure, full-facepiece SAR with an auxiliary positive pressure SCBA.

ESCAPE: Gas mask with organic vapor canister or escape-type SCBA.

NOTE: The IDLH concentration for Tetrahydrofuran is 2000 ppm. This value is based on the lower explosive limit (LEL). Respiratory protection equipment may not be adequate for fire situations.

Protective Gloves: Wear gloves for routine industrial use to protect hands from contact. For long exposures, or unusual contact, such as spill cleanup, chemical resistant gloves may be required. See section 6.

Eye Protection: Splash goggles or safety glasses. Face shield should be worn when working in situations in which splashes or sprays can be generated. Contact lenses are not eye protective devices. Appropriate eye protection must be worn instead of, or in conjunction with contact lenses.

Other Protective Clothing or Equipment: Use body protection appropriate for task (e.g., Apron or Tyvek suit).

Other/Hygienic Practices: Wash with soap and water after use. Never eat or drink in work areas. Practice good personal hygiene after using this material, especially before eating, drinking, smoking, using the toilet, or applying cosmetics.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Product comes in a variety of colors.
Physical State: Liquid
Odor: Ether-like
Odor Threshold: 2.48−3.47 ppm (Tetrahydrofuran)
pH: Not determined
Freezing Point: Not determined
Melting Point: Not determined
Boiling Point and Boiling Range: Not determined
Flash Point: Methyl Ethyl Ketone: -9°C (15°F) Tetrahydrofuran: -15.5°C (4.1°F)
Evaporation Rate: (n-Butyl acetate) >1
Flammability: NFPA Class IB
Vapor Pressure: Not determined
Specific Gravity (H2O=1, at 4 °C): < 1.0
Water Solubility: Somewhat soluble.
Partition coefficient (n-octanol/ water): Not determined
Auto-ignition temperature: Methyl Ethyl Ketone: 404°C (759°F) Tetrahydrofuran: 321°C (610°F)
Decomposition temperature: Not determined
Viscosity: Not available

10. STABILITY AND REACTIVITY

Stability: Stable at room temperature in closed containers under normal storage and handling conditions.
Note: Tetrahydrofuran, a component of this product, can form potentially explosive peroxide compounds when exposed to light or air. Though this product contains inhibitors to prevent peroxide formation, care should be used when storing this product, or handling old containers of this material.
Conditions to Avoid: Avoid exposure or contact to extreme temperatures, sources of ignition, incompatible chemicals.
Incompatible Materials: This product will not be compatible with strong oxidizers, lithium aluminum hydride, and alkaline earth hydroxides.

Polymerization: A component of this product, 1,2-Butylene Oxide, may undergo hazardous polymerization. However, at the concentration present in this mixture, polymerization is not expected to present a significant hazard.
Hazardous Decomposition or byproducts: Carbon monoxide, carbon dioxide, silicon and chloride compounds.

11. TOXICOLOGICAL INFORMATION

ACUTE EXPOSURE

Component Analysis (LD50/ LC50)

Tetrahydrofuran (CAS# 109-99-9)
Inhalation-Rat LC50: 21,000 ppm/3H, Oral-Rat LD50: 1650 mg/kg.
Methyl Ethyl Ketone (CAS# 78-93-3)
Oral-Rat LD50: 2737 mg/kg, Inhalation-Rat LC50: 23,500 mg/m3/8hr, Inhalation-Mouse LC50: 40 g/m3/2hr
Cyclohexanone (CAS# 108-94-1)
Inhalation-Rat LC50: 8000 ppm/4 hours, Oral-Rat LD50: 1535 mg/kg, Oral-Mouse LD50: 1400 mg/kg
Silicon Dioxide (CAS# 112945-52-5)
Oral-Rat LD50: 3160 mg/kg

Eye Irritation: Can cause irritation, tearing and blurred vision.
Skin Irritation: Can cause irritation, redness and defatting (dryness).
Ingestion Health Risks: Causes nausea, headache, dizziness, stupor, and /or diarrhea. Ingestion of this product at high concentration may be fatal.
Respiratory Irritation: Can cause respiratory irritation and headache.
Dermal Toxicity: Severe irritation and defatting. Can cause a rash.
Inhalation Toxicity: Inhalation of product's vapors at high concentrations may be fatal
Target Organs: Skin, eyes, respiratory system, central nervous system.

CHRONIC EXPOSURE

Chronic Toxicity: Prolonged or repeated skin exposures can lead to dermatitis (dryness, reddening and irritation of the skin). Tetrahydrofuran, a component of this product, may cause liver and kidney damage after long-term inhalation overexposures. There is limited evidence from animal studies that Methyl Ethyl Ketone, a component of this product, is a reproductive toxin.
Target Organs: Liver, Kidneys.
Carcinogenicity:

Tetrahydrofuran (CAS# 109-99-9)
ACGIH: A3 - Confirmed Animal Carcinogen with Unknown Relevance to Humans
Acetone (CAS# 67-64-1)
ACGIH: A4 - Not Classifiable as a Human Carcinogen
Cyclohexanone (CAS# 108-94-1)
ACGIH: A3 - Confirmed Animal Carcinogen with Unknown Relevance to Humans
IARC: Monograph 71 [1999]; Monograph 47 [1989] (Group 3 (not classifiable))
Silicon Dioxide (CAS# 112945-52-5)
IARC: Monograph 68 [1997] (listed under Amorphous silica) (Group 3 (not classifiable))

Mutagenicity: This product is not reported to produce mutagenic effects in humans. Human mutation data are available for Cyclohexanone (a component of this product); these data were obtained on specific human tissues exposed to relatively high doses. Animal mutation data are available for Methyl Ethyl Ketone, Silicon Dioxide, and Tetrahydrofuran (components of this product); these data were obtained during clinical studies on specific animal tissues or micro- organisms exposed to high doses of these compounds.

Reproductive Toxicity: This product is not reported to cause reproductive effects in humans. Reproductive toxicity data are available for 1,2-Butylene Oxide, Methyl Ethyl Ketone and Tetrahydrofuran (components of this product); these data were obtained from clinical studies on test animals exposed to relatively high doses.
Teratogenicity: This product is not reported to cause teratogenic effects in humans. Three animal studies involving Methyl Ethyl Ketone (a component of this product) have shown fetotoxicity (skeletal anomalies) at doses which did not produce significant maternal toxicity.

12. ECOLOGICAL INFORMATION

ENVIRONMENTAL TOXICITY

Aquatic Life Toxicity: This product can be harmful or fatal to contaminated aquatic plant or animal life, especially if released in large quantity in a body of water. The following aquatic toxicity data are available for the components of this product:

CYCLOHEXANONE:
LC_{50} (*Pimephales promelas* fathead minnow) 527 mg/L 96 hours
EC_0 (bacteria Pseudomonas putida) 16 hours = 180 mg/L)
EC_0 (algae *Microcystis aeruginosa*) 8 days = 52 mg/L
EC_0 (green algae *Scenedesmus quadricauda*) 7 days = 370 mg/L
EC_0 (protozoa *Entosiphon sulcatum*) 72 hours = 545 mg/L
EC_0 (protozoa *Uronema parduczi* Chatton-Lwoff) = 280 mg/L
EC_0 (bacteria *Pseudomonas fluorescens*) 16 hours = 180 mg/L (pH = 7)
EC_0 (Chilomonas paramecium Ehrenberg) 48 hours = 573 mg/L
EC_0 (*Daphnia magna* Straus) 24 hours = 526 mg/L
EC_{50} (*Daphnia magna* Straus) 24 hours = 820 mg/L
EC_{100} (*Daphnia magna* Straus) 24 hours = 1,240 mg/L
EC_0 (*Daphnia magna*) 24 hours = 540 mg/L
EC_{50} (*Daphnia magna*) 24 hours = 800 mg/L
EC_{100} (*Daphnia magna*) 24 hours = 1,540 mg/L
LC_{50} (fathead minnow) 96 hours = 526; 618; 630 mg/L
LC_{50} (*Leuciscus idus*) 24 hours = 538 mg/L
LC_{50} (*Leuciscus idus*) 96 hours = 536; 539; 752 mg/L

METHYL ETHYL KETONE:
EC_0 (*Scenedesmus quadricauda*, green algae) = 4300 mg/L/ 8 days
EC_0 (*Entosiphon sulcatum*, protozoa) = 190 mg/L/ 72 hours

METHYL ETHYL KETONE (continued):
EC_0 (*Uronema parduczi* Chatton-Lwoff, protozoa) = 2830 mg/L EC_0 (*Pseudomonas putida*, bacteria) = 1150 mg/L/ 16 hours
LC_{50} (*Pimephales promelas*, fathead minnow) = 3200 mg/L/96 hour
LD_0 (*Pseudomonas*, bacteria) = 2,500 mg/L
LD_0 (*Scenedesmus*, algae) = 12,500 mg/L
LD_0 (*Colpoda*, protozoa) = 5,000 mg/L
LC_{50} (mosquito fish) = 5,600 mg/L/ 24 96 hours
LC_{50} (bluegill) = 5,640 1,690 mg/L/ 24 96 hours
LC_{50} (goldfish) = 5,000 mg/L/ 24 hours

TETRAHYDROFURAN:
Growth Inhibition (*Microcystis*, blue algea) = 225 mg/L Toxicity Threshold (Cell Multiplication Inhibit System test): (*Uronema parduczi* Chatton-Lwoff, protozoa) = 858 mg/L (*Pseudomonas putida*, bacteria) = 580 mg/L (*Microcytis aeruginosa*, algea) = 225 mg/L
LC_{50} (silver/golden orfe) = 2820−2930 mg/L LC_{50} (fathead minnow) = 2160 mg/L/ 96 hours
LC_{50} (carp) = 4400 mg/L/ 48 hours
LC_{50} (goldfish) = 2400 mg/L/ 48 hour

ENVIRONMENTAL DATA

Biodegradation: The components of this product will biodegrade into other organic compounds. Environmental data are available for components of this product, as follows:

ACETONE: Log K_{ow} = -0.24. Water Solubility= Miscible. Acetone is quite readily degraded in the environment. BO D = 122%; 5 day s. The potential for bioconcentration in fish is negligible. One experimental study of bioconcentration in adult haddock at 7-9°C (static test) resulted in a BCF of 0.69.

CYCLOHEXANONE: KOC - 0.81. Water Solubility 23,000 mg/L. Cyclohexanone is not rapidly volatilized from water, except for fast moving streams or very shallow ponds. Significant soil leaching occurs, contributing to ground water contamination. Biodegradation and photolysis occur in water. Rapid atmospheric degradation occurs via photolysis, with a half-life of about 1 to 5 days.

METHYL ETHYL KETONE: Log K_{ow} = 0.29. Water Solubility = 239,000 mg/L. Methyl Ethyl Ketone is rapidly volatilized from water and undergoes slow biodegradation. It undergoes moderate atmospheric photodegradation.

TETRAHYDROFURAN: Water Solubility = 30% (25°C). Tetrahydrofuran is significantly biodegraded in standard tests. This compound is not expected to bioconcentrate in fish significantly.

Soil Mobility: Not determined

VOC INFORMATION: This product emits VOC's (volatile organic compounds) in its use. Make sure that use of this product complies with local VOC emission regulations, where they exist. **Max. VOC Level for E-Z Weld 207, 208, 217, 227 and 786-Low VOC: 490 g/l as per SCAQMD Test Method 1168/316A.**

13. DISPOSAL CONSIDERATIONS

Waste Disposal: Waste disposal must be in accordance with appropriate U.S. Federal, State, and local regulations, those of Canada and its Provinces, as well as those applicable to the EC Member States. This product, if unaltered by use, may be disposed of by treatment at a permitted facility or as advised by your local hazardous waste regulatory authority.

U.S. EPA WASTE NUMBER: D001 (Characteristic/Ignitability)

14. TRANSPORT INFORMATION

For Greater than 1 liter (0.3 gal):

Shipping Name: Adhesives
UN Number: 1133
Transport Hazard Class/ Packing Group: Class 3 (Flammable Liquid), Group II DOT LABEL(S)
Required Labels: Flammable Liquid

For Less than 1 liter (0.3 gal):

Shipping Name: Adhesives
UN Number: 1133
Transport Hazard Class/ Packing Group: Class 3 (Flammable Liquid), Group II DOT LABEL(S)
Required Labels: None (Limited Quantities are expected from labeling)

Marine Pollutant: N
IMDG Code: 3230

15. REGULATORY INFORMATION

U.S. Federal Regulations:

Component Analysis

The components of this product are subject to the reporting requirements of Sections 302, 304, and 313 of Title III of the Superfund Amendments and Reauthorization Act, and are listed as follows:

CHEMICAL NAME	SARA 304 (40 CFR Table 302.4)	SARA 313 (40 CFR 372.65)
1,2-Butylene Oxide (CAS#106-88-7)	Yes	Yes
Cyclohexanone (CAS# 108-94-1)	Yes	Yes
Methyl Ethyl Ketone (CAS# 78-93-3)	Yes	Yes
Tetrahydrofuran (CAS# 109-99-9)	Yes	No

U.S. CERCLA REPORTABLE QUANTITY (RQ): 1,2-Butylene Oxide = 100 lb; Cyclohexanone = 5000 lb; MEK: 5000 lb; Tetrahydrofuran = 1000 lb.

TSCA: All ingredients contained in this product are listed on the U.S. EPA TSCA Chemical Substance Inventory.

State Regulations

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

CHEMICAL NAME	CAS	A	CA	FL	IL	KS	MA	MN	MO	NJ	ND	PA	RI	TX	WV	WI
Tetrahydrofuran	109-99-9	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Methyl Ethyl Ketone	78-93-3	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Cyclohexanone	108-94-1	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
1,2-Butylene Oxide	106-88-7	N	N	N	N	Y	Y	N	N	Y	N	Y	Y	N	N	N

CALIFORNIA, SAFE DRINKING WATER AND TO XIC ENFORCEMENT ACT (PROPOSITION 65): This product may contain trace constituents, such as vinyl chloride, present in one of the product's components. Under common usage, exposures to these trace constituents at levels exceeding the "no significant risk level" (NSRL) would not occur. Users are expected to follow normal PPE and ventilation guidelines such as those in section 8 and other portions of this MSDS.

Canadian Federal Regulations:

The components of this product are on the DSL Inventory.

WHMIS Symbols: Class B2: Flammable Liquid Class D2A/B: Materials Causing Other Toxic Effects.

EINECS: All ingredients contained in this product are listed on the European Inventory of Existing Chemical Substances (EINCS).Based on the information on the product's components and an assessment of the physical and health hazards associated with the material, the following assignments have been made (per council directive 67/548/EEC)

EC CLASSIFICATION: Highly Flammable; Carcinogenic Category 3; Harmful; Irritant. [F;Carc.Cat.3;Xn;Xi]

EUROPEAN COMMUNITY ANNEX II HAZARD SYMBOLS:

EINECS Components: Primary components of this product under European Community Regulation are Tetrahydrofuran, Methyl Ethyl Ketone, Cyclohexanone and Acetone.

16. OTHER INFORMATION

Prepared by: Keith Courtway
Preparation/ Revision Date: July 22, 2015
Revision Summary: Updated with new standards.

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.

Other Information

NFPA and HMIS:

NFPA Hazard Signal: Health: 2 Flammability: 3 Reactivity: 1 Special: None
HMIS Hazard Signal: Health: 2* Flammability: 3 Reactivity: 1 PPE: G

Manufacturer Disclaimer: Information given herein is offered in good faith as accurate, but without guarantee. Conditions of use and suitability of the product for particular uses are beyond our control; all risks of use of the product are therefore assumed by the user. Nothing is intended as a recommendation for uses which infringe valid patents or as extending license under valid patents. Appropriate warnings and safe handling procedures should be provided to handlers and users.

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MATERIAL SAFETY DATA SHEETS

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

GENERIC NAME: HYDRAULIC OIL **ISSUE DATE:** SEPTEMBER 2009

THIS GENERIC MSDS REPRESENTS THE FOLLOWING RALLYE LUBRICANTS PRODUCTS:
RALLYE® ASH-LESS PREMIUM SYNTHETIC HYDRAULIC OIL 15, 22, 32, 46, 68, 100

CAS NUMBER: MIXTURE
SYNONYMS / GENERAL NAMES: HYDRAULIC OIL
24 HOUR EMERGENCY TELEPHONE: (CHEMTREC) 1-800-424-9300
TECHNICAL INFORMATION: 813-248-1988

2. COMPOSITION / INFORMATION ON INGREDIENTS / HAZARDOUS INGREDIENTS

COMPONENTS	CAS NO.	%	HAZARD DATA
1) HIGHLY-REFINED SYNTHETIC BASE OILS	64742-54-7	98.5-100	ORAL (LD50): >5000 mg/kg
2) PETROLEUM ADDITIVES	MIXTURE	<1.5	DERMAL (LD50): >2000 mg/kg

HAZARDOUS INGREDIENTS: NONE

HAZARDOUS PER 29 CFR 1916.1200: NO

3. HAZARDOUS IDENTIFICATION

ROUTES OF ENTRY:	SKIN CONTACT
TARGET ORGANS:	SKIN
IRRITANCY:	THIS MATERIAL CAN CAUSE MILD SKIN IRRITATION FROM PROLONGED OR REPEATED SKIN CONTACT.
REPRODUCTIVE EFFECTS:	N/A
CANCER INFORMATION:	THIS PRODUCT DOES NOT CONTAIN ANY COMPONENTS AT CONCENTRATIONS ABOVE 0.1% WHICH ARE CONSIDERED CARCINOGENIC BY OSHA, IARC, OR NTP.

4. FIRST AID MEASURES

EYES:	CHECK FOR AND REMOVE CONTACT LENSES. FLUSH EYES WITH COOL, CLEAN, LOW-PRESSURE WATER WHILE OCCASIONALLY LIFTING AND LOWERING EYELIDS. SEEK MEDICAL ATTENTION IF EXCESSIVE TEARING, REDNESS, OR PAIN PERSISTS.
DERMAL:	REMOVE CONTAMINATED SHOES AND CLOTHING. WIPE OFF EXCESS MATERIAL. WASH EXPOSED SKIN WITH SOAP AND WATER. SEEK MEDICAL ATTENTION IF TISSUE APPEARS DAMAGED OR IF IRRITATION PERSISTS. THOROUGHLY CLEAN CONTAMINATED CLOTHING BEFORE REUSE. DISCARD CONTAMINATED LEATHER GOODS. IF MATERIAL IS INJECTED UNDER THE SKIN, INTO MUSCLE, OR INTO THE BLOODSTREAM, SEEK MEDICAL ATTENTION IMMEDIATELY.
INGESTION:	DO NOT INDUCE VOMITING UNLESS DIRECTED TO BY A PHYSICIAN. DO NOT GIVE ANYTHING TO DRINK UNLESS DIRECTED TO BY A PHYSICIAN. NEVER GIVE ANYTHING BY MOUTH TO A PERSON WHO IS NOT FULLY CONSCIOUS. SEEK MEDICAL ATTENTION IMMEDIATELY.
INHALATION:	MOVE VICTIM TO FRESH AIR. IF VICTIM IS NOT BREATHING, IMMEDIATELY BEGIN RESCUE BREATHING. IF BREATHING IS DIFFICULT, 100 PERCENT HUMIDIFIED OXYGEN SHOULD BE ADMINISTERED BY A QUALIFIED INDIVIDUAL. SEEK MEDICAL ATTENTION IMMEDIATELY. KEEP THE AFFECTED INDIVIDUAL WARM AND AT REST.
INJECTION:	INJECTION OF PRESSURIZED HYDROCARBONS CAN CAUSE SEVERE, PERMANENT TISSUE DAMAGE. INITIAL SYMPTOMS MAY BE MINOR. INJECTION OF PETROLEUM HYDROCARBONS REQUIRES IMMEDIATE MEDICAL ATTENTION.

5. FIRE FIGHTING MEASURES

FLASH POINT, °C(°F):	242°C(468°F)
FLAMMABLE LIMITS (% BY VOLUME):	**LOWER:** AP 1 % **UPPER:** AP 7 %
EXTINGUISHING MEDIA:	USE DRY CHEMICAL, FOAM, CARBON DIOXIDE OR WATER FOG.
SPECIAL FIRE FIGHTING PROCEDURES:	N/A
AUTOIGNITION TEMPERATURE:	N/A
EXPLOSION DATA:	N/A
NFPA RATING:	**HEALTH:** 1 **FLAMMABILITY:** 1 **REACTIVITY:** 0

6. ACCIDENTAL RELEASE MEASURES

SPILL PROCEDURES: DO NOT TOUCH DAMAGED CONTAINERS OR SPILLED MATERIAL UNLESS WEARING APPROPRIATE PROTECTIVE EQUIPMENT. SLIPPING HAZARD; DO NOT WALK THROUGH SPILLED MATERIAL. STOP LEAK IF YOU CAN DO SO WITHOUT RISK. FOR SMALL SPILLS, ABSORB OR COVER WITH DRY EARTH, SAND, OR OTHER INERT NON-COMBUSTIBLE ABSORBENT MATERIAL AND PLACE INTO WASTE CONTAINERS FOR LATER DISPOSAL. CONTAIN LARGE SPILLS TO MAXIMIZE PRODUCT RECOVERY OR DISPOSAL. PREVENT ENTRY INTO WATERWAYS OR SEWERS. IN URBAN AREA, CLEANUP SPILL AS SOON AS POSSIBLE. IN NATURAL ENVIRONMENTS, SEEK CLEANUP ADVICE FROM SPECIALISTS TO MINIMIZE PHYSICAL HABITAT DAMAGE. THIS MATERIAL WILL FLOAT ON WATER. ABSORBENT PADS AND SIMILAR MATERIALS CAN BE USED. COMPLY WITH ALL LAWS AND REGULATIONS.

7. HANDLING AND STORAGE

HANDLING PROCEDURES: AVOID WATER CONTAMINATION AND EXTREME TEMPERATURES TO MINIMIZE PRODUCT DEGRADATION. EMPTY CONTAINERS MAY CONTAIN PRODUCT RESIDUES THAT CAN IGNITE WITH EXPLOSIVE FORCE. DO NOT PRESSURIZE, CUT, WELD, BRAZE SOLDER, DRILL, GRIND OR EXPOSE CONTAINERS TO FLAMES, SPARKS, HEAT OR OTHER POTENTIAL IGNITION SOURCES. CONSULT APPROPRIATE FEDERAL, STATE AND LOCAL AUTHORITIES BEFORE REUSING, RECONDITIONING, RECLAIMING, RECYCLING OR DISPOSING OF EMPTY CONTAINERS AND/OR WASTE RESIDUES OF THIS PRODUCT.

STORAGE PROCEDURES: KEEP CONTAINER CLOSED. DO NOT STORE WITH STRONG OXIDIZING AGENTS. DO NOT STORE AT TEMPERATURES ABOVE 120°F OR IN DIRECT SUNLIGHT FOR EXTENDED PERIODS OF TIME. CONSULT APPROPRIATE FEDERAL, STATE AND LOCAL AUTHORITIES BEFORE REUSING, RECONDITIONING, RECLAIMING, RECYCLING OR DISPOSING OF EMPTY CONTAINERS OR WASTE RESIDUES OF THIS PRODUCT.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

ENGINEERING CONTROLS:	PROVIDE EXHAUST VENTILATION OR OTHER ENGINEERING CONTROLS TO KEEP THE AIRBORNE CONCENTRATIONS OF MISTS AND/OR VAPORS BELOW THE RECOMMENDED EXPOSURE LIMITS. AN EYE WASH STATION AND SAFETY SHOWER SHOULD BE LOCATED NEAR THE WORK-STATION.
GLOVES PROTECTION:	USE GLOVES CONSTRUCTED OF CHEMICAL RESISTANT MATERIALS SUCH AS NEOPRENE OR HEAVY NITRILE RUBBER IF FREQUENT OR PROLONGED CONTACT IS EXPECTED. USE HEAT PROTECTIVE GLOVES WHEN HANDLING PRODUCT AT ELEVATED TEMPERATURES.
EYE PROTECTION:	SAFETY GLASSES EQUIPPED WITH SIDE SHIELDS SHOULD BE ADEQUATE PROTECTION UNDER MOST CONDITIONS OF USE. WEAR GOGGLES AND/OR FACE SHIELD IF SPLASHING OR SPRAYING IS LIKELY, ESPECIALLY IF MATERIAL IS HEATED ABOVE 125° F (OR 51° C). HAVE SUITABLE EYE WASH WATER AVAILABLE.
RESPIRATORY PROTECTION:	VAPORIZATION OR MISTING IS NOT EXPECTED AT AMBIENT TEMPERATURES. THEREFORE, THE NEED FOR RESPIRATORY PROTECTION IS NOT ANTICIPATED UNDER NORMAL USE CONDITIONS AND WITH ADEQUATE VENTILATION. IF ELEVATED AIRBORNE CONCENTRATIONS ABOVE APPLICABLE WORKPLACE EXPOSURE LEVELS ARE ANTICIPATED, A NIOSH-APPROVED ORGANIC VAPOR RESPIRATOR EQUIPPED WITH A DUST/MIST PREFILTER SHOULD BE USED. PROTECTION FACTORS VARY DEPENDING UPON THE TYPE OF RESPIRATOR USED. RESPIRATORS SHOULD BE USED IN ACCORDANCE WITH OSHA REQUIREMENTS (29 CFR 1910.134).
CLOTHING RECOMMENDATION:	USE CLEAN AND IMPERVIOUS PROTECTIVE CLOTHING (e.g., NEOPRENE OR TYVEK) IF SPLASHING OR SPRAYING CONDITIONS ARE PRESENT. PROTECTIVE CLOTHING MAY INCLUDE LONG-SLEEVE OUTER GARMENT, APRON, OR LAB COAT. IF SIGNIFICANT CONTACT OCCURS, REMOVE OIL-CONTAMINATED CLOTHING AS SOON AS POSSIBLE AND PROMPTLY SHOWER. LAUNDER CONTAMINATED CLOTHING BEFORE REUSE OR DISCARD. WEAR HEAT PROTECTIVE BOOTS AND PROTECTIVE CLOTHING WHEN HNDLING MATERIAL AT ELEVATED TEMPERATURES.

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE:	LIQUID
ODOR:	MILD PETROLEUM ODOR
pH:	N/A
VAPOR PRESSURE, mm Hg (25 °C):	<1 mm of Hg (@ 20 C)
VAPOR DENSITY:	>1 (AIR = 1)
MELTING POINT:	NOT AVAILABLE.
BOILING POINT, 760 mm Hg, °C:	NOT AVAILABLE
SOLUBILITY IN WATER:	INSOLUBLE IN COLD WATER.
SPECIFIC GRAVITY:	0.87 (WATER = 1)
EVAPORATION RATE:	N/A
VISCOSITY 40°C (100°C)	44 @ 40° C
MOLECULAR WEIGHT:	N/A
PERCENT VOLATILE:	NEGLIGIBLE VOLATILITY

10. STABILITY AND REACTIVITY

STABILITY:	STABLE
INCOMPATIBILITY:	STRONG OXIDIZERS
POLYMERIZATION:	NOT EXPECTED TO OCCUR
THERMAL DECOMPOSITION:	CO_2, CO, SMOKE, FUMES, UNBURNED HYDROCARBONS AND TRACE OXIDES OF SULFUR, NITROGEN, PHOSPHORUS AND ZINC.

11. TOXICOLOGICAL INFORMATION

EYE IRRITATION:	THIS PRODUCT CAN CAUSE MILD, TRANSIENT, EYE IRRITATION WITH SHORT-TERM CONTACT WITH LIQUID OR SPRAYS.
DERMAL IRRITATION:	THIS MATERIAL CAN CAUSE MILD SKIN IRRITATION FROM PROLONGED OR REPEATED SKIN CONTACT.
INHALATION TOXICITY:	AT ELEVATED TEMPERATURES, MIST OR VAPORS MAY IRRITATE THE MUCOUS MEMBRANES OF THE NOSE, THE THROAT, BRONCHI, AND LUNGS.
INGESTION IRRITATION:	IF SWALLOWED, NO SIGNIFICANT ADVERSE HEALTH EFFECTS ARE ANTICIPATED. INGESTION CAN CAUSE MILD IRRITATION TO THE DIGESTIVE TRACT OR CAUSE A LAXATIVE EFFECT. BECAUSE OF THE LOW VISCOSITY OF THIS MATERIAL, THIS MATERIAL CAN ENTER THE LUNGS DIRECTLY BY ASPIRATION (e.g. DURING SWALLOWING OR VOMITING). IF ASPIRATED INTO THE LUNGS, THIS MATERIAL CAN CAUSE SEVERE LUNG DAMAGE OR DEATH.
INJECTION SENSITATION:	INJECTION UNDER THE SKIN, IN MUSCLE, OR INTO THE BLOOD STREAM CAN CAUSE IRRITATION, INFLAMMATION, SWELLING, FEVER, AND SYSTEMIC EFFECTS AND MILD CENTRAL NERVOUS SYSTEM DEPRESSION. INJECTION OF PRESSURIZED HYDROCARBONS CAN CAUSE SEVERE, PERMANENT TISSUE DAMAGE. INITIAL SYMPTOMS MAY BE MINOR. INJECTION OF PETROLEUM HYDROCARBONS REQUIRES IMMEDIATE MEDICAL ATTENTION.
CHRONIC EXPOSURE:	CONTAINS A PETROLEUM-BASED MINERAL OIL. PROLONGED OR REPEATED SKIN CONTACT CAN CAUSE MILD IRRITATION AND INFLAMMATION CHARACTERIZED BY DRYING, CRACKING, (DERMATITIS) OR OIL ACNE. INHALATION OF PETROLEUM-BASED MINERAL OILS CAN CAUSE RESPIRATORY IRRITATION OR OTHER PULMONARY EFFECTS AFTER REPEATED OR PROLONGED INHALATION OF OIL MISTS AT CONCENTRATIONS ABOVE APPLICABLE WORKPLACE EXPOSURE LEVELS.

12. HEALTH INFORMATION

HMIS CODE: **HEALTH:** 1 **FIRE:** 1 **REACTIVITY:** 0

No	**HIGHLY TOXIC**	No	**SENSITIZER**
No	**TOXIC**	No	**REPRODUCTIVE EFFECTS**
No	**CORROSIVE**	No	**MUTAGEN**
No	**IRRITANT**		

13. DISPOSAL CONSIDERATIONS

WASTE DISPOSAL: It is the responsibility of the user to determine if the material is a hazardous waste at the time of disposal. Determine compliance status with all applicable requirements prior to disposal.

14. TRANSPORT INFORMATION

DOT (DEPARTMENT OF TRANSPORTATION)

PROPER SHIPPING NAME:	PETROLEUM OIL
HAZARD CLASS:	NOT A DOT CONTROLLED MATERIAL (UNITED STATES).
HAZARD IDENTIFICATION NUMBER:	N/A
DOT PLACARD:	N/A
COMPATIBILITY CATEGORY:	N/A

15. REGULATORY INFORMATION

SARA SECTION 313 - TOXIC CHEMICALS:
This product does not contain toxic chemicals under SARA Section 313 and 40 CFR Part 372.

SARA SECTION 311 - HAZARD CATEGORIES:
This product may meet one or more of the criteria for the hazard categories defined in 40 CFR Part 370 as established be Sections 311 and 312 of SARA as indicated below:

NO	**IMMEDIATE (ACUTE) HEALTH HAZARD**	NO	**SUDDEN RELEASE OF PRESSURE HAZARD**
NO	**DELAYED (CHRONIC) HEALTH HAZARD**	NO	**REACTIVE HAZARD**
NO	**FIRE HAZARD**		

SARA SECTION 302 - EXTREMELY HAZARDOUS WASTE:
This product is not known to contain any components in concentrations greater than one percent that are listed as Extremely Hazardous Substances in 40 CFR Part 355 pursuant to the requirements of Section 302(a) of SARA.

CLEAN WATER ACT (CWA):
Under the CWA, discharges of crude oil and petroleum products to surface water without proper Federal and State permits must be reported immediately to the National Response Center at (800) 424-8802.

CERCLA HAZARDOUS SUBSTANCES:
As defined by CERCLA, the term “hazardous substance” does not include petroleum, including crude oil or any fraction thereof which is not otherwise specifically listed or designated as a hazardous substance.

U.S. TSCA INVENTORY
All components of this material are on the U.S. TSCA Inventory or are not required to be listed on the U.S. TSCA Inventory

16. OTHER INFORMATION

THE INFORMATION IN THIS MATERIAL SAFETY DATA SHEET SHOULD BE PROVIDED TO ALL WHO WILL USE, HANDLE, STORE, TRANSPORT, OR OTHERWISE BE EXPOSED TO THIS PRODUCT. THIS INFORMATION HAS BEEN PREPARED FOR THE GUIDANCE OF PLANT ENGINEERING, OPERATIONS AND MANAGEMENT AND FOR PERSONS WORKING WITH OR HANDLING THIS PRODUCT. RALLYE LUBRICANTS BELIEVES THIS INFORMATION TO BE RELIABLE AND UP TO DATE AS OF THE DATE OF PUBLICATION, BUT MAKES NO WARRANTY THAT IT IS.

NFPA HAZARD RATING	least - 0	slight - 1	moderate - 2	high - 3	extreme - 4
HMIS HEALTH RATING	least - 0	slight - 1	moderate - 2	high - 3	extreme - 4

Limestone and Dolomite

Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations And According To The Hazardous Products Regulation (February 11, 2015).
Revision Date: 04/19/2018 Date of Issue: 03/01/2014 Version: 3.0

SECTION 1: IDENTIFICATION

1.1. Product Identifier

Product Form: Mixture

Product Name: Limestone, Dolomite, Dolostone, Carbonate Rock, Calcium Carbonate, Aggregates, Crushed Stone, Crushed Rock, Crushed Run, Gravel, Manufactured Sand, Concrete Sand, Asphalt Sand, Mason Sand, Fill Sand, Golf Course Sand, Base Material, Dense Graded Aggregate

Synonyms: Limestone, Dolomite

Note: This SDS covers many types of limestone and dolomite. Individual composition of hazardous constituents will vary between types of limestone and dolomite.

1.2. Intended Use of the Product

Limestone and dolomite are used in the manufacture of bricks, mortar, cement, concrete, plasters, paving materials, and other construction applications. Limestone and dolomite are distributed in bags, totes and bulk shipment. Do NOT use this product for abrasive blasting. This Safety Data Sheet and the information contained herein were not developed for abrasive blasting.

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

Company
Lafarge US
8700 West Bryn Mawr Avenue, Suite 300
Chicago, IL 60631
Information: 773-372-1000 (9am to 5pm CST)
Email: SDSinfo@Lafarge.com
Website: www.lafargeholcim.us

Company
Lafarge Canada

Eastern Canada
6509 Airport Road
Mississauga, ON L4V 157
Phone: (905) 738-7070

Western Canada
#300 115 Quarry Park Road SE
Calgary, AB T2C 5G9
Phone: (403) 271-9110

Website:www.lafarge.ca

1.4. Emergency Telephone Number

Emergency Number : Chemtrec 1-800-424-9300 (24 hours)

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the Substance or Mixture

GHS-US/CA Classification

Carc. 1	H350
STOT RE 1	H372

Full text of hazard classes and H-statements : see Section 16

2.2. Label Elements

GHS-US/CA Labeling

Hazard Pictograms (GHS-US/CA) :

GHS08

Signal Word (GHS-US/CA) : Danger

Hazard Statements (GHS-US/CA) : H350 - May cause cancer (Inhalation).
H372 - Causes damage to organs (lung/respiratory system) through prolonged or repeated exposure (Inhalation).

Precautionary Statements (GHS-US/CA) : P201 - Obtain special instructions before use.
P202 - Do not handle until all safety precautions have been read and understood.
P260 - Do not breathe dust.

P264 - Wash hands, forearms, and other exposed areas thoroughly after handling.
P270 - Do not eat, drink or smoke when using this product.
P280 - Wear protective gloves, protective clothing, and eye protection.
P308+P313 - If exposed or concerned: Get medical advice/attention.
P314 - Get medical advice/attention if you feel unwell.
P405 - Store locked up.
P501 - Dispose of contents/container in accordance with local, regional, national, territorial, provincial, and international regulations.

2.3. Other Hazards

Exposure may aggravate pre-existing eye, skin, or respiratory conditions.

2.4. Unknown Acute Toxicity (GHS-US/CA)

No data available

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.2. Mixture

Name	Product Identifier	% *	GHS Ingredient Classification
Limestone	(CAS-No.) 1317-65-3	50 - 100	Not classified
Carbonic acid, magnesium salt (1:1)	(CAS-No.) 546-93-0	< 50	Not classified
Quartz	(CAS-No.) 14808-60-7	< 15	Carc. 1A, H350 STOT SE 3, H335 STOT RE 1, H372

Full text of H-phrases: see Section 16.

*Percentages are listed in weight by weight percentage (w/w%) for liquid and solid ingredients. Gas ingredients are listed in volume by volume percentage (v/v%).

SECTION 4: FIRST AID MEASURES

4.1. Description of 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).

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

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

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.

Ingestion: Rinse mouth. Do NOT induce vomiting. Obtain medical attention.

4.2. Most Important Symptoms and Effects Both Acute and Delayed

General: May cause cancer. Causes damage to organs through prolonged or repeated exposure.

Inhalation: The three types of silicosis include: 1) Simple chronic silicosis – which results from long-term exposure (more than 20 years) to low amounts of respirable crystalline silica. Nodules of chronic inflammation and scarring provoked by the respirable crystalline silica form in the lungs and chest lymph nodes. This disease may feature breathlessness and may resemble chronic obstructive pulmonary disease (COPD); 2) Accelerated silicosis – occurs after exposure to larger amounts of respirable crystalline silica over a shorter period of time (5-15 years); 3) Acute silicosis – results from short-term exposure to very large amounts of respirable crystalline silica. The lungs become very inflamed and may fill with fluid, causing severe shortness of breath and low blood oxygen levels. Inflammation, scarring, and symptoms progress faster in accelerated silicosis than in simple silicosis. Progressive massive fibrosis may occur in simple or accelerated silicosis, but is more common in the accelerated form. Progressive massive fibrosis results from severe scarring and leads to the destruction of normal lung structures.

Skin Contact: Prolonged exposure may cause skin irritation.

Eye Contact: May cause slight irritation to eyes.

Ingestion: Ingestion may cause adverse effects.

Chronic Symptoms: May cause cancer. Causes damage to organs through prolonged or repeated exposure.

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: Water spray, dry chemical, foam, carbon dioxide.

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 considered flammable but may burn at high temperatures.

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 water spray or fog for cooling exposed containers.

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

Hazardous Combustion Products: Limestone and dolomite decomposes at 825 °C (1517 °F) producing calcium and magnesium oxide.

Reference to Other Sections

Refer to Section 9 for flammability properties.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal Precautions, Protective Equipment and Emergency Procedures

General Measures: Do not breathe dust. Do not get in eyes, on skin, or on clothing. Do not handle until all safety precautions have been read and understood.

6.1.1. For Non-Emergency Personnel

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

Emergency Procedures: Evacuate unnecessary personnel.

6.1.2. For Emergency Personnel

Protective Equipment: Equip cleanup crew with proper protection.

Emergency Procedures: 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. Ventilate area.

6.2. Environmental Precautions

Prevent entry to sewers and public waters.

6.3. Methods and Materials 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. Transfer spilled material to a suitable container for disposal. Contact competent authorities after a spill.

6.4. Reference to Other Sections

See Section 8 for exposure controls and personal protection and Section 13 for disposal considerations.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for Safe Handling

Additional Hazards When Processed: Stack bagged material in a secure manner to prevent falling. Bagged aggregate is heavy and poses risks such as sprains and strains to the back, arms, shoulders and legs during lifting and mixing. Handle with care and use appropriate control measures. Engulfment hazard. To prevent burial or suffocation, do not enter a confined space, such as a silo, bin, bulk truck, or other storage container or vessel that stores or contains Limestone and dolomite. Dust can build up or adhere to the walls of a confined space. The dust can release, collapse or fall unexpectedly. Do not stand on stockpiles of Limestone and dolomite, they may be unstable. Use engineering controls (e.g. wetting stockpiles) to prevent windblown dust from stockpiles, which may cause the hazards described in Section 2. This product is NOT to be used for abrasive blasting. Cutting, crushing or grinding Limestone and dolomite, hardened cement, 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. 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.

Precautions for Safe Handling: Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe dust. Avoid contact with eyes, skin and clothing.

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 away from incompatible materials.

Incompatible Materials: Hydrofluoric acid. Oxidizers.

Storage Temperature: Unlimited.

7.3. Specific End Use(s)

Limestone and dolomite are used in the manufacture of bricks, mortar, cement, concrete, plasters, paving materials, and other construction applications. Limestone and dolomite are distributed in bags, totes and bulk shipment. Do NOT use this product for abrasive blasting. This Safety Data Sheet and the information contained herein were not developed for abrasive blasting.

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), OSHA (PEL), Canadian provincial governments, or the Mexican government.

Quartz (14808-60-7)		
Mexico	OEL TWA (mg/m³)	0.1 mg/m³ (respirable fraction)
USA ACGIH	ACGIH TWA (mg/m³)	0.025 mg/m³ (respirable particulate matter)
USA ACGIH	ACGIH chemical category	A2 - Suspected Human Carcinogen
USA OSHA	OSHA PEL (TWA) (mg/m³)	50 µg/m³
USA NIOSH	NIOSH REL (TWA) (mg/m³)	0.05 mg/m³ (respirable dust)
USA IDLH	US IDLH (mg/m³)	50 mg/m³ (respirable dust)
Alberta	OEL TWA (mg/m³)	0.025 mg/m³ (respirable particulate)
British Columbia	OEL TWA (mg/m³)	0.025 mg/m³ (respirable)
Manitoba	OEL TWA (mg/m³)	0.025 mg/m³ (respirable particulate matter)
New Brunswick	OEL TWA (mg/m³)	0.1 mg/m³ (respirable fraction)
Newfoundland & Labrador	OEL TWA (mg/m³)	0.025 mg/m³ (respirable particulate matter)
Nova Scotia	OEL TWA (mg/m³)	0.025 mg/m³ (respirable particulate matter)
Nunavut	OEL TWA (mg/m³)	0.05 mg/m³ (respirable fraction)
Northwest Territories	OEL TWA (mg/m³)	0.05 mg/m³ (respirable fraction)
Ontario	OEL TWA (mg/m³)	0.1 mg/m³ (designated substances regulation-respirable)
Prince Edward Island	OEL TWA (mg/m³)	0.025 mg/m³ (respirable particulate matter)
Québec	VEMP (mg/m³)	0.1 mg/m³ (respirable dust)
Saskatchewan	OEL TWA (mg/m³)	0.05 mg/m³ (respirable fraction)
Yukon	OEL TWA (mg/m³)	300 particle/mL

Carbonic acid, magnesium salt (1:1) (546-93-0)		
USA NIOSH	NIOSH REL (TWA) (mg/m³)	10 mg/m³ (total dust) 5 mg/m³ (respirable dust)
British Columbia	OEL TWA (mg/m³)	10 mg/m³ (total dust) 3 mg/m³ (respirable fraction)
New Brunswick	OEL TWA (mg/m³)	10 mg/m³ (particulate matter containing no Asbestos and <1% Crystalline silica)
Nunavut	OEL STEL (mg/m³)	20 mg/m³
Nunavut	OEL TWA (mg/m³)	10 mg/m³
Northwest Territories	OEL STEL (mg/m³)	20 mg/m³
Northwest Territories	OEL TWA (mg/m³)	10 mg/m³
Québec	VEMP (mg/m³)	10 mg/m³ (containing no Asbestos and <1% Crystalline silica-total dust)

Limestone (1317-65-3)		
Mexico	OEL TWA (mg/m³)	10 mg/m³
Mexico	OEL STEL (mg/m³)	20 mg/m³
USA OSHA	OSHA PEL (TWA) (mg/m³)	15 mg/m³ (total dust)

		5 mg/m³ (respirable fraction)
USA NIOSH	NIOSH REL (TWA) (mg/m³)	10 mg/m³ (total dust) 5 mg/m³ (respirable dust)
Alberta	OEL TWA (mg/m³)	10 mg/m³
British Columbia	OEL STEL (mg/m³)	20 mg/m³ (total dust)
British Columbia	OEL TWA (mg/m³)	10 mg/m³ (total dust) 3 mg/m³ (respirable fraction)
New Brunswick	OEL TWA (mg/m³)	10 mg/m³ (particulate matter containing no Asbestos and <1% Crystalline silica)
Nunavut	OEL STEL (mg/m³)	20 mg/m³
Nunavut	OEL TWA (mg/m³)	10 mg/m³
Northwest Territories	OEL STEL (mg/m³)	20 mg/m³
Northwest Territories	OEL TWA (mg/m³)	10 mg/m³
Québec	VEMP (mg/m³)	10 mg/m³ (Limestone, containing no Asbestos and <1% Crystalline silica-total dust)
Saskatchewan	OEL STEL (mg/m³)	20 mg/m³
Saskatchewan	OEL TWA (mg/m³)	10 mg/m³
Yukon	OEL STEL (mg/m³)	20 mg/m³
Yukon	OEL TWA (mg/m³)	30 mppcf 10 mg/m³

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. Ensure adequate ventilation, especially in confined areas. Ensure all national/local regulations are observed.

Personal Protective Equipment: Gloves. Protective clothing. Protective goggles. Insufficient ventilation: wear respiratory protection.

Materials for Protective Clothing: Chemically resistant materials and fabrics.

Hand Protection: Wear protective gloves.

Eye and Face Protection: Chemical safety goggles.

Skin and Body Protection: Wear suitable protective clothing.

Respiratory Protection: 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	:	Variety of Colors
Odor	:	Odorless
Odor Threshold	:	Not available
pH	:	Neutral
Evaporation Rate	:	Not available
Melting Point	:	Not available
Freezing Point	:	Not available
Boiling Point	:	> 1000 °C (> 1832 °F)
Flash Point	:	Not available
Auto-ignition Temperature	:	Not available
Decomposition Temperature	:	Not available

Flammability (solid, gas)	:	Not available
Lower Flammable Limit	:	Not available
Upper Flammable Limit	:	Not available
Vapor Pressure	:	Not available
Relative Vapor Density at 20°C	:	Not available
Relative Density	:	Not available
Specific Gravity	:	2.6 - 2.8 (Water = 1)
Solubility	:	Insoluble in water
Partition Coefficient: N-Octanol/Water	:	Not available
Viscosity	:	Not 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: Incompatible materials.

10.5. Incompatible Materials: Hydrofluoric acid. Oxidizers.

10.6. Hazardous Decomposition Products: None expected under normal conditions of use.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on Toxicological Effects - Product

Acute Toxicity (Oral): Not classified

Acute Toxicity (Dermal): Not classified

Acute Toxicity (Inhalation): Not classified

LD50 and LC50 Data: Not available

Skin Corrosion/Irritation: Not classified

pH: Neutral

Eye Damage/Irritation: Not classified

pH: Neutral

Respiratory or Skin Sensitization: Not classified

Germ Cell Mutagenicity: Not classified

Carcinogenicity: May cause cancer (Inhalation).

Specific Target Organ Toxicity (Repeated Exposure): Causes damage to organs (lung/respiratory system) through prolonged or repeated exposure (Inhalation).

Reproductive Toxicity: Not classified

Specific Target Organ Toxicity (Single Exposure): Not classified

Aspiration Hazard: Not classified

Symptoms/Injuries After Inhalation: The three types of silicosis include: 1) Simple chronic silicosis – which results from long-term exposure (more than 20 years) to low amounts of respirable crystalline silica. Nodules of chronic inflammation and scarring provoked by the respirable crystalline silica form in the lungs and chest lymph nodes. This disease may feature breathlessness and may resemble chronic obstructive pulmonary disease (COPD); 2) Accelerated silicosis – occurs after exposure to larger amounts of respirable crystalline silica over a shorter period of time (5-15 years); 3) Acute silicosis – results from short-term exposure to very large amounts of respirable crystalline silica. The lungs become very inflamed and may fill with fluid, causing severe shortness of breath and low blood oxygen levels. Inflammation, scarring, and symptoms progress faster in accelerated silicosis than in simple silicosis. Progressive massive fibrosis may occur in simple or accelerated silicosis, but is more common in the accelerated form. Progressive massive fibrosis results from severe scarring and leads to the destruction of normal lung structures.

Symptoms/Injuries After Skin Contact: Prolonged exposure may cause skin irritation.

Symptoms/Injuries After Eye Contact: May cause slight irritation to eyes.

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

Chronic Symptoms: May cause cancer. Causes damage to organs through prolonged or repeated exposure.

11.2. Information on Toxicological Effects - Ingredient(s)

LD50 and LC50 Data:

Quartz (14808-60-7)	
LD50 Oral Rat	> 5000 mg/kg
LD50 Dermal Rat	> 5000 mg/kg

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.

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Ecology - General: Not classified.

12.2. Persistence and Degradability

Limestone and Dolomite	
Persistence and Degradability	Not established.

12.3. Bioaccumulative Potential

Limestone and Dolomite	
Bioaccumulative Potential	Not established.

12.4. Mobility in Soil

Not 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 waste material in accordance with all local, regional, national, provincial, territorial and international regulations.

Additional Information: Container may remain hazardous when empty. Continue to observe all precautions.

Ecology - Waste Materials: Avoid release to the environment.

SECTION 14: TRANSPORT INFORMATION

The shipping description(s) stated herein were prepared in accordance with certain assumptions at the time the SDS was authored, and can vary based on a number of variables that may or may not have been known at the time the SDS was issued.

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

14.4. In Accordance with TDG Not regulated for transport

SECTION 15: REGULATORY INFORMATION

15.1. US Federal Regulations

Limestone and Dolomite	
SARA Section 311/312 Hazard Classes	Health hazard - Carcinogenicity Health hazard - Specific target organ toxicity (single or repeated exposure)

Quartz (14808-60-7)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

Carbonic acid, magnesium salt (1:1) (546-93-0)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

Limestone (1317-65-3)
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

Carbonic acid, magnesium salt (1:1) (546-93-0)
U.S. - Massachusetts - Right To Know List
U.S. - New Jersey - Right to Know Hazardous Substance List

Limestone (1317-65-3)
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

15.3. Canadian Regulations

Quartz (14808-60-7)
Listed on the Canadian DSL (Domestic Substances List)

Carbonic acid, magnesium salt (1:1) (546-93-0)
Listed on the Canadian DSL (Domestic Substances List)

Limestone (1317-65-3)
Listed on the Canadian NDSL (Non-Domestic Substances List)

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

Date of Preparation or Latest Revision : 04/19/2018

Other Information : This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200 and Canada's Hazardous Products Regulations (HPR) SOR/2015-17.

GHS Full Text Phrases:

Carc. 1	Carcinogenicity, Category 1
Carc. 1A	Carcinogenicity Category 1A
STOT RE 1	Specific target organ toxicity (repeated exposure) Category 1
STOT SE 3	Specific target organ toxicity (single exposure) Category 3
H335	May cause respiratory irritation
H350	May cause cancer
H372	Causes damage to organs through prolonged or repeated exposure

An electronic version of this SDS is available: for Canada on www.lafarge.ca under the Health and Safety Section, and for US on www.lafargeholcim.us under the Our Solutions and Products Section. Please direct any inquiries regarding the content of this SDS to SDSinfo@Lafarge.com.

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NO WARRANTY IS MADE, EXPRESS OR IMPLIED, OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR OTHERWISE.

NA GHS SDS 2015 (Can, US, Mex)

Safety Data Sheet

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

L Industrial Grease 31-A

Product Use: Industrial Grease
Product Number(s): 240287
Company Identification
Chevron Products Company
a division of Chevron U.S.A. Inc.
6001 Bollinger Canyon Rd.
San Ramon, CA 94583
United States of America
www.chevronlubricants.com

Transportation Emergency Response
CHEMTREC: (800) 424-9300 or (703) 527-3887
Health Emergency
Chevron Emergency & Information Center: Located in the USA. International collect calls accepted. (800) 231-0623 or (510) 231-0623
Product Information
email : lubemsds@chevron.com
Product Information: 1 (800) 582-3835, LUBETEK@chevron.com

SECTION 2 HAZARDS IDENTIFICATION

CLASSIFICATION: Acute aquatic toxicant: Category 3. Chronic aquatic toxicant: Category 3.

Environmental Hazards: Harmful to aquatic life with long lasting effects.

PRECAUTIONARY STATEMENTS:
Prevention: Avoid release to the environment.
Disposal: Dispose of contents/container in accordance with applicable local/regional/national/international regulations.

HAZARDS NOT OTHERWISE CLASSIFIED: Not Applicable

SECTION 3 COMPOSITION/ INFORMATION ON INGREDIENTS

COMPONENTS	CAS NUMBER	AMOUNT
Highly refined mineral oil (C15 - C50)	Mixture	70 - 99 %weight
01154100-5054P	Trade secret	1 - 5 %weight

SECTION 4 FIRST AID MEASURES

Description of first aid measures
Eye: No specific first aid measures are required. As a precaution, remove contact lenses, if worn, and flush eyes with water.
Skin: No specific first aid measures are required. As a precaution, remove clothing and shoes if contaminated. To remove the material from skin, use soap and water. Discard contaminated clothing and shoes or thoroughly clean before reuse.
Ingestion: No specific first aid measures are required. Do not induce vomiting. As a precaution, get medical advice.
Inhalation: No specific first aid measures are required. If exposed to excessive levels of material in the air, move the exposed person to fresh air. Get medical attention if coughing or respiratory discomfort occurs.

Most important symptoms and effects, both acute and delayed
IMMEDIATE HEALTH EFFECTS
Eye: Not expected to cause prolonged or significant eye irritation.
Skin: High-Pressure Equipment Information: Accidental high-velocity injection under the skin of materials of this type may result in serious injury. Seek medical attention at once should an accident like this occur. The initial wound at the injection site may not appear to be serious at first; but, if left untreated, could result in disfigurement or amputation of the affected part.
Contact with the skin is not expected to cause prolonged or significant irritation. Contact with the skin is not expected to cause an allergic skin response. Not expected to be harmful to internal organs if absorbed through the skin.
Ingestion: Not expected to be harmful if swallowed.
Inhalation: Not expected to be harmful if inhaled. Contains a petroleum-based mineral oil. May cause respiratory irritation or other pulmonary effects following prolonged or repeated inhalation of oil mist at airborne levels above the recommended mineral oil mist exposure limit. Symptoms of respiratory irritation may include coughing and difficulty breathing.

DELAYED OR OTHER HEALTH EFFECTS: Not classified

Indication of any immediate medical attention and special treatment needed
Note to Physicians: In an accident involving high-pressure equipment, this product may be injected under the skin. Such an accident may result in a small, sometimes bloodless, puncture wound. However, because of its driving force, material injected into a fingertip can be deposited into the palm of the hand. Within 24 hours, there is usually a great deal of swelling, discoloration, and intense throbbing pain. Immediate treatment at a surgical emergency center is recommended.

SECTION 5 FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA: Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames.

PROTECTION OF FIRE FIGHTERS:
Fire Fighting Instructions: This material will burn although it is not easily ignited. See Section 7 for proper handling and storage. For fires involving this material, do not enter any enclosed or confined fire space without proper protective equipment, including self-contained breathing apparatus.
Combustion Products: Highly dependent on combustion conditions. A complex mixture of airborne solids, liquids, and gases including carbon monoxide, carbon dioxide, and unidentified organic compounds will be evolved when this material undergoes combustion. Combustion may form oxides of: Lithium, Nitrogen.

SECTION 6 ACCIDENTAL RELEASE MEASURES

Protective Measures: Eliminate all sources of ignition in vicinity of spilled material.
Spill Management: Clean up spills immediately, observing precautions in Exposure Controls/Personal Protection section. Stop the source of the release if you can do it without risk. Contain release to prevent further contamination of soil, surface water or groundwater. Clean up spill as soon as possible, observing precautions in Exposure Controls/Personal Protection. Use appropriate techniques such as applying non-combustible absorbent

materials or pumping. Where feasible and appropriate, remove contaminated soil. Place contaminated materials in disposable containers and dispose of in a manner consistent with applicable regulations.
Reporting: Report spills to local authorities and/or the U.S. Coast Guard's National Response Center at (800) 424-8802 as appropriate or required.

SECTION 7 HANDLING AND STORAGE

General Handling Information: Avoid contaminating soil or releasing this material into sewage and drainage systems and bodies of water.
Static Hazard: Electrostatic charge may accumulate and create a hazardous condition when handling this material. To minimize this hazard, bonding and grounding may be necessary but may not, by themselves, be sufficient. Review all operations which have the potential of generating and accumulating an electrostatic charge and/or a flammable atmosphere (including tank and container filling, splash filling, tank cleaning, sampling, gauging, switch loading, filtering, mixing, agitation, and vacuum truck operations) and use appropriate mitigating procedures.
Container Warnings: Container is not designed to contain pressure. Do not use pressure to empty container or it may rupture with explosive force. Empty containers retain product residue (solid, liquid, and/or vapor) and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, static electricity, or other sources of ignition. They may explode and cause injury or death. Empty containers should be completely drained, properly closed, and promptly returned to a drum reconditioner or disposed of properly.

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

GENERAL CONSIDERATIONS:
Consider the potential hazards of this material (see Section 2), applicable exposure limits, job activities, and other substances in the work place when designing engineering controls and selecting personal protective equipment. If engineering controls or work practices are not adequate to prevent exposure to harmful levels of this material, the personal protective equipment listed below is recommended. The user should read and understand all instructions and limitations supplied with the equipment since protection is usually provided for a limited time or under certain circumstances.

ENGINEERING CONTROLS:
Use in a well-ventilated area.

PERSONAL PROTECTIVE EQUIPMENT
Eye/Face Protection: No special eye protection is normally required. Where splashing is possible, wear safety glasses with side shields as a good safety practice.
Skin Protection: No special protective clothing is normally required. Where splashing is possible, select protective clothing depending on operations conducted, physical requirements and other substances in the workplace. Suggested materials for protective gloves include: Neoprene, Nitrile Rubber, Silver Shield, Viton.
Respiratory Protection: No respiratory protection is normally required.
If user operations generate an oil mist, determine if airborne concentrations are below the occupational exposure limit for mineral oil mist. If not, wear an approved respirator that provides adequate protection from the measured concentrations of this material. For air-purifying respirators use a particulate cartridge.
Use a positive pressure air-supplying respirator in circumstances where air-purifying respirators may not provide adequate protection.

Occupational Exposure Limits:

Component	Agency	Form	TWA	STEL	Ceiling	Notation
Highly refined mineral oil (C15 - C50)	ACGIH	--	5 mg/m3	10 mg/m3	--	--
Highly refined mineral oil (C15 - C50)	OSHA Z-1	--	5 mg/m3	--	--	--

Consult local authorities for appropriate values.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Attention: the data below are typical values and do not constitute a specification.

Color: Brown
Physical State: Semi-solid
Odor: Petroleum odor
Odor Threshold: No data available
pH: Not Applicable
Vapor Pressure: No data available
Vapor Density (Air = 1): No data available
Initial Boiling Point: No data available
Solubility: Soluble in hydrocarbons; insoluble in water
Freezing Point: No data available
Melting Point: 175°C (347°F) (Minimum)
Specific Gravity: 0.90 @ 15.6°C (60.1°F) (Estimated)
Density: No data available
Viscosity: 57 mm2/s @ 40°C (104°F) (Minimum)
Evaporation Rate: Not Applicable
Decomposition temperature: No data available
Octanol/Water Partition Coefficient: No data available

FLAMMABLE PROPERTIES:
Flammability (solid, gas): No Data Available

Flashpoint: (Cleveland Open Cup) 185 °C (365 °F) (Minimum)
Autoignition: No data available
Flammability (Explosive) Limits (% by volume in air): Lower: Not Applicable Upper: Not Applicable

SECTION 10 STABILITY AND REACTIVITY

Reactivity: May react with strong acids or strong oxidizing agents, such as chlorates, nitrates, peroxides, etc.
Chemical Stability: This material is considered stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.
Incompatibility With Other Materials: Not applicable
Hazardous Decomposition Products: None known (None expected)
Hazardous Polymerization: Hazardous polymerization will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

Information on toxicological effects
Serious Eye Damage/Irritation: The eye irritation hazard is based on evaluation of data for similar materials.

Skin Corrosion/Irritation: The skin irritation hazard is based on evaluation of data for similar materials.

Skin Sensitization: The skin sensitization hazard is based on evaluation of data for similar materials.

Acute Dermal Toxicity: The acute dermal toxicity hazard is based on evaluation of data for similar materials.

Acute Oral Toxicity: The acute oral toxicity hazard is based on evaluation of data for similar materials.

Acute Inhalation Toxicity: The acute inhalation toxicity hazard is based on evaluation of data for similar materials.
Acute Toxicity Estimate: Not Determined

Germ Cell Mutagenicity: The hazard evaluation is based on data for components or a similar material.

Carcinogenicity: The hazard evaluation is based on data for components or a similar material.

Reproductive Toxicity: The hazard evaluation is based on data for components or a similar material.

Specific Target Organ Toxicity - Single Exposure: The hazard evaluation is based on data for components or a similar material.

Specific Target Organ Toxicity - Repeated Exposure: The hazard evaluation is based on data for components or a similar material.

ADDITIONAL TOXICOLOGY INFORMATION:

This product contains petroleum base oils which may be refined by various processes including severe solvent extraction, severe hydrocracking, or severe hydrotreating. None of the oils requires a cancer warning under the OSHA Hazard Communication Standard (29 CFR 1910.1200). These oils have not been listed in the National Toxicology Program (NTP) Annual Report nor have they been classified by the International Agency for Research on Cancer (IARC) as; carcinogenic to humans (Group 1), probably carcinogenic to humans (Group 2A), or possibly carcinogenic to humans (Group 2B).

These oils have not been classified by the American Conference of Governmental Industrial Hygienists (ACGIH) as: confirmed human carcinogen (A1), suspected human carcinogen (A2), or confirmed animal carcinogen with unknown relevance to humans (A3).

SECTION 12 ECOLOGICAL INFORMATION

ECOTOXICITY

This material is expected to be harmful to aquatic organisms and may cause long-term adverse effects in the aquatic environment.

The product has not been tested. The statement has been derived from the properties of the individual components.

MOBILITY

No data available.

PERSISTENCE AND DEGRADABILITY

This material is not expected to be readily biodegradable. The product has not been tested. The statement has been derived from products of a similar structure and composition.

POTENTIAL TO BIOACCUMULATE

Bioconcentration Factor: No data available.

Octanol/Water Partition Coefficient: No data available

SECTION 13 DISPOSAL CONSIDERATIONS

Use material for its intended purpose or recycle if possible. Oil collection services are available for used oil recycling or disposal. Place contaminated materials in containers and dispose of in a manner consistent with applicable regulations. Contact your sales representative or local environmental or health authorities for approved disposal or recycling methods.

SECTION 14 TRANSPORT INFORMATION

The description shown may not apply to all shipping situations. Consult 49CFR, or appropriate Dangerous Goods Regulations, for additional description requirements (e.g., technical name) and mode-specific or quantity-specific shipping requirements.

DOT Shipping Description: NOT REGULATED AS HAZARDOUS MATERIAL UNDER 49 CFR

IMO/IMDG Shipping Description: NOT REGULATED AS DANGEROUS GOODS FOR TRANSPORT UNDER THE IMDG CODE

ICAO/IATA Shipping Description: NOT REGULATED AS DANGEROUS GOODS FOR TRANSPORT UNDER ICAO

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC code:
Not applicable

SECTION 15 REGULATORY INFORMATION

EPCRA 311/312 CATEGORIES: Not applicable

REGULATORY LISTS SEARCHED:

01-1=IARC Group 1	03=EPCRA 313
01-2A=IARC Group 2A	04=CA Proposition 65
01-2B=IARC Group 2B	05=MA RTK
02=NTP Carcinogen	06=NJ RTK
	07=PA RTK

No components of this material were found on the regulatory lists above.

CHEMICAL INVENTORIES:
All components comply with the following chemical inventory requirements: AICS (Australia), DSL (Canada), ENCS (Japan), IECSC (China), KECI (Korea), TSCA (United States).

NEW JERSEY RTK CLASSIFICATION:
Under the New Jersey Right-to-Know Act L. 1983 Chapter 315 N.J.S.A. 34:5A-1 et. seq., the product is to be identified as follows: PETROLEUM OIL (Grease)

SECTION 16 OTHER INFORMATION

NFPA RATINGS: Health: 0 Flammability: 1 Reactivity: 0

HMIS RATINGS: Health: 0 Flammability: 1 Reactivity: 0
(0-Least, 1-Slight, 2-Moderate, 3-High, 4-Extreme, PPE:- Personal Protection Equipment Index recommendation, *- Chronic Effect Indicator). These values are obtained using the guidelines or published evaluations prepared by the National Fire Protection Association (NFPA) or the National Paint and Coating Association (for HMIS ratings).

REVISION STATEMENT: This revision updates the following sections of this Safety Data Sheet:
1,2,3,4,5,8,9,12,14,15,16

Revision Date: February 05, 2020

ABBREVIATIONS THAT MAY HAVE BEEN USED IN THIS DOCUMENT:

TLV - Threshold Limit Value	TWA - Time Weighted Average
STEL - Short-term Exposure Limit	PEL - Permissible Exposure Limit
GHS - Globally Harmonized System	CAS - Chemical Abstract Service Number
ACGIH - American Conference of Governmental Industrial Hygienists	IMO/IMDG - International Maritime Dangerous Goods Code
API - American Petroleum Institute	SDS - Safety Data Sheet
HMIS - Hazardous Materials Information System	NFPA - National Fire Protection Association (USA)
DOT - Department of Transportation (USA)	NTP - National Toxicology Program (USA)

IARC - International Agency for Research on Cancer	OSHA - Occupational Safety and Health Administration
NCEL - New Chemical Exposure Limit	EPA - Environmental Protection Agency
SCBA - Self-Contained Breathing Apparatus	

Prepared according to the 29 CFR 1910.1200 (2012) by Chevron Energy Technology Company, 6001 Bollinger Canyon Road, San Ramon, CA 94583.

The above information is based on the data of which we are aware and is believed to be correct as of the date hereof. Since this information may be applied under conditions beyond our control and with which we may be unfamiliar and since data made available subsequent to the date hereof may suggest modifications of the information, we do not assume any responsibility for the results of its use. This information is furnished upon condition that the person receiving it shall make his own determination of the suitability of the material for his particular purpose.

Safety Data Sheet

Mortar Mixes

Section 1: Identification

Product: Mortar Mixes

Synonyms: Type N Mortar, Type S Mortar, Type M Mortar, Pre-Blended Portland Cement/Lime Type N, Pre-Blended Portland Cement/Lime Type S

Product Use: Formulated for use in laying brick, block, or stone.

Manufacturer: **Mortar Technologies**, A Division of LYCON Inc.
4980 Wildlife Road
Hartford, WI 53027
Phone: 262-644-7401
Phone: 877-599-5090
Fax: 262-644-4011
Emergency Phone: 608-754-7701
www.lyconinc.com

Section 2: Hazard(s) Identification

GHS LABEL ELEMENTS:

Symbol(s)

Signal Word

Warning!

Hazard Statements

Harmful if inhaled.

Harmful if swallowed.

Harmful in contact with skin.

Causes severe skin burns and eye damage.

May cause an allergic skin reaction.

Causes damage to organs through prolonged or repeated exposure (lungs).

Harmful to aquatic life.

Precautionary Statements

Prevention

Do not breathe dust.

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

Wash thoroughly after handling.

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

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

Response

If inhaled: Remove to fresh air, seek medical attention if breathing becomes difficult or other symptoms do not subside.

If swallowed: Rinse mouth. Do NOT induce vomiting. If conscious, drink plenty or water. Immediately call a poison center or physician.

If on skin: Wash skin with cool water and a pH-neutral soap. Seek medical attention if irritation or inflammation develops or persists.

In the eyes: Immediately flush eye thoroughly with water for at least 15 minutes, including under the lid. Remove contact lenses, if worn. If irritation persists, seek medical attention.

Take off contaminated clothing and wash it before reuse.

Disposal

Dispose in accordance with State, Federal and Local regulations.

Safety Data Sheet

Mortar Mixes

Section 3: Composition/Information on Ingredients

Component	Percent* (By Weight)	CAS Number	OSHA PEL – TWA (mg/m^3)	ACGIH TLV – TWA (mg/m^3)
Portland Cement	7-75	65997-15-1	15 (T); 5 (R)	1 (R)
Calcium Carbonate	3-35	1317-65-3	15 (T); 5 (R)	3 (R); 10 (T)
Calcium Hydroxide	0-20	1305-62-0	15 (T)	5 (T)
Crystalline Silica (Sand)	15-80	14808-60-7	[(10) / (%SiO_2+2)] (R); [(30) / (%SiO_2+2)] (T)	0.025 (R)
Slag	0.5-10	65996-69-2	15(T); 5(R)	10(T); 3(R)
Magnesium Oxide	0-4	1309-48-4	15 (T)	10 (T)
Calcium Oxide	0-1	1305-78-8	5 (T)	2 (T)

(T) = Total Particulate (R) = Respirable Particulate * Varies on Type of Mix

General Product Information

Trace Elements: Mortar Mixes are made from materials mined from the earth. Trace amounts of naturally occurring elements might be detected during chemical analysis of these materials.

Section 4: First-Aid Measures

Eyes

Immediately flush eyes thoroughly with water. Continue flushing eyes for at least 15 minutes, including under the lids, to remove all particles. Remove contact lens if wearing. Call physician if irritation persists.

Skin

Wash skin with cool water and pH-neutral soap or a mild detergent intended to be used on the skin. Seek medical attention if irritation is caused by prolonged exposure to wet mortar or prolonged wet skin exposure to the dry ingredients in the Mortar Mix.

Ingestion

Do NOT induce vomiting. Rinse mouth. If conscious, give plenty of water to drink and call a physician immediately.

Inhalation

Remove to fresh air. Seek medical attention if coughing and other symptoms do not subside. Inhalation of large amounts of dry ingredients in the Mortar Mix requires immediate medical attention.

Section 5: Fire-Fighting Measures

General Fire Hazards

See Section 9 for Flammability Properties.

Non-Combustible

Hazardous Combustion Products

None

Extinguishing Media

Use appropriate extinguishing media for surrounding fire.

Unsuitable Extinguishing Media

None

Fire Fighting Equipment/Instructions

Avoid breathing dust.
Wet cement is caustic.
Firefighters should wear full protective gear.

Section 6: Accidental Release Measures

General

Place spilled material into a container. Avoid actions that cause the Mortar Mix to become airborne. Avoid inhalation of

dust and contact with skin. Wear appropriate protective equipment as described in Section 8. Scrape wet mortar and place in container. Allow material to dry or solidify before disposal. Do not wash mortar down sewage and drainage systems or into bodies of water (e.g. streams).

Waste Disposal Method

Dispose of Mortar Mix according to State, Federal and Local regulations.

Section 7: Handling and Storage

General

Keep bulk and bagged Mortar Mixes dry until used. Stack bagged material in a secure manner to prevent falling. Bagged Mortar Mixes are heavy and pose risks such as sprains and strains to the back, arms, shoulders, and legs during lifting and mixing. Handle with care and use appropriate control measures.

Engulfment hazard. To prevent burial or suffocation, do not enter a confined space, such as a silo, bin, bulk truck, or other storage container or vessel that stores or contain Mortar Mixes. Mortar can build-up or adhere to the walls of a confined space. The mortar can release, collapse or fall unexpectedly.

Usage

Cutting, crushing or grinding hardened mortar 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.

Housekeeping

Avoid actions that cause dust to become airborne during clean-up such as dry sweeping or using compressed air. Use HEPA vacuum or thoroughly wet with water to clean-up dust. Use PPE described in Section 8. Avoid any dust buildup by frequent cleaning of the storage area.

Clothing

Promptly remove and launder clothing that is dusty or wet with mortar. Thoroughly wash skin after exposure to dust or wet mortar.

Section 8: Exposure Controls/Personal Protection

Engineering Controls

Use local exhaust or general dilution ventilation or other suppression method to maintain dust levels below exposure limits.

Respiratory Protection

Under ordinary conditions no respirator protection is required. A NIOSH approved dust mask that is properly fitted and is in good working condition is recommended in poorly ventilated areas or when exposed to dust above exposure limits.

Eye Protection

Wear ANSI approved safety glasses with side shields or safety goggles when handling dust or wet mortar to prevent contact with eyes. Wearing contact lenses when using mortar, under dusty conditions, is not recommended.

Skin Protection

Wear gloves, boots and protective clothing (long sleeve shirt and pants) impervious to water to prevent skin contact. Do not rely on barrier creams, in place of impervious gloves. Remove clothing and protective equipment that becomes saturated with wet mortar and immediately wash exposed areas.

Hygienic Practices

Wash dust exposed skin with soap and water before eating, drinking, smoking and using toilet facilities. Shower with soap and water after completion of work.

Section 9: Physical and Chemical Properties

Physical State:	Solid (powder)	**Evaporation Rate:**	NA
Appearance:	Gray, buff or white	**pH (in water):**	12-13
Odor:	None	**Boiling Point:**	NA
Vapor Pressure:	NA	**Melting Point:**	NA
Vapor Density	NA	**Viscosity:**	NA
Specific Gravity:	2.60 to 3.15	**Solubility in Water:**	Slightly
Ignition:	Non-Flammable	**Flash point:**	NA

Safety Data Sheet

Mortar Mixes

Section 10: Stability and Reactivity

Stability

Stable. Keep dry until use. Cement reacts with water, resulting in a slight release of heat, depending on the amount of lime (Calcium oxide) present. Avoid contact with incompatible materials.

Incompatibility

Wet cement is alkaline and is incompatible with acids, ammonium salts and aluminum metal. Cement dissolves in hydrofluoric acid, producing corrosive silicon tetrafluoride gas. Cement reacts with water to form silicates and calcium hydroxide. Silicates react with powerful oxidizers such as fluorine, boron trifluoride, chlorine trifluoride, manganese trifluoride, and oxygen difluoride.

Hazardous Polymerization None. **Hazardous Decomposition** None.

Conditions to Avoid Moisture, product will harden.

Section 11: Toxicological Information

Likely Routes of Exposure:

Skin contact, skin absorption, eye contact, inhalation, and ingestion.

Potential Health Effects: Skin Corrosion

Discomfort or pain cannot be relied upon to alert a person to a hazardous skin exposure. Consequently, the only effective means of avoiding skin injury or illness involves minimizing skin contact, particularly contact with wet Mortar Mixes. Exposed persons may not feel discomfort until hours after the exposure has ended and significant injury has occurred. Exposure during the handling or mixing of the dry ingredients in Mortar Mixes may cause drying of the skin with consequent mild irritation or more significant effects attributable to aggravation of other conditions. Exposure to wet Mortar Mixes may cause more severe skin effects including thickening, cracking or fissuring of the skin. Prolonged exposure can cause severe skin damage in the form of (caustic) chemical burns, including third degree burns.

Potential Health Effects: Eye Damage

Exposure to airborne dust during the sawing of hardened mortar or handling/mixing of the dry ingredients in Mortar Mixes may cause immediate or delayed irritation or inflammation. Eye contact by splashes of wet mortar may cause effects ranging from moderate eye irritation to chemical burns. Such exposures require immediate first aid (see Section 4) and medical attention to prevent significant damage to the eye.

Potential Health Effects: Ingestion

Although inadvertent ingestion of small quantities of wet mortar mix or its dry ingredients are not known to be harmful, accidental ingestion of larger quantities can be harmful and requires immediate medical attention.

Potential Health Effects: Inhalation (Acute)

The ingredients in Mortar Mixes contain crystalline silica. Exposure to these ingredients in excess of the applicable TLV or PEL may cause or aggravate other lung conditions. Exposure to the dry ingredients in Mortar Mixes may cause irritation to the moist mucous membranes of the nose, throat, and upper respiratory system.

Carcinogenicity

General Product Information (Chronic)

May cause cancer.

Crystalline Silica: Exposures to respirable crystalline silica are not expected during the normal use of this product. Prolonged and repeated exposure to airborne free respirable crystalline silica can result in lung disease and/or lung cancer. IARC states that crystalline silica in the form of quartz or cristobalite from occupational sources is carcinogenic to humans (Group 1).

Component Carcinogenicity

Cement, portland, chemicals

ACGIH: Not Classifiable as a Human Carcinogen. However, cement contains trace amounts of crystalline silica and hexavalent chromium which are classified by the IARC and NTP as known human carcinogens.

Crystalline Silica, Quartz

ACGIH: Suspected Human Carcinogen

NIOSH: Potential Occupational Carcinogen

NTP: Known Human Carcinogen

IARC: Monograph 100C [2012] Crystalline silica in the form of quartz or cristobalite is carcinogenic to humans (Group 1)

Reproductive Toxicity

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

Specific Target organ General Toxicity: Single Exposure

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

Specific Target Organ General Toxicity: Repeated Exposure

Causes damage to organs through prolonged or repeated exposure (lungs).

Aspiration Respiratory Organ hazard

This product is not reported to have any aspiration hazards.

Section 12: Ecological Information (non-mandatory)

Seek information from appropriate regulatory agencies.

Section 13: Disposal Considerations (non-mandatory)

Waste Disposal Instructions

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

Disposal of Contaminated Container or Packaging

Dispose of contents/container in accordance with State, Federal and Local regulations.

Section 14: Transport Information (non-mandatory)

This product is not classified as a Hazardous Material under U.S. DOT regulations.

Section 15: Regulatory Information (non-mandatory)

OSHA/MSHA Hazard Communication

This product is considered by OSHA/MSHA to be a hazardous chemical and should be included in the employer's hazard communication program.

CERCLA/SUPERFUND

This product is not listed as a CERCLA hazardous substance.

Section 16: Other Information

Abbreviations

PPE	Personal Protective Equipment	NA	Not Applicable
ACGIH	American Conference of Governmental Industrial Hygienists	NIOSH	National Institute for Occupational Safety and Health
DOT	U.S. Department of Transportation	NTP	National Toxicology Program
HMIS	Hazardous Materials Identification System	PEL	Permissible Exposure Limit
IARC	International Agency for Research on Cancer	OSHA	Occupational Safety and Health Administration
MSHA	Mine Safety and Health Administration	pH	Negative log of hydrogen ions
TLV	Threshold Limit Value		

HMIS: Health-4, Flammability-, Reactivity-
HMIS Definitions: 4-Minimal, 3-Moderate, 2-Serious, 1-Extreme, Blank-No Hazard
Protective Equipment: Safety glasses, gloves, impervious clothing, respirator recommended

The information in this Safety Data Sheet concerning health hazard data was obtained from sources believed to be reliable. However, the information is provided without any representation or warranty, expressed or implied, regarding its accuracy or correctness. Once this product leaves or facility, the conditions or methods of handling, storage, use and disposal of the product are beyond LYCON Inc.'s control and may be beyond our knowledge. For this and other reasons, LYCON Inc. does not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product.

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

1.1 Product identifier

Product name **MORTAR / REPAIR MORTAR**

Synonym(s) BRICKIES MORTAR MIX • EZILINE MORTAR PART A • MASCOT ENGINEERING PREMIX • MORTAR • QUICK SET SAND AND CEMENT • SAND AND CEMENT MIX • SUPER TOUGH PATCH MORTAR • UNI-GROUT • UNI-RENDER

1.2 Uses and uses advised against

Use(s) MORTAR

1.3 Details of the supplier of the product

Supplier name **BORAL CONSTRUCTION MATERIALS LTD.**

Address Level 3, 40 Mount Street, Nth Sydney, NSW, 2060, AUSTRALIA

Telephone (02) 9220 6300

Email sds@rmt.com.au

Website http://www.boral.com.au

1.4 Emergency telephone number(s)

Emergency 1800 555 477 (8am – 5pm WST)

Emergency (A/H) 13 11 26 (Poisons Information Centre)

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

CLASSIFIED AS HAZARDOUS ACCORDING TO AUSTRALIAN WHS REGULATIONS

GHS classification(s) Specific Target Organ Systemic Toxicity (Repeated Exposure): Category 2
Skin Corrosion/Irritation: Category 2
Specific Target Organ Systemic Toxicity (Single Exposure): Category 3
Serious Eye Damage / Eye Irritation: Category 2A

2.2 Label elements

Signal word **WARNING**

Pictogram(s)

Hazard statement(s)

H315	Causes skin irritation.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
H373	May cause damage to organs through prolonged or repeated exposure.

Prevention statement(s)

P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P264	Wash thoroughly after handling.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves/protective clothing/eye protection/face protection.

Response statement(s)

P302 + P352	IF ON SKIN: Wash with plenty of soap and water.
P304 + P340	IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P314	Get medical advice/attention if you feel unwell.
P321	Specific treatment is advised - see first aid instructions.
P362	Take off contaminated clothing and wash before re-use.

Storage statement(s)

P403 + P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.

Disposal statement(s)

P501	Dispose of contents/container in accordance with relevant regulations.

2.3 Other hazards

No information provided.

3. COMPOSITION/ INFORMATION ON INGREDIENTS

3.1 Substances / Mixtures

Ingredient	CAS Number	EC Number	Content
QUARTZ (CRYSTALLINE SILICA)	14808-60-7	238-878-4	<80%
CALCIUM HYDROXIDE	1305-62-0	215-137-3	<10%
HEXAVALENT CHROMIUM	18540-29-9	-	<0.002%
PORTLAND CEMENT	65997-15-1	266-043-4	<60%
BLAST FURNACE SLAG	65996-69-2	-	<30%
FLY ASH	68131-74-8	268-627-4	<30%
ACRYLATE COPOLYMER(S)	Not Available	Not Available	<10%
ADDITIVE(S)	-	-	<10%
CALCIUM ALUMINATE CEMENT	65997-16-2	266-045-5	<10%

Ingredient Notes

1. Depending upon the source material, may contain varying amounts of respirable quartz (crystalline silica).
2. Chromium VI is a trace impurity in Portland Cement (< 20 ppm).

4. FIRST AID MEASURES

4.1 Description of first aid measures

Eye If in eyes, hold eyelids apart and flush continuously with running water. Continue flushing until advised to stop by a Poisons Information Centre, a doctor, or for at least 15 minutes.

Inhalation If inhaled, remove from contaminated area. Apply artificial respiration if not breathing.

Skin If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water. Continue flushing with water until advised to stop by a Poisons Information Centre or a doctor.

Ingestion For advice, contact a Poison Information Centre on 13 11 26 (Australia Wide) or a doctor (at once). If swallowed, do not induce vomiting.

First aid facilities Eye wash facilities and safety shower should be available.

4.2 Most important symptoms and effects, both acute and delayed

Irritating to the eyes, skin and respiratory system. Chronic over exposure to silica quartz dust may result in silicosis (lung disease). Principal symptoms of silicosis are coughing and breathlessness. Some individuals may exhibit an allergic response upon exposure to this product, possibly due to the trace amounts of chromium present. Crystalline silica and hexavalent chromium compounds are classified as carcinogenic to humans (IARC Group 1).

4.3 Immediate medical attention and special treatment needed

Treat symptomatically.

5. FIRE FIGHTING MEASURES

5.1 Extinguishing media
Use an extinguishing agent suitable for the surrounding fire.

5.2 Special hazards arising from the substance or mixture
Non flammable. May evolve toxic gases if strongly heated.

5.3 Advice for firefighters
No fire or explosion hazard exists.

5.4 Hazchem code
None allocated.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures
Wear Personal Protective Equipment (PPE) as detailed in section 8 of the SDS. Clear area of all unprotected personnel. Contact emergency services where appropriate.

6.2 Environmental precautions
Prevent product from entering drains and waterways.

6.3 Methods of cleaning up
Contain spillage, then collect and place in suitable containers for reuse or disposal. Avoid generating dust.

6.4 Reference to other sections
See Sections 8 and 13 for exposure controls and disposal.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling
Before use carefully read the product label. Use of safe work practices are recommended to avoid eye or skin contact and inhalation. Observe good personal hygiene, including washing hands before eating. Prohibit eating, drinking and smoking in contaminated areas.

7.2 Conditions for safe storage, including any incompatibilities
Store in a cool, dry, well ventilated area, removed from moisture, incompatible substances and foodstuffs. Ensure packages are adequately labelled, protected from physical damage and sealed when not in use.

7.3 Specific end use(s)
No information provided.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters
Exposure standards

Ingredient	Reference	TWA		STEL	
		ppm	mg/m³	ppm	mg/m³
Calcium hydroxide	SWA (AUS)	--	5	--	--
Chromium (VI) compounds (as Cr)	SWA (AUS)	--	0.05	--	--
Portland Cement	SWA (AUS)	--	10	--	--
Quartz (respirable dust)	SWA (AUS)	--	0.1	--	--

Biological limits

No biological limit values have been entered for this product.

8.2 Exposure controls
Engineering controls Avoid inhalation. Use in well ventilated areas. Where an inhalation risk exists, mechanical extraction ventilation is recommended. Maintain dust levels below the recommended exposure standard.

PPE

Eye / Face	Wear safety glasses or dust-proof goggles when handling material to avoid contact with eyes.
Hands	Wear PVC, rubber or cotton gloves when handling material to prevent skin contact.
Body	Wear long sleeved shirt and full-length trousers.
Respiratory	Where an inhalation risk exists wear a Class P1 (Particulate) respirator, dependent on a site specific risk assessment.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance	GREY TO OFF-WHITE POWDER
Odour	SLIGHT SWEET ODOUR
Flammability	NON FLAMMABLE
Flash point	NOT RELEVANT
Boiling point	NOT AVAILABLE
Melting point	NOT AVAILABLE
Evaporation rate	NOT AVAILABLE
pH	11 to 13
Vapour density	NOT AVAILABLE
Specific gravity	NOT AVAILABLE
Solubility (water)	SLIGHTLY SOLUBLE
Vapour pressure	NOT AVAILABLE
Upper explosion limit	NOT RELEVANT
Lower explosion limit	NOT RELEVANT
Partition coefficient	NOT AVAILABLE
Autoignition temperature	NOT AVAILABLE
Decomposition temperature	NOT AVAILABLE
Viscosity	NOT AVAILABLE
Explosive properties	NOT AVAILABLE
Oxidising properties	NOT AVAILABLE
Odour threshold	NOT AVAILABLE

9.2 Other information

Density	1700 kg/m³ to 1900 kg/m³

10. STABILITY AND REACTIVITY

10.1 Reactivity

Carefully review all information provided in sections 10.2 to 10.6.

10.2 Chemical stability

Stable under recommended conditions of storage.

10.3 Possibility of hazardous reactions

Hazardous polymerization is not expected to occur.

10.4 Conditions to avoid

Avoid heat, sparks, open flames and other ignition sources.

10.5 Incompatible materials

Incompatible with oxidising agents (e.g. hypochlorites), ethanol, acids (e.g. hydrofluoric acid) and interhalogens (e.g. chlorine trifluoride). Water contact may increase product temperature 2°C to 3°C.

10.6 Hazardous decomposition products

May evolve toxic gases if heated to decomposition.

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity

Information available for the product:
No known toxicity data is available for this product. Based on available data, the classification criteria are not met.

Information available for the ingredient(s):

Ingredient	Oral Toxicity (LD50)	Dermal Toxicity (LD50)	Inhalation Toxicity (LC50)
CALCIUM HYDROXIDE	7300 mg/kg (mouse)	--	--

Skin Irritating to the skin. Contact with powder or wetted form may result in irritation, rash and dermatitis.

Eye Irritating to the eyes. Contact may result in irritation, lacrimation, pain, redness, corneal burns and possible permanent damage.

Sensitization This product is not classified as a skin or respiratory sensitiser. However, some individuals may exhibit an allergic response upon exposure to cement, possibly due to trace amounts of chromium.

Mutagenicity Insufficient data available to classify as a mutagen.

Carcinogenicity This product contains crystalline silica and trace amounts of hexavalent chromium compounds which are classified as carcinogenic to humans (IARC Group 1). However, there is sufficient information to conclude that the relative risk of lung cancer from exposure to crystalline silica is increased in persons with silicosis. Therefore preventing the onset of silicosis will also reduce the cancer risk.

Reproductive Insufficient data available to classify as a reproductive toxin.

STOT – single exposure Irritating to the respiratory system. Over exposure may result in irritation of the nose and throat, with coughing. High level exposure may result in breathing difficulties.

STOT – repeated exposure Repeated exposure to respirable silica may result in pulmonary fibrosis (silicosis). Silicosis is a fibronodular lung disease caused deposition in the lungs of fine respirable particles of crystalline silica. Principal symptoms of silicosis are coughing and breathlessness. In the wet state, the likelihood of an inhalation hazard is reduced.

Aspiration This product is a solid and aspiration hazards are not expected to occur.

12. ECOLOGICAL INFORMATION

12.1 Toxicity

May be harmful to the aquatic environment due to the alkaline nature of the product. This product is non-toxic to aquatic organisms when present as a cured solid.

12.2 Persistence and degradability

Product is persistent and would have a low degradability.

12.3 Bioaccumulative potential

No data were identified for this substance.

12.4 Mobility in soil

A low mobility would be expected in a landfill situation.

12.5 Other adverse effects

Avoid release to drains and waterways.

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Waste disposal Reuse or recycle where possible. Alternatively, ensure product is covered with moist soil to prevent dust generation and dispose of to an approved landfill site. Contact the manufacturer/supplier for additional information (if required).

Legislation Dispose of in accordance with relevant local legislation.

14. TRANSPORT INFORMATION

NOT CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE, IMDG OR IATA

	LAND TRANSPORT (ADG)	SEA TRANSPORT (IMDG / IMO)	AIR TRANSPORT (IATA / ICAO)
14.1 UN Number	None Allocated	None Allocated	None Allocated
14.2 Proper Shipping Name	None Allocated	None Allocated	None Allocated
14.3 Transport hazard class	None Allocated	None Allocated	None Allocated
14.4 Packing Group	None Allocated	None Allocated	None Allocated

14.5 Environmental hazards No information provided

14.6 Special precautions for user

Hazchem code None Allocated

15. REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

Poison schedule A poison schedule number has not been allocated to this product using the criteria in the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).

Classifications Safework Australia criteria is based on the Globally Harmonised System (GHS) of Classification and Labelling of Chemicals.

The classifications and phrases listed below are based on the Approved Criteria for Classifying Hazardous Substances [NOHSC: 1008(2004)].

Hazard codes

Xi	Irritant
Xn	Harmful

Risk phrases

R36/37/38	Irritating to eyes, respiratory system and skin.
R48/20	Harmful: danger of serious damage to health by prolonged exposure through inhalation.

Safety phrases

S22	Do not breathe dust.
S24/25	Avoid contact with skin and eyes.
S36/37	Wear suitable protective clothing and gloves.

Inventory listing(s) **AUSTRALIA: AICS (Australian Inventory of Chemical Substances)**
All components are listed on AICS, or are exempt.

16. OTHER INFORMATION

Additional information

CEMENT CONTACT DERMATITIS: Individuals using wet cement, mortar, grout or concrete could be at risk of developing cement dermatitis. Symptoms of exposure include itchy, tender, swollen, hot, cracked or blistering skin with the potential for sensitisation. The dermatitis is due to the presence of soluble (hexavalent) chromium.

RESPIRATORS: In general the use of respirators should be limited and engineering controls employed to avoid exposure. If respiratory equipment must be worn ensure correct respirator selection and training is undertaken. Remember that some respirators may be extremely uncomfortable when used for long periods. The use of air powered or air supplied respirators should be considered where prolonged or repeated use is necessary.

PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:
The recommendation for protective equipment contained within this report is provided as a guide only. Factors such as method of application, working environment, quantity used, product concentration and the availability of engineering controls should be considered before final selection of personal protective equipment is made.

HEALTH EFFECTS FROM EXPOSURE:
It should be noted that the effects from exposure to this product will depend on several factors including: frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application. Given that it is impractical to prepare a ChemAlert report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

Abbreviations

ACGIH	American Conference of Governmental Industrial Hygienists
CAS #	Chemical Abstract Service number - used to uniquely identify chemical compounds
CNS	Central Nervous System
EC No.	EC No - European Community Number
EMS	Emergency Schedules (Emergency Procedures for Ships Carrying Dangerous Goods)
GHS	Globally Harmonized System
GTEPG	Group Text Emergency Procedure Guide
IARC	International Agency for Research on Cancer
LC50	Lethal Concentration, 50% / Median Lethal Concentration
LD50	Lethal Dose, 50% / Median Lethal Dose
mg/m^3	Milligrams per Cubic Metre
OEL	Occupational Exposure Limit
pH	relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline).
ppm	Parts Per Million
STEL	Short-Term Exposure Limit
STOT-RE	Specific target organ toxicity (repeated exposure)
STOT-SE	Specific target organ toxicity (single exposure)
SUSMP	Standard for the Uniform Scheduling of Medicines and Poisons
SWA	Safe Work Australia
TLV	Threshold Limit Value
TWA	Time Weighted Average

Report status

This document has been compiled by RMT on behalf of the manufacturer, importer or supplier of the product and serves as their Safety Data Sheet ('SDS').

The information presented herein is based on data considered to be accurate as of the date of preparation of this SDS. However, no warranty or representation, express or implied, is made as to the accuracy or completeness of the foregoing data and safety information, nor is any authorisation given or implied to practice any patented invention without a licence. In addition, no responsibility can be assume by the vendor for any damage or injury resulting from abnormal use, without a risk assessment for safe use, from any failure to adhere to recommended practices or from any hazards inherent in the nature of the products.

This Safety Data Sheet (SDS) applies only to the formulated material as supplied by Boral Cement. It does not apply where the formulation has been altered. In this case a new SDS may be required to reflect the modified material. Contact Boral Cement for further information.

Printed documents are uncontrolled. Refer to www.boral.com.au regularly for a more recent copy of the SDS where it exists.

Prepared by

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[End of SDS]

Safety Data Sheet

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

Industrial Gear Lube 680

Product Use: Industrial EP gear lubricant

Company Identification
Motor Oil
2250 Arthur Avenue
Elk Grove Village, IL 60007
www.motoroilinc.com

Transportation Emergency Response/ Health Emergency
(847) 956-7550
Product Information
email : salesdept@motoroilinc.com
Product Information: 1 (847) 956-7550

SECTION 2 HAZARDS IDENTIFICATION

CLASSIFICATION: Not classified as hazardous according to 29 CFR 1910.1200 (2012).

HAZARDS NOT OTHERWISE CLASSIFIED: Not Applicable

SECTION 3 COMPOSITION/ INFORMATION ON INGREDIENTS

COMPONENTS	CAS NUMBER	AMOUNT
Highly refined mineral oil (C15 - C50)	Mixture	70 - 99 % weight

SECTION 4 FIRST AID MEASURES

Description of first aid measures
Eye: No specific first aid measures are required. As a precaution, remove contact lenses, if worn, and flush eyes with water.
Skin: No specific first aid measures are required. As a precaution, remove clothing and shoes if contaminated. To remove the material from skin, use soap and water. Discard contaminated clothing and shoes or thoroughly clean before reuse.
Ingestion: No specific first aid measures are required. Do not induce vomiting. As a precaution, get medical advice.
Inhalation: No specific first aid measures are required. If exposed to excessive levels of material in the air, move the exposed person to fresh air. Get medical attention if coughing or respiratory discomfort occurs.

Most important symptoms and effects, both acute and delayed
IMMEDIATE SYMPTOMS AND HEALTH EFFECTS
Eye: Not expected to cause prolonged or significant eye irritation.
Skin: Contact with the skin is not expected to cause prolonged or significant irritation. Contact with the skin is not expected to cause an allergic skin response. Not expected to be harmful to internal organs if absorbed through the skin. High-Pressure Equipment Information: Accidental high-velocity injection under the skin of materials of this type may result in serious injury. Seek medical attention at once should an accident like this occur. The initial wound at the injection site may not appear to be serious at first; but, if left untreated, could result in disfigurement or amputation of the affected part.

Ingestion: Not expected to be harmful if swallowed.
Inhalation: Not expected to be harmful if inhaled. Contains a petroleum-based mineral oil. May cause respiratory irritation or other pulmonary effects following prolonged or repeated inhalation of oil mist at airborne levels above the recommended mineral oil mist exposure limit. Symptoms of respiratory irritation may include coughing and difficulty breathing.

DELAYED OR OTHER SYMPTOMS AND HEALTH EFFECTS: Not classified.

Indication of any immediate medical attention and special treatment needed
Note to Physicians: In an accident involving high-pressure equipment, this product may be injected under the skin. Such an accident may result in a small, sometimes bloodless, puncture wound. However, because of its driving force, material injected into a fingertip can be deposited into the palm of the hand. Within 24 hours, there is usually a great deal of swelling, discoloration, and intense throbbing pain. Immediate treatment at a surgical emergency center is recommended.

SECTION 5 FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA: Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames.

PROTECTION OF FIRE FIGHTERS:
Fire Fighting Instructions: This material will burn although it is not easily ignited. See Section 7 for proper handling and storage. For fires involving this material, do not enter any enclosed or confined fire space without proper protective equipment, including self-contained breathing apparatus.
Combustion Products: Highly dependent on combustion conditions. A complex mixture of airborne solids, liquids, and gases including carbon monoxide, carbon dioxide, and unidentified organic compounds will be evolved when this material undergoes combustion.

SECTION 6 ACCIDENTAL RELEASE MEASURES

Protective Measures: Eliminate all sources of ignition in vicinity of spilled material.
Spill Management: Stop the source of the release if you can do it without risk. Contain release to prevent further contamination of soil, surface water or groundwater. Clean up spill as soon as possible, observing precautions in Exposure Controls/Personal Protection. Use appropriate techniques such as applying non-combustible absorbent materials or pumping. Where feasible and appropriate, remove contaminated soil. Place contaminated materials in disposable containers and dispose of in a manner consistent with applicable regulations.
Reporting: Report spills to local authorities as appropriate or required.

SECTION 7 HANDLING AND STORAGE

General Handling Information: Avoid contaminating soil or releasing this material into sewage and drainage systems and bodies of water.
Static Hazard: Electrostatic charge may accumulate and create a hazardous condition when handling this material. To minimize this hazard, bonding and grounding may be necessary but may not, by themselves, be sufficient. Review all operations which have the potential of generating and accumulating an electrostatic charge and/or a flammable atmosphere (including tank and container filling, splash filling, tank cleaning, sampling, gauging, switch loading, filtering, mixing, agitation, and vacuum truck operations) and use appropriate mitigating procedures. For more information, refer to OSHA Standard 29 CFR 1910.106, 'Flammable and Combustible Liquids', National Fire Protection Association (NFPA 77, 'Recommended Practice on Static Electricity', and/or the American Petroleum Institute (API) Recommended Practice 2003, 'Protection Against Ignitions Arising Out of Static, Lightning, and Stray Currents'.
Container Warnings: Container is not designed to contain pressure. Do not use pressure to empty container or it may rupture with explosive force. Empty containers retain product residue (solid, liquid, and/or vapor) and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, static electricity, or other sources of ignition. They may explode and cause injury or death. Empty containers should be completely drained, properly closed, and promptly returned to a drum reconditioner or disposed of properly.

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

GENERAL CONSIDERATIONS:
Consider the potential hazards of this material (see Section 3), applicable exposure limits, job activities, and other substances in the work place when designing engineering controls and selecting personal protective equipment. If engineering controls or work practices are not adequate to prevent exposure to harmful levels of this material, the personal protective equipment listed below is recommended. The user should read and understand all instructions and limitations supplied with the equipment since protection is usually provided for a limited time or under certain circumstances.

ENGINEERING CONTROLS:
Use in a well-ventilated area.

PERSONAL PROTECTIVE EQUIPMENT
Eye/Face Protection: No special eye protection is normally required. Where splashing is possible, wear safety glasses with side shields as a good safety practice.
Skin Protection: No special protective clothing is normally required. Where splashing is possible, select protective clothing depending on operations conducted, physical requirements and other substances in the workplace. Suggested materials for protective gloves include: Nitrile Rubber, Silver Shield, Viton.
Respiratory Protection: No respiratory protection is normally required.
If user operations generate an oil mist, determine if airborne concentrations are below the occupational exposure limit for mineral oil mist. If not, wear an approved respirator that provides adequate protection from the measured concentrations of this material. For air-purifying respirators use a particulate cartridge. Use a positive pressure air-supplying respirator in circumstances where air-purifying respirators may not provide adequate protection.

Occupational Exposure Limits:

Component	Agency	TWA	STEL	Ceiling	Notation
Highly refined mineral oil (C15 - C50)	ACGIH	5 mg/m3	10 mg/m3	—-	—-
Highly refined mineral oil (C15 - C50)	OSHA Z-1	5 mg/m3	—-	—-	—-

Consult local authorities for appropriate values.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Attention: the data below are typical values and do not constitute a specification.

Color: Amber
Physical State: Liquid
Odor: Petroleum odor
Odor Threshold: Not Determined
pH: Essentially neutral
Vapor Pressure: Not Determined
Vapor Density (Air = 1): Greater than 5
Initial Boiling Point: 600°F
Solubility: Negligible
Freezing Point: Not Applicable
Melting Point: 10°C
Specific Gravity: 0.91
Viscosity: Approximately 680 cSt @ 40°C
Evaporation Rate: No data available
Decomposition temperature: No Data Available
Octanol/Water Partition Coefficient: No data available

FLAMMABLE PROPERTIES:
Flammability (solid, gas): No Data Available

Flashpoint: (Cleveland Open Cup) 560 °F
Autoignition: Not Determined
Flammability (Explosive) Limits (% by volume in air): Lower: Not Determined Upper: Not Determined

SECTION 10 STABILITY AND REACTIVITY

Reactivity: May react with strong acids or strong oxidizing agents, such as chlorates, nitrates, peroxides, etc.
Chemical Stability: This material is considered stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.
Incompatibility With Other Materials: Not applicable
Hazardous Decomposition Products: None known (None expected)
Hazardous Polymerization: Hazardous polymerization will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

Information on toxicological effects
Serious Eye Damage/Irritation: The eye irritation hazard is based on evaluation of data for product components.

Skin Corrosion/Irritation: The skin irritation hazard is based on evaluation of data for product components.

Skin Sensitization: The skin sensitization hazard is based on evaluation of data for product components.

Acute Dermal Toxicity: The acute dermal toxicity hazard is based on evaluation of data for product components.

Acute Oral Toxicity: The acute oral toxicity hazard is based on evaluation of data for product components. components.

Acute Inhalation Toxicity: The acute inhalation toxicity hazard is based on evaluation of data for product components.

Acute Toxicity Estimate: Not Determined

Germ Cell Mutagenicity: The hazard evaluation is based on data for components or a similar material.

Carcinogenicity: The hazard evaluation is based on data for components or a similar material.

Reproductive Toxicity: The hazard evaluation is based on data for components or a similar material.

Specific Target Organ Toxicity - Single Exposure: The hazard evaluation is based on data for components or a similar material.

Specific Target Organ Toxicity - Repeated Exposure: The hazard evaluation is based on data for components or a similar material.

ADDITIONAL TOXICOLOGY INFORMATION:
This product contains petroleum base oils which may be refined by various processes including severe solvent extraction, severe hydrocracking, or severe hydrotreating. None of the oils requires a cancer warning under the OSHA Hazard Communication Standard (29 CFR 1910.1200). These oils have not been listed in the National Toxicology Program (NTP) Annual Report nor have they been classified by the International Agency for Research on Cancer (IARC) as; carcinogenic to humans (Group 1), probably carcinogenic to humans (Group 2A), or possibly carcinogenic to humans (Group 2B). These oils have not been classified by the American Conference of Governmental Industrial Hygienists (ACGIH) as: confirmed human carcinogen (A1), suspected human carcinogen (A2), or confirmed animal carcinogen with unknown relevance to humans (A3).

SECTION 12 ECOLOGICAL INFORMATION

ECOTOXICITY
This material is not expected to be harmful to aquatic organisms. The product has not been tested. The statement has been derived from the properties of the individual components.

MOBILITY
No data available.

PERSISTENCE AND DEGRADABILITY
This material is not expected to be readily biodegradable. The biodegradability of this material is based on an evaluation of data for the components or a similar material. The product has not been tested. The statement has been derived from the properties of the individual components.

POTENTIAL TO BIOACCUMULATE
Bioconcentration Factor: No data available.
Octanol/Water Partition Coefficient: No data available

SECTION 13 DISPOAL CONSIDERATIONS

Use material for its intended purpose or recycle if possible. Oil collection services are available for used oil recycling or disposal. Place contaminated materials in containers and dispose of in a manner consistent with applicable regulations. Contact your sales representative or local environmental or health authorities for approved disposal or recycling methods.

SECTION 14 TRANSPORT INFORMATION

The description shown may not apply to all shipping situations. Consult 49CFR, or appropriate Dangerous Goods Regulations, for additional description requirements (e.g., technical name) and mode-specific or quantity-specific shipping requirements.

DOT Shipping Description: PETROLEUM LUBRICATING OIL, NOT REGULATED AS A HAZARDOUS MATERIAL FOR TRANSPORTATION UNDER 49 CFR

IMO/IMDG Shipping Description: PETROLEUM LUBRICATING OIL; NOT REGULATED AS DANGEROUS GOODS FOR TRANSPORT UNDER THE IMDG CODE

ICAO/IATA Shipping Description: PETROLEUM LUBRICATING OIL; NOT REGULATED AS DANGEROUS GOODS FOR TRANSPORT UNDER ICAO TI OR IATA DGR

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC code: Not applicable

SECTION 15 REGULATORY INFORMATION

EPCRA 311/312 CATEGORIES:

1. Immediate (Acute) Health Effects:	NO
2. Delayed (Chronic) Health Effects:	NO
3. Fire Hazard:	NO
4. Sudden Release of Pressure Hazard:	NO
5. Reactivity Hazard:	NO

REGULATORY LISTS SEARCHED:

01-1=IARC Group 1	03=EPCRA 313
01-2A=IARC Group 2A	04=CA Proposition 65
01-2B=IARC Group 2B	05=MA RTK
02=NTP Carcinogen	06=NJ RTK
	07=PA RTK

No components of this material are found on the regulatory lists above.

CHEMICAL INVENTORIES:
All components comply with the following chemical inventory requirements: AICS (Australia), DSL (Canada), EINECS (European Union), IECSC (China), KECI (Korea), PICCS (Philippines), TSCA (United States).

One or more components does not comply with the following chemical inventory requirements: ENCS (Japan).

NEW JERSEY RTK CLASSIFICATION:
Under the New Jersey Right-to-Know Act L. 1983 Chapter 315 N.J.S.A. 34:5A-1 et. seq., the product is to be identified as follows: PETROLEUM OIL (Lubricating oil)

SECTION 16 OTHER INFORMATION

NFPA RATINGS:	Health: 0	Flammability: 1	Reactivity: 0
HMIS RATINGS:	Health: 1	Flammability: 1	Reactivity: 0

(0-Least, 1-Slight, 2-Moderate, 3-High, 4-Extreme, PPE:- Personal Protection Equipment Index recommendation, *- Chronic Effect Indicator). These values are obtained using the guidelines or published evaluations prepared by the National Fire Protection Association (NFPA) or the National Paint and Coating Association (for HMIS ratings).

LABEL RECOMMENDATION:
Label Category : INDUSTRIAL OIL 1 - IND1

REVISION STATEMENT: This revision updates the following sections of this Safety Data Sheet: 1-16
Revision Date: JUNE 1, 2015

ABBREVIATIONS THAT MAY HAVE BEEN USED IN THIS DOCUMENT:

TLV - Threshold Limit Value	TWA - Time Weighted Average
STEL - Short-term Exposure Limit	PEL - Permissible Exposure Limit
GHS - Globally Harmonized System	CAS - Chemical Abstract Service Number
ACGIH - American Conference of Governmental Industrial Hygienists	IMO/IMDG - International Maritime Dangerous Goods Code
API - American Petroleum Institute	SDS - Safety Data Sheet
HMIS - Hazardous Materials Information System	NFPA - National Fire Protection Association (USA)
DOT - Department of Transportation (USA)	NTP - National Toxicology Program (USA)
IARC - International Agency for Research on Cancer	OSHA - Occupational Safety and Health Administration
NCEL - New Chemical Exposure Limit	EPA - Environmental Protection Agency
SCBA - Self-Contained Breathing Apparatus	

Amended to conform to the United Nations' Globally Harmonized System of Classifications and Labeling of Chemicals (OSHA/GHS).

Although the information and recommendations set forth herein are presented in good faith and believed to be correct as of the date hereof, MOTOR OIL makes no representations as to the completeness or accuracy thereof. MOTOR OIL makes no warranty whatsoever, expressed or implied, of MERCHANTABILITY OR FITNESS FOR THE PARTICULAR PURPOSE since the conditions of use are beyond our control. MOTOR OIL assumes no responsibility for injury to recipient or to third persons for any damage to any property and recipient.

***** END OF SAFETY DATA SHEET *****

Safety Data Sheet

NEVER SEEZ REGULAR GRADE
Revision Number 3

Revision Date 09-May-2018
Supersedes Date: 24-Oct-2017

Section 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product Identifier

Product Name NEVER SEEZ REGULAR GRADE

1.2. Relevant identified uses of the substance or mixture and uses advised against

Recommended use lubricant.
Uses advised against No information available

1.3. Details of the supplier of the safety data sheet

Responsible Party
Bostik Inc.
11320 W. Watertown Plank Road
Wauwatosa, Wisconsin 53226 USA
Phone: +1 (800) 843-0844 (Domestic Toll Free)
Phone: +1 (414) 774-2250 (International)
Fax: +1 (414) 774-8075

E-mail msds@bostik-us.com

1.4. Emergency telephone number

Telephone: 1-800-227-0332
(Outside U.S.) 1-703-527-3887

Section 2: HAZARD IDENTIFICATION

2.1. Classification of the substance or mixture

Not a dangerous substance or mixture according to OSHA 29 CFR 1910.1200.

2.2. Label Elements

EMERGENCY OVERVIEW

The product contains no substances which at their given concentration, are considered to be hazardous to health

Appearance Paste **Physical State** Liquid **Odor** Petroleum distillates

Precautionary Statements - Prevention
Not applicable

Precautionary Statements - Response
Not applicable

Precautionary Statements - Storage
Not applicable

Precautionary Statements - Disposal
Not applicable

Hazards Not Otherwise Classified (HNOC)
Not applicable

2.3. Other Information

No information available.

Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances
Mixture

3.2 Mixtures

Chemical Name	CAS No	Weight-%
Graphite	7782-42-5	10 - 30
Copper	7440-50-8	5 - 10
Zinc oxide	1314-13-2	1 - 5
Aluminum	7429-90-5	1 - 5

The exact percentage (concentration) of composition has been withheld as a trade secret.

Section 4: FIRST AID MEASURES

4.1. Description of first aid measures

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

Eye contact In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. If eye irritation persists: Get medical advice/attention.

Skin Contact Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Wash contaminated clothing before reuse. If skin irritation occurs: Get medical advice/ attention.

Inhalation Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.

Ingestion Clean mouth with water and drink afterwards plenty of water. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Get medical attention if symptoms occur.

Self-Protection of the First Aider Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination.

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

Symptoms No information available.

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

Note to physicians Treat symptomatically.

4.4. Reference to Other Sections

Reference to other sections Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Section 5: FIRE-FIGHTING MEASURES

5.1. Extinguishing media

Suitable Extinguishing Media
Dry chemical, CO2, water spray or regular foam. Dike fire-control water for later disposal.

Unsuitable Extinguishing Media
Do not scatter spilled material with high pressure water streams.

5.2. Special hazards arising from the substance or mixture

Specific Hazards Arising from the Chemical
Some may burn but none ignite readily.

Explosion Data

Sensitivity to Mechanical Impact	None.
Sensitivity to Static Discharge	None.

5.3. Advice for firefighters

Protective equipment and precautions for firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

Section 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Personal Precautions	Use personal protective equipment as required. Do not touch or walk through spilled material. Stop leak if you can do it without risk.

6.2. Environmental precautions

Environmental Precautions	Prevent entry into waterways, sewers, basements or confined areas. See Section 12 for additional Ecological Information.

6.3. Methods and material for containment and cleaning up

Methods for Containment	Cover with plastic sheet to prevent spreading.
Methods for cleaning up	Use personal protective equipment as required. Take up with sand or other non-combustible absorbent material and place into containers for later disposal. With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. Clean contaminated surface thoroughly.

6.4. Reference to other sections

Reference to other sections	Section 7: HANDLING AND STORAGE Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION Section 13: DISPOSAL CONSIDERATIONS

Section 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

Advice on safe handling	Use personal protective equipment as required. Handle in accordance with good industrial

hygiene and safety practice. Do not eat, drink or smoke when using this product. Ensure adequate ventilation, especially in confined areas. Wash hands thoroughly after handling.

7.2. Conditions for safe storage, including any incompatibilities

Storage Conditions Keep container tightly closed in a dry and well-ventilated place.

Incompatible Materials None known based on information supplied.

7.3. Specific end use(s)

Other Information No information available.

7.4. References to Other Sections

Reference to other sections Section 13: DISPOSAL CONSIDERATIONS
Section 10: STABILITY AND REACTIVITY

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Exposure Guidelines . This product contains substances which in their raw state are powder form, however in this product they are in a non-respirable form. Inhalation of powder/dust particles is unlikely to occur from exposure to this product.

Chemical Name	ACGIH TLV	NIOSH IDLH	OSHA PEL	Mexico
Graphite 7782-42-5	TWA: 2 mg/m³ respirable particulate matter all forms except graphite fibers	IDLH: 1250 mg/m³ TWA: 2.5 mg/m³ natural respirable dust	TWA: 15 mg/m³ total dust synthetic TWA: 5 mg/m³ respirable fraction synthetic TWA: 15 mppcf natural	TWA: 2 mg/m³
Copper 7440-50-8	TWA: 0.2 mg/m³ fume TWA: 1 mg/m³ Cu dust and mist	IDLH: 100 mg/m³ dust, fume and mist IDLH: 100 mg/m³ Cu dust and mist TWA: 1 mg/m³ dust and mist TWA: 0.1 mg/m³ fume TWA: 1 mg/m³ Cu dust and mist	TWA: 0.1 mg/m³ fume TWA: 1 mg/m³ dust and mist	TWA: 0.2 mg/m³ TWA: 1 mg/m³ STEL: 2 mg/m³
Zinc oxide 1314-13-2	STEL: 10 mg/m³ respirable particulate matter TWA: 2 mg/m³ respirable particulate matter	IDLH: 500 mg/m³ Ceiling: 15 mg/m³ dust TWA: 5 mg/m³ dust and fume STEL: 10 mg/m³ fume	TWA: 5 mg/m³ fume TWA: 15 mg/m³ total dust TWA: 5 mg/m³ respirable fraction	TWA: 5 mg/m³ TWA: 10 mg/m³ STEL: 10 mg/m³
Aluminum 7429-90-5	TWA: 1 mg/m³ respirable particulate matter	TWA: 10 mg/m³ total dust TWA: 5 mg/m³ respirable dust TWA: 5 mg/m³ Al	TWA: 15 mg/m³ total dust TWA: 5 mg/m³ respirable fraction	TWA: 10 mg/m³ TWA: 5 mg/m³

Chemical Name	Argentina	Brazil	Chile	Venezuela
Graphite 7782-42-5	TWA: 2 mg/m³	-	TWA: 1.75 mg/m³	TWA: 2 mg/m³
Copper 7440-50-8	TWA: 0.2 mg/m³ TWA: 1 mg/m³	-	TWA: 0.18 mg/m³ TWA: 0.88 mg/m³	TWA: 0.2 mg/m³ TWA: 1 mg/m³
Zinc oxide 1314-13-2	TWA: 5 mg/m³ TWA: 10 mg/m³ STEL: 10 mg/m³	-	TWA: 4.4 mg/m³	STEL: 10 mg/m³ TWA: 2 mg/m³ TWA: 10 mg/m³
Aluminum 7429-90-5	TWA: 10 mg/m³ TWA: 5 mg/m³	-	TWA: 8.75 mg/m³ TWA: 4.5 mg/m³ TWA: 4.4 mg/m³	TWA: 10 mg/m³

8.2. Exposure controls

Engineering Controls Showers
Eyewash stations
Ventilation systems.

Personal protective equipment [PPE]

Eye/Face Protection Wear safety glasses with side shields (or goggles).

Skin and Body Protection Wear suitable chemical resistant gloves. The selection of suitable gloves does not only depend on the material, but also on further marks of quality and various manufacturers.

Respiratory Protection If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

General Hygiene Considerations Use personal protective equipment as required. Handle in accordance with good industrial hygiene and safety practice. When using do not eat, drink or smoke. Wash hands thoroughly after handling. Take off all contaminated clothing and wash it before reuse. Regular cleaning of equipment, work area and clothing is recommended.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Physical State	Liquid
Appearance	Paste
Color	Gray
Odor	Petroleum distillates
Odor Threshold	No information available

Property	**Values**	**Remarks • Method**
pH	No information available	
Melting point / freezing point	No information available	
Boiling point / boiling range	No information available	
Flash Point	246 °C / 475 °F	
Evaporation Rate	No information available	
Flammability (solid, gas)	No information available	
Flammability Limit in Air		
Upper flammability limit:	No information available	
Lower flammability limit:	No information available	
Vapor Pressure	No information available	
Vapor Density	No information available	
Relative Density	No information available	
Water Solubility	No information available	
Solubility in Other Solvents		
Partition Coefficient	No information available	
Autoignition Temperature	No information available	
Decomposition Temperature	No information available	

Kinematic Viscosity	No information available
Dynamic Viscosity	No information available
Explosive Properties	No information available
Oxidizing Properties	No information available

9.2. Other information

Softening Point	No information available
Molecular Weight	No information available

Solvent content (%)	No information available
Solid content (%)	No information available
Density	1.190 g/cm³
VOC	No information available

Section 10: STABILITY AND REACTIVITY

10.1. Reactivity

None under normal use conditions.

10.2. Chemical stability

Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions

None under normal processing.

10.4. Conditions to avoid

Extremes of temperature and direct sunlight.

10.5. Incompatible materials

None known based on information supplied.

10.6. Hazardous decomposition products

None known based on information supplied.

Section 11: TOXICOLOGY INFORMATION

11.1. Information on toxicological effects

Product Information	No data available
Inhalation	Based on available data, the classification criteria are not met.
Eye contact	Based on available data, the classification criteria are not met.
Skin Contact	Based on available data, the classification criteria are not met.
Ingestion	Based on available data, the classification criteria are not met.

Component Information

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Zinc oxide 1314-13-2	> 5000 mg/kg (Rat)	LD50 >2000 mg/Kg (Rat) (OECD 402)	LC50 (4h) >5.7 mg/l
Aluminum 7429-90-5	LD50 >10,000 mg/Kg (Rat)(OECD Guideline 401)	-	-

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Symptoms	No information available.
Skin Corrosion/Irritation	No information available.
Serious Eye Damage/Eye Irritation	No information available.
Irritation	No information available.
Corrosivity	No information available.
Sensitization	No information available.
Germ Cell Mutagenicity	No information available.
Reproductive Toxicity	No information available.

Developmental Toxicity	No information available.
Teratogenicity	No information available.
STOT - Single Exposure	No information available.
STOT - Repeated Exposure	No information available.
Chronic Toxicity	No information available.
Target Organ Effects	No information available.
Aspiration hazard	No information available.
Carcinogenicity	This product does not contain any carcinogens or potential carcinogens as listed by ACGIH, OSHA, IARC or NTP at or above 0.1 wt%.

Section 12: ECOLOGICAL INFORMATION

This product contains a chemical which is listed as a severe marine pollutant according to DOT.

12.1. Toxicity

Chemical Name	Algae/aquatic plants	Fish	Toxicity to Microorganisms	Crustacea
Copper 7440-50-8	EC50 96 h 0.031 - 0.054 mg/L (Pseudokirchneriella subcapitata) EC50 72 h 0.0426 - 0.0535 mg/L (Pseudokirchneriella subcapitata)	LC50 96 h = 0.8 mg/L (Cyprinus carpio static)		EC50 48 h = 0.03 mg/L (Daphnia magna Static)
Zinc oxide 1314-13-2	LC 50 (72Hr) 0.136 mg/L	LC50 (96h) =0.7 mg/L Fish (Danio rerio)		LC 50 (48Hr) =0.5 mg/l (Ceriodaphnia dubia)

12.2. Persistence and degradability

No information available.

12.3. Bioaccumulative potential

No information available.

12.4. Mobility in soil

No information available.

Other adverse effects

No information available

Section 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Disposal of Wastes	It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations
Contaminated Packaging	Dispose of in accordance with federal, state and local regulations

Section 14: TRANSPORTATION INFORMATION

Note: The shipping descriptions shown here are for bulk shipments only, and may not apply to shipments made in non-bulk packages (see regulatory definition) The information shown here, may not always agree with the bill of lading shipping description for the material 49 CFR 171.4(c) "Exceptions. Except when all or part of the transportation is by vessel, the requirements of this subchapter specific to marine pollutants do not apply to non-bulk packagings transported by motor vehicle, rail car or aircraft."

DOT

UN/ID No	UN3082
Proper Shipping Name	Environmentally hazardous substance, liquid, n.o.s. (Copper, Zinc oxide), Marine Pollutant
Hazard Class	9
Packing Group	III
Special Provisions	8, 146, 173, 335, IB3, T4, TP1, TP29
Marine Pollutant	This product contains a chemical which is listed as a severe marine pollutant according to DOT.
Description	UN3082, Environmentally hazardous substance, liquid, n.o.s. (Copper, Zinc oxide), 9, III, Marine Pollutant
Emergency Response Guide Number	171

IATA

UN/ID No	UN3082
Proper Shipping Name	Environmentally hazardous substance, liquid, n.o.s. (Copper, Zinc oxide)
Transport hazard class(es)	9
Packing Group	III
ERG Code	9L
Special Provisions	A97, A158, A197
Description	UN3082, Environmentally hazardous substance, liquid, n.o.s. (Copper, Zinc oxide), 9, III

IMDG

UN Number	UN3082
Proper Shipping Name	Environmentally hazardous substance, liquid, n.o.s. (Copper,Zinc oxide), Marine Pollutant
Transport hazard class(es)	9
Packing Group	III
EmS-No	F-A, S-F
Special Provisions	274, 335, 969
Description	UN3082, Environmentally hazardous substance, liquid, n.o.s. (Copper,Zinc oxide), 9, III, Marine Pollutant

Section 15: REGULATORY INFORMATION

Global Inventories

TSCA	Listed
DSL	Listed

Legend:
TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL - Canadian Domestic Substances List
Listed - The components of this product are either listed or exempt from listing on inventory.
Not Listed - One or more components of this product are not listed on inventory.

Canada

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

United States of America

SARA 313
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Chemical Name	CAS No
Copper	7440-50-8
Zinc oxide	1314-13-2
Aluminum	7429-90-5

SARA 311/312 Hazard Categories

Acute Health Hazard	No
Chronic Health Hazard	No
Fire Hazard	No
Sudden release of pressure hazard	No
Reactive Hazard	No

Europe

Restrictions of Use of Hazardous Substances (RoHS) Directive 2011/65/EU
This product does not contain Lead (7439-92-1), Cadmium (7440-43-9), Mercury (7439-97-6), Hexavalent chromium (7440-47-3), Polybrominated biphenyls (PBB), and Polybrominated diphenyl ethers (PBDE) above the regulated limit mentioned in this regulation.

EU-REACH (1907/2006) - Candidate List of Substances of Very High Concern (SVHC) for Authorization in accordance with Article 59
This product does not contain candidate substances of very high concern at a concentration >=0.1% (Regulation (EC) No. 1907/2006 (REACH), Article 59)

Section 16: OTHER INFORMATION

Key or legend to abbreviations and acronyms used in the safety data sheet
No information available

Key Literature References and Sources for Data
No information available

Prepared By	Product Safety & Regulatory Affairs
Revision Date	09-May-2018
Revision Note	SDS sections updated, 1, 5, 6, 8, 9, 12, 14, 16.
Training Advice	No information available
Further information	No information available

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

End of Safety Data Sheet

BLACK SWAN MFG. CO.

GHS SAFETY DATA SHEET

SECTION 1 - IDENTIFICATION

Manufacturer: Black Swan Mfg. Co. 4540 W. Thomas St. Chicago, IL 60651-3318 Tel.: 800-252-5796 Fax: 773-227-3705 Web Site : www.blackswanmfg.com E-mail : info@blackswanmfg.com	For any Transportation or Medical Chemical Emergencies call: **INFOTRAC** (800) 535-5053 **OR** (352) 323-3500 24 hours per day - 7 days a week
Product Name: Pipe-Lube	**Recommended Use:** For lubrication of slip-on or "O" ring type joints with rubber or synthetic rubber type gaskets.

SECTION 2 – HAZARD(S) IDENTIFICATION

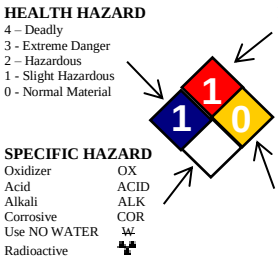
Labels
None

Signal Word
None

HMIS

HEALTH	1
FLAMMABILITY	0
REACTIVITY	0

NFPA



GHS Classification

Health
Acute Toxicity: Not Established
Skin Irritation: Not Established
Eye Irritation: Not Established
Skin Sensitization: NO

Environmental
Acute Aquatic Toxicity: Not Established
Chronic Aquatic Toxicity: Not Established

Physical
None

Hazardous Statements
None

Precautionary Statements
P102: Keep out of reach of children
P233: Keep container tightly closed
P262: Do not get in eyes, on skin or on clothing
P264: Wash thoroughly after handling
P280: Wear protective gloves, protective clothing, eye protection, and face protection.

SECTION 3 – COMPOSITION / INFORMATION ON INGREDIENTS

Chemicals	CAS#	EINECS#	REACH Pre-registration Number	Approx %
FATTY ACIDS - C16-18 AND C18-UNSATD	67701-08-0	N/A	N/A	30-60%
DISTILLATES (PETROLEUM), HYDROTREATED LIGHT NAPHTHENIC	64742-53-6	265-156-6	N/A	15-25%
POTASSIUM HYDROXIDE	1310-58-3	215-181-3	N/A	5-15%
PROPYLENE GLYCOL, 1,2-PROPANEDIOL	57-55-6	N/A	N/A	3-7%

*Unlisted ingredients are not classified as hazardous according to OSHA 1910.1200.

SECTION 4 – FIRST-AID MEASURES

Inhalation: Not expected to be a normal route of exposure.
Skin: Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water. If skin irritation occurs get medical advice/attention.
Eyes: Do not rub eyes. Flush eyes with large amounts of water for at least 15 minutes, holding eyelids open. Consult a physician if irritation persists.
Ingestion: If swallowed, immediately call a poison center or physician. Rinse mouth. DO NOT INDUCE VOMITING. Never give anything by mouth to an unconscious person.

SECTION 5 – FIRE-FIGHTING MEASURES

Fire Hazard: None.
Combustion Products: None.
Extinguishing Media: Carbon Dioxide, Dry Chemical, Water, Foam.
Unsuitable Extinguishing Media: None known.
Protective Equipment: Wear a self-contained breathing apparatus & protective clothing.
Special Fire Fighting Procedures: Evacuate enclosed areas, stay upwind. Closed or confined quarters require self-contained breathing apparatus, positive pressure hose masks or airline masks.

SECTION 6 – ACCIDENTAL RELEASE MEASURES

Personal Precautions: Wear appropriate shoes to avoid slips.
Protective Equipment: None.
Emergency Procedures: None.
Environmental Precautions: This is a biodegradable soap. Avoid runoff into storm sewers, ditches, and waterways.
Methods for Cleaning Up: Scrape up or use absorbing material to pick up. Place in a clean, dry, leak proof container.

SECTION 7 – HANDLING AND STORAGE

Handling	Storage
Keep out of reach of children. Avoid contact with eyes, skin and clothing. Wash thoroughly after handling. Do not eat, drink or smoke in the work area.	Keep container tightly closed when not in use. Empty containers may contain residue; treat as if full and observe all product precautions. Do not reuse empty containers. **Incompatible Materials:** Strong oxidizing agents.

SECTION 8 – EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Limits

This product is not classified as hazardous according to OSHA 1910.1200.

Engineering Controls: A source of running water to flush or wash the eyes and skin in case of contact. Use local exhaust as needed.
Ventilation: None needed.
Personal Protective Equipment – Respiratory: None. **Skin:** Rubber gloves. **Eyes:** Glasses recommended.

SECTION 9 – PHYSICAL & CHEMICAL PROPERTIES

Appearance:	Amber	**Flash Point**:	>250°F (121°C)	**Vapor Pressure**:	Negligible
Odor:	Odorless	**Specific Gravity**:	>1.0	**Flammability**:	Not Established
pH:	11	**Solubility (H2O):**	Insoluble	**Flammability Limits**:	LEL – Not Established
Melting Point:	<32°F	**Evaporation Rate**:	Not Established		UEL – Not Established
Freezing Point:	Not Established	**Vapor Density**:	Not Established		
Boiling Point:	>220°F	**VOC**:	50 g/l		

SECTION 10 – STABILITY AND REACTIVITY

Stability: Stable.
Hazardous polymerization: Will not occur.
Conditions to avoid: Reactive alloys like aluminum, brass, bronze.
Incompatible materials: Strong oxidizing agents.
Hazardous decomposition products: Thermal oxidative decomposition can produce oxides of Carbon and Nitrogen.

SECTION 11 – TOXICOLOGICAL INFORMATION

Toxicity

This product is not classified as hazardous according to OSHA 1910.1200.

Likely Routes of Exposure: Skin Contact and Eye Contact.
Symptoms and Effect – Inhalation: Not a likely route of entry. **Skin Contact:** Slight skin irritant if allowed to remain in contact. **Eye Contact:** Slight eye irritant. **Ingestion:** Not a likely route of entry.
Long-Term Effect: None known.
Pre-Existing Conditions: None known.

SECTION 12 – ECOLOGICAL INFORMATION

Ecotoxicity: None known.
Persistance & Degradability: None known.
Bioaccumulative Potential: None known.
Mobility in soil: In normal use, emission of Volatile Organic Compounds (VOC's) to the air takes place, typically at a rate of 50 g/l.

SECTION 13 – DISPOSAL CONSIDERATION

Dispose of product or container in accordance with federal, state or local regulations.

SECTION 14 – TRANSPORTATION INFORMATION

D.O.T. (U.S.): Not Regulated.

SECTION 15 – REGULATORY INFORMATION

Precautionary Label Information: None.
Risk Phrases: None.
Safety Phrases: S2-Keep out of reach of children.

SECTION 16 – OTHER INFORMATION

Information on this form is furnished solely for the purpose of compliance with the Occupational Safety and Health Act and shall not be used for any other purpose. Black Swan Mfg. Co. urges the customers receiving this Material Safety Data Sheet to study it carefully to become aware of the hazards, if any, of the product involved. In the interest of safety, you should notify your employees, agents and contractors of the information on the sheets. **DATE: 01/01/2021**

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POOL CARE SHOCK SDS

SECTION 1 – CHEMICAL PRODUCT AND COMPANY IDENTIFICATION	
Product Name: Pool Care Shock	
Chemical Name: Calcium Hypochlorite Hydrated, cal hypo, Product Use: This product is used as a disinfectant, algaecide, sanitizer, bactericide, fungicide. This is a pesticide product. DO NOT use it in a pesticide application that is not included on its label.	
Manufacturer: Qualco, Inc. 225 Passaic Street Passaic, NJ 07055 Telephone: 973-473-1222 Fax: 973-473-0535 Emergency: 1-800-424-9300 (ChemTrec)	Supplied by: Baystate Pool Supplies, Inc. 26 Smith Place Cambridge, MA 02138 Telephone: 617-547-9145 Fax: 617-547-8787 Emergency: 1-800-424-9300 (ChemTrec)
SECTION 2 – HAZARDS IDENTIFICATION	
OSHA REGULATORY STATUS: This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200)	
EMERGENCY OVERVIEW Color: White Physical State: Solid Appearance: Granular, Crystal Odor: Slight chloride odor Signal Word: DANGER	
MAJOR HEALTH HAZARDS: CORROSIVE. CAUSE SERIOUS EYE DAMAGE. CAUSES SEVERE SKIN BURNS AND EYE DAMAGE. MAY BE FATAL IF INHALED. HARMFUL IF SWALLOWED.	
PHYSICAL HAZARDS. DANGER. CORROSIVE. Causes severe and irreversible burns to eye and skin. Harmful if inhaled. May cause irritation and inflammation to the respiratory tract. Harmful or fatal if swallowed. Strong Oxidizing Agent. Mix only with water. Never add water to product. Always add the product to large quantities of water. Do not mix with any other chemicals. Contamination with moisture, acids, organic materials and other easily combustible materials such as petroleum, paint products, wood, or paper may cause fire or explosion and the liberation of hazardous gases. Do not add this product to any dispensing device containing remnants of any other product. Such use may cause a violent reaction leading to fire or explosion. Very toxic to aquatic organisms. **Precautions:** Do not get in eyes, on skin, or on clothing. Avoid breathing dust. Irritating to nose and throat. Do not swallow. Do not eat, drink or smoke in work area. Wash hands after handling. Remove and wash contaminated clothing before reuse. Keep out of reach of children.	
AQUATIC TOXICITY: Very toxic to aquatic organisms. Very toxic to aquatic life with long lasting effects.	
PRECAUTIONARY STATEMENTS: Do not get in eyes, on skin, or on clothing. Wear eye protection, face protection, protective gloves. Do not breathe dusts or mists. Use outdoors or in a well-ventilated area. Wash hands and affected skin thoroughly after handling. Do not eat, drink or smoke when using this product. Do not get water inside container, an explosion hazard. Oxidizer, keep separated from incompatible substances.	
ADDITIONAL HAZARD INFORMATION: This material is corrosive. Product has strong buffering capability, Use dilution. May cause burns to moist skin if not promptly removed. There is no specific antidote.	
GHS CLASSIFICATION:	

GHS CONTACT HAZARD – SKIN	Category 1C – Causes severe skin burns and eye damage
GHS CONTACT HAZARD – EYE	Category 1C – Causes serious eye damage
GHS ACUTE TOXICITY – INHALATION	Category 2 – Fatal if inhaled
GHS ACUTE TOXICITY – ORAL	Category 4 – Harmful if swallowed
GHS ACUTE TOXICITY – DERMAL	Not acutely toxic by dermal exposure
GHS: TARGET ORGAN TOXICITY (SINGLE EXPOSURE)	Cateogory 3 – May cause respiratory tract irritation
GHS: CARCINOGENICITY:	This product is not classified as a carcinogen by NTP, IARC or OSHA
GHS: HAZARDOUS TO AQUATIC ENVIRONMENT – ACUTE HAZARD:	Category 1 – Very toxic to aquatic life
GHS: HAZARDOUS TO AQUATIC ENVIRONMENT – CHRONIC HAZARD	Cateogry 1 – Very toxic to aquatic life with long lasting effects

UNKNOWN ACUTE TOXICITY: Not applicable. 100% of this product consists of ingredient(s) of known acute toxicity.

GHS SYMBOL: Corrosion, Skull and Crossbones, Exclamation Mark, Environmental Hazard, Oxidizer

GHS SIGNAL WORD: DANGER

GHS HAZARD STATEMENTS:

GHS-Health Hazard Statement(s): Causes severe skin burns and eye damage. Causes serious eye damage. Fatal if inhaled. Harmful if swallowed. May cause respiratory irritation.

GHS-Environmental Hazard Statement(s): Very toxic to aquatic life. Very toxic to aquatic life with long-lasting effects.

GHS-Precautionary Statement(s)-Prevention: Do not breathe dust, fumes, gas, mist, vapors or spray mists. In case of inadequate ventilation, wear respiratory protection. Wear protective gloves, protective clothing, eye and face protection. Wash face, hands and any exposed skin thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well ventilated area. Avoid release to the environment.

GHS-Precautionary Statement(s)-Response:

IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or doctor/physician. Specific treatment is urgent (see Section 4 of SDS or first aid information on this label).

IF ON SKIN/HAIR: Remove all contaminated clothing immediately. Rinse skin with water for at least 15 minutes. Wash contaminated clothing before reuse.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing for 15 minutes Get immediate medical attention.

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Call a POISON CENTER or doctor/physician if feel unwell. Specific treatment (see First Aid information on product label and/or Section 4 of the SDS). Collect spillage.

GHS-Oxidizer: 5.1 Oxidizer

GHS-Precautionary Statement(s)-Storage: Store in a well ventilated area. Keep container tightly closed when not in use. Store locked up.
GHS-Precautionary Statement(s)-Disposal: Dispose of contents and container in accordance with applicable loca, regional, national, and/or international regulations.
Hazards Not Otherwise Classified (HNOC): Damp or wet material may generate nitrogen an explosion hazard. Contact with acids liberates toxic gas. See Section 11 (Toxicological Information).

3. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms: calcium hypochlorite hydrated, cal hypo

Component	**Percent (%)**	CAS Number
Calcium hypochlorite, hydrated	>65	7778-54-3
Calcium Chlorate	<2	10137-74-3
Calcium Chloride	<2	10043-52-4
Calcium Carbonate	<2	471-34-1
Calcium Hydroxide	<2	1305-62-0
Sodium Chloride	>10	7647-14-5

4. FIRST AID MEASURE

INHALATION: If inhalation of dust occurs and adverse effects result, remove to uncontaminated area. Evaluate ABC's (is Airway constricted, is breathing occurring and is blood circulating) and treat symptomatically. GET IMMEDIATE MEDICAL ATTENTION. There is no specific antidote; treat symptomatically.
SKIN CONTACT: Immediately flush contaminated areas with water. Remove contaminated clothing, jewelry and shoes. Wash contaminated areas with large amounts of water. GET MEDICAL ATTENTION IMMEDIATELY. Thoroughly clean and dry contaminated clothing before reuse.
EYE CONTACT: Immediately flush contaminated clothing with a directed stream of water for as long as possible. Remove contact lenses, if present, then continue rinsing. GET MEDICAL ATTENTION IMMEDIATELTY.
INGESTION: If swallowed do not induce vomiting. Give large amounts of water. If vomiting occurs spontaneously, keep airway clear. Give more water when vomiting stops. Never give anything by mouth to an unconscious or convulsive person. GET MEDICAL ATTENTION IMMEDIATELY.
Most Important Symptoms/Effects (Acute and Delayed)
Acute Symptoms/Effects: Listed below
Inhalation (Breathing): Respiratory System Effects: Exposure to the solid product or to free chlorine evolving from the product may cause irritation, redness of upper and lower airways, coughing, laryngeospasm and edema, shortness of breath, bronchoconstriction, and possible pulmonary edema. The pulmonary edema may develop several hours after a severe acute exposure.
Skin: Skin Corrosion. Exposure to solid along with moisture may cause redness, irritation, burning sensation, swelling blister formation, first, second or third degree burns.
Eye: Serious eye damage. Exposure to eyes may cause irritation and burns to the eye lids, conjunctivitis, corneal edema, and corneal burn. Significant and prolonged contact may cause damage to the internal contents of the eye.
Ingestion (Swallowing): Gastrointestinal Effects: Exposure by ingestion may cause irritation, nausea and vomiting. May cause local tissue damage to esophagus and stomach such as burning, inflammation, local ulceration, and may cause gastrointestinal bleeding.
Delayed Symptoms/Effects:
Repeated and prolonged skin contact may cause a dermatitis.

Interaction with Other Chemicals Which Enhance Toxicity: Contacts with acids liberates toxic gas
Medical Conditions Aggravated by Exposure: May aggravate pre-existing conditions such as eye disorders that decrease tear production or have reduced integrity of the eye, skin disorders that compromise the integrity of the skin, and respiratory conditions including asthma and other breathing disorders.
Protection of First-Aiders: Protect yourself by avoiding contact with this material. Use personal protective equipment. Refer to Section 8 for specific personal protective equipment recommendations. Avoid contact with skin and eyes. Do not ingest. At minimum, treating personnel should utilize PPE sufficient for prevention of bloodborne pathogen transmission.
Notes to Physician: Treat as a corrosive substance. This material is more irritating to the skin and eyes in the presence of water. For prolonged exposures and significant exposures, consider delayed injury to exposed tissues. There is no antidote. Cyanuric acid is readily removed from the body via the renal system, and is not bioaccumulated Treatment is supportive care. Follow normal parameters for airway, breathing and circulation.

5. FIRE-FIGHTING MEASURES

Fire Hazard: Negligible fire hazard. If heated by outside source to temperatures above 240^{o}C (484^{o}F), this product will undergo decomposition with the evolution of noxious gases but no visible flame. Wet material may generate nitrogen trichloride, an explosion hazard.
Extinguishing Media: Flood with copious amounts of water. Do not use ABC fire extinguishers. Do not use dry chemicals, carbon dioxide, or halogenated extinguishing agents.
Fire Fighting: Consider evacuation of personnel located downwind. Keep unnecessary people away, isolate hazard area and deny entry. Move container from fire area if it can be done without risk. Avoid inhalation of material or combustion by-products. Stay upwind and keep out of low areas. Wear NIOSH approved positive-pressure self-container breathing apparatus operated in pressure demand mode. Material which appears undamaged except for being damp on the outside should be opened and inspected immediately. DO NOT attempt to reseal contaminated drums. Damp material should be neutralized to a non-oxidizing state. Contact supplier for instructions for handling and disposal of damp material.
Hazardous Combustion Products: Chlorine, Nitrogen, Nitrogen trichloride, Cyanogen chloride, Oxides of carbon, Phosgene
Sensitivity to Mechanical Impact: Not sensitive
Sensibility to Static Discharge: Not sensitive
Lower Flammability Level (air): Not flammable
Upper Flammability Level (air): Not flammable
Flash Point: Not applicable
Auto-ignition Temperature: Not determined

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions: Keep unnecessary and unprotected persons away. Isolate hazard area and deny entry. Do not get in eyes, on skin or on clothing. Do not breathe dust, fume, gas, mist, vapors, or spray. Wear appropriate personal protective equipment recommended in Section 8, Exposure Controls/Personal Protection of the SDS
Methods and Materials for Containment and Cleaning Up: DO NOT add water to spilled material. DO NOT use floor sweeping compounds to clean up spills. Sweep and scoop spilled material into clean, dedicated equipment. Every attempt should be made to avoid mixing spilled material with other chemicals or debris when cleaning up. DO NOT attempt to reseal contaminated drums. DO NOT

transport wet or damp material. Damp material should be neutralized to a non-oxidizing state. Contact supplier for instructions for handling and disposal of damp material.

Environmental Precautions:

This material is very toxic to aquatic life. This material is very toxic to aquatic life with long lasting effects. Keep out of water supplies and sewers. Releases should be reported, if required, to appropriate agencies.

7. HANDLING AND STORAGE

Precautions for Safe Handling:

Do not get in eyes, on skin or on clothing. Avoid breathing vapors or dust when opening container. Avoid creation of dust. Wash thoroughly after handling. Wear personal protective equipment as described in Exposure Controls/Personal Protection (Section 8) of the SDS. NEVER add water to this product. Always add product to large quantities of water. Use clean, dry utensils. Do not add the product to any dispensing device containing residuals of other products. Keep away from heat, sparks, flame and other sources of ignition.

Safe Storage Conditions:

Store and handle in accordance with all current regulations and standards. (NFPA Oxidizer Class 1). Store away from open flames and combustibles. Do not allow water to get in container. If liner is present, tie after each use. Keep container tightly closed and properly labeled. Store containers on pallets. Keep away from food, drink and animal feed. Keep separated from incompatible substances (see below or Section 10 of the Safety Data Sheet). Product has an indefinite shelf life if stored in original container in a cool, dry place.

Incompatibilities/Materials to Avoid:

Acids, ammonia, bases, floor sweeping compounds, calcium hypochlorite, reducing agents, organic solvents and compounds

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Regulatory Exposure Limit(s): None. This product does not contain any components that have regulatory occupational exposure limits (OEL's) established.

OEL: Occupational Exposure Limit, OSHA: United States Occupational Safety and Health Administration; PEL: Permissible Exposure Limit; TWA: Time Weighted Average; STEL: Short Term Exposure Limit

Non-Regulatory Exposure Limit(s): None. This product does not contain any components that have advisory (non-regulatory) occupational exposure limits (OEL's).

The Non-Regulatory United States Occupational Safety and Health Administration (OSHA) limits, if shown, are the vacated 1989 PEL's (vacated by 58 FR 35338, June 30, 1993).

The American Conference of Governmental Industrial Hygienists (ACGIH) is a voluntary organization of professional industrial hygiene personnel in government or educational institutions in the United States. The ACGIH develops and publishes recommended occupational exposure limits each year called Threshold Limit Values (TLV's) for hundreds of chemicals, physical agents and biological exposure indices.

Additional Advice: Chlorine and chlorine compounds may be found in slight amounts in the head space of containers of this product.

ENGINEERING CONTROLS: Use only in well-ventilated areas. Provide local exhaust ventilation where dust or mist may be generated. Ensure compliance with applicable exposure limits

PERSONAL PROTECTIVE EQUIPMENT:

Eye Protection: Wear safety glasses with side shields..Provide an emergency eye wash fountain and quick drench shower in the immediate work area.
Skin and Body Protection: Wear protective clothing to minimize skin contact. When potential for contact with dry material exists, wear disposable coveralls suitable for dust exposure such as Tyvek®. Contaminated clothing should be removed and laundered before reuse.
Hand Protection: Wear appropriate chemical resistant gloves. Consult a glove manufacturer for assistance in selecting an appropriate chemical resistant glove.
Protective Material Types: Butyl rubber, Natural rubber, Neoprene, Nitrite, Polyvinyl chloride (PVC), Tyvek®.
Respiratory Protection: A NIOSH approved respirator with N95 (dust, fume, mist) cartridges may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits, or when symptoms have been observed that are indicative of overexposure. The added protection of a full face piece respirator is required when visible dusty conditions are encountered and eye irritation may occur. Acid gas cartridges with N95 filters are required when fumes or vapor may be generated. A respiratory protection program that meets 29 CFR 1910.134 must be followed whenever workplace conditions warrant use of a respirator.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State:	Solid
Appearance:	Granular, Crystal
Color:	White
Odor:	Slight chlorine odor
Odor Threshold (ppm):	Not available
Molecular Weight:	143.00 (Active Ingredient)
Decomposition Temperature:	486°F (252°C) dehydrates at 104°F-212°F (40°C-100°C)
Boiling Point/Range:	Not applicable
Freezing Point/Range:	Not applicable
Melting Point Range:	Not Applicable
Vapor Pressure:	Not available (@ 25°C)
Vapor Density (air=1)	Not applicable
Relative Density/Specific Gravity (water=1)	1.95 g/ml @ 25°C
Density:	0.8 g/cc
Bulk Density:	56-60 lbs/ft3 (loose)
Water Solubility:	18% (@ 25°C) Product also contains calcium hydroxide and calcium carbonate which will leave a residue
pH:	10.4-10.8 @ 25°C (1% solution)
Volatility:	Not applicable
Evaporation Rate (ether=1)	Not applicable
Partition Coefficient (in-octanol water):	No data
Flash Point:	Not applicable
Flammability (solid, ga):	Not flammable
Lower Flammability Level (air):	Not flammable
Upper Flammability Level (air):	Not flammable
Auto-ignition Temperature:	Not determined
Viscosity:	Not applicable

10. STABILITY AND REACTIVITY

Reactivity: Not reactive under normal temperatures and pressures.
Chemical Stability: Stable at normal temperatures and pressures.
Possibility of Hazardous Reactions: Do not get water inside container. Wet material may generate nitrogen trichloride, an explosion hazard. Avoid contact with easily oxidizable organic material. Contact with acids liberates toxic gas.
Conditions to Avoid: (e.g. static discharge, shock, or vibration) – None known.
Incompatibilities / Materials to Avoid: Acids, ammonia, bases, floor sweeping compounds, calcium hypochlorite, reducing agents, organic solvents and compounds.
Hazardous Decomposition Products: Chlorine, nitrogen, nitrogen trichloride, cyanogens chloride, oxides of carbon phosgene.
Hazardous Polymerization: Will not occur.

11. TOXICOLOGICAL INFORMATION

IRRITATION DATA: PRIMARY SKIN IRRITATION. Severe irritation. Corrosive (rabbit 24 hr).
PRIMARY EYE IRRITATION: Severe irritation, Corrosive (rabbit, 24 hr)
TOXICITY DATA:
PRODUCT TOXICITY DATA: Calcium Hypochlorite

LD50 Oral:	**LD50 Dermal:**	**LC50 Inhalation:**
1823 mg/kg (Rat)	>2000 mg/kg (Rabbit)	>0.27 - < 1.17 mg/L (4 hr – Rat)

COMPONENT TOXICITY DATA:
Note: The component toxicity data is populated by the LOLI database and may differ from the product toxicity data given

Component	**LD50 Oral:**	**LD50 Dermal:**	**LC50 Inhalation:**
Calcium Hypochlorite CAS #7778-54-3	850 mg/kg (Rat)	2000 mg/kg (Rabbit)	50 mg/l (1 hr-Rat)
Sodium Chloride CAS #7647-14-5	3000 mg/kg (Rat)	10 g/kg (Rabbit)	42 g/m3 (1 hr-Rat)

POTENTIAL HEALTH EFFECTS:
Eye Contact: Eye exposures may cause burns to the eye lids, conjunctivitis, corneal edema, and corneal burn. Significant and prolonged contact may cause damage to the internal contents of the eye.
Skin Contact: Exposure to solid along with moisture may cause redness, irritation, burning sensation, swelling, blister formation, first, second or third degree burns. Dry material is less irritating than wet material. This material is not a skin sensitizer based on studies with guinea pigs.
Inhalation: This material in the form as solid is not expected to produce respiratory effects. Particles of respirable size are generally not encountered. The respirable fraction is typically less than 0.1% by weight for the granular and extra granular grades. If ground or otherwise in a powdered form, effects similar to a corrosive substance may occur. Exposure to the solid product or to free chlorine evolving from the product may cause irritation, redness of upper and lower airways, coughing, laryngeospasm and edema, shortness of breath, bronchoconstriction and possible pulmonary edema. The pulmonary edema may develop several hours after a severe acute exposure.
Ingestion: Exposure by ingestion may cause irritation, nausea and vomiting. May cause local tissue damage to epiglottis, mucous membranes of the mouth, esophagus and stomach such as burning, inflammation, local ulceration, and may cause gastrointestinal bleeding.
Chronic Effects: None identified for the parent chemical. Based on animal studies, exposure to concentrations of monosodium cyanurate at the solubility limit may cause cardiovascular, kidney and

urinary bladder effects.

SIGNS AND SYMPTOMS OF EXPOSURE:

Listed below:

Inhalation (Breathing): Respiratory System Effects: Exposure to the solid product or to free chlorine evolving from the product may cause irritation, redness of upper and lower airways, coughing, laryngeospasm, and edema The pulmonary edema may develop several hours after a severe acute exposure.

Skin: Skin Corrosion. Exposure to solid along with moisture may cause redness, irritation, burning sensation, swelling, blister formation, first, second or third degree burns.

Eye: Serious eye damage. Exposure to eyes may cause irritation and burns to the eye lids, conjunctivitis, corneal edema, and corneal burn. Significant and prolonged contact may cause damage to the internal contents of the eye.

Ingestion (Swallowing): Gastrointestinal Effects: Exposure by ingestion may cause irritation, nausea, and vomiting. May cause local tissue damage to esophagus and stomach such as burning, inflammation, local ulceration and may cause gastrointestinal bleeding.

TOXICITY:

Monosodium cyanurate was administered via drinking water to rats for 104 weeks at concentrations of 0, 400, 1200, 2400 and 5375 ppm (solubility limit). No compound-related effects on body weights, clinical signs of toxicity or food or water consumption were noted during the study. An increased incidence of gross lesions in the urinary tract, calculi in the kidney and lesions in the heart were observed in males receiving the highest dose level of 5375 ppm (solubility limit). The health effects seen in this study were due to precipitation of the test substance in the urinary tract when the test substance was fed at the solubility limit. Adverse health effects were not seen at lower doses where precipitation did not occur.

Interaction with Other Chemicals Which Enhance Toxicity: Contact with acids liberates toxic gases

GHS HEALTH HAZARDS

GHS: Acute Toxicity – Oral: Category 4 – Harmful if swallowed.

GHS: Acute Toxicity – Dermal: Not acutely toxic by dermal exposure

GHS: Acute Toxicity – Inhalation: Category 2 – Fatal if inhaled.

GHS Contact Hazard – Skin: Category 1C – Causes severe skin burns and eye damage.

GHS Contact Hazard – Eye: Category 1 – Causes serious eye damage.

GHS: Carcinogenicity: This product is not classified as a carcinogen by NTP, IARC or OSHA

SPECIFIC TARGET ORGAN TOXICITY (Single Exposure): Category 3 – Respiratory Tract Irritation

MUTAGENIC DATA: Not classified as a mutagen per GHS criteria. Not mutagenic in 5 Salmonella strains and 1E coli strain with or without mammalian microsomal activation.

REPRODUCTIVE DATA: Not classified as a reproductive toxin per GHS criteria. There are no known or recorded effects on reproductive function or fetal development.

OTHER HAZARDS: Contact with acids liberates toxic gas.

12. ECOLOGICAL INFORMATION

ECOTOXICITY DATA:

Fish Toxicity:

LC50 Bluegill Sunfish: 0.25-1.0 mg/l (96 hr)

LC50 Rainbow trout: 0.13-0.36 mg/l (96 hr.)

LC50 Inland silversides: 1.21 mg/L (96 hr)

Invertebrate Toxicity:

LC50 Water flea: 0.196 mg/L (48 hour)

LC50 Mysid shrimp: 1.65 mg/L (96 hour)

Other Toxicity:

LD50 Mallard Duck (oral): 1.916 mg/kg
LD50 N. Bobwhite Quail (oral): 1.732 mg/kg
LD50 Mallard Duck (diet) > 10,000 ppm
LD50 N. Bobwhite Quail (diet): >10000 ppm

FATE AND TRANSPORT:

BIODEGRADATION: This material is subject to hydrolysis. Cyanuric acid produced by hydrolysis. Cyanuric acid produced by hydrolysis is biodegradable.

PERSISTENCE: This material is believed not to persist in the environment. Free available chlorine is rapidly consumed by reaction with organic and inorganic materials to produce chloride ion. The stable degradation products are chloride ion and cyanuric acid.

BIOCONCENTRATION: This material in water liberating free available chlorine and cyanuric acid. These products are not bioaccumulative.

ADDITIONAL ECOLOGICAL INFORMATION: This product is very toxic to fish and aquatic organisms. This product is very toxic to aquatic life with long lasting effects. Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans or other waters unless in accordance with the requirements of appropriate regulatory requirements (e.g. permit and the permitting authority has been notified in writing prior to discharge). Do not discharge effluent containing this product into sewer systems without previously notifying the sewage treatment plant authority. For guidance, contact your local or regional regulatory water boards and/or other appropriate regulatory offices.

13. DISPOSAL CONSIDERATIONS

Waste from Material: Use or reuse if possible. This material is a registered pesticide. May be subject to disposal regulations. Dispose in accordance with all applicable regulations. Do not put product, spilled product, or filled or partially filled containers into the trash or waste compactor. DO NOT transport wet or damp material. Damp material should be neutralized to a non-oxidizing state.

Container Management:

See product label for container disposal information. Dispose of container in accordance with applicable local, regional, and/or international regulations. Container rinsate must be disposed of in compliance with applicable regulations.

14. TRANSPORT INFORMATION

LAND TRANSPORT

US DOT 49CFR 172.101

Status: Non-Bulk Packaging. Not regulated unless transported by vessel. Bulk packaging or shipment by vessel: Regulated as follows:

UN Number: UN3077

PROPER SHIPPING NAME: Environmentally Hazardous Substance, Solid, n.o.s. (Sodium dichloroisocyanurate dihydrate) marine Pollutant

HAZARD CLASS/DIVISION: 9

PACKING GROUP: III

LABELING REQUIREMENTS: 9 Marine Pollutant

MARINE POLLUTANT: Sodium dichloroisocyanurate dihydrate

15. REGULATORY INFORMATION

US Regulations

OSHA REGULATORY STATUS: This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200)
CERCLA SECTIONS 102A/103 HAZARDOUS SUBSTANCES (40 CFR 302.4): Not regulated.
SARA EHS Chemical (40 CFR 355.30): Not regulated
EPCRA SECTIONS 311/312 HAZRD CATEGORIES (40 CFR 370.10): Fire Hazard, Reactive Hazard, Acute Health Hazard
EPCRA SECTION 313 (40 CFR 372.65): Not regulated
OSHA PROCESS SAETY (PSM)(29 CFR 1910.119): Not regulated
FIFRA REGULATIONS: Registered pesticide under 40 CFR 152.10, Federal Insecticide, Fungicide and Rodenticide Act (FIFRA).
FIFRA LABELING REQUIREMENTS: This chemical is a pesticide product registered by the United States Environmental Protection Agency (EPA) and is subject to certain labeling requirements under federal pesticide sheets (SDS), and for workplace labels of non-pesticide chemicals. The hazard information required on the pesticide label is reproduced below. The pesticide label also includes other important information, including directions for use.
FIFRA Signal Word – DANGER
Corrosive
Causes irreversible eye damage
May be fatal if inhaled
Harmful if swallowed or absorbed through skin
This pesticide is toxic to fish and aquatic organisms
Strong Oxidizing Agent.
Contact with water slowly liberates irritating and hazardous chlorine containing gases
Decomposes at temperatures above 464^{o}F with liberation of harmful gases
When ignited will burn with the evolution of chlorine and equally toxic gases
NEVER add water to product
Always add product to large quantities of water
Use only clean and dry utensils
DO NOT add this product to any dispensing device containing remnants of any other product. Such use may cause a violent reaction leading to fire or explosion.
Contamination with moisture, organic material, or other incompatible chemicals may start a reaction with generation of heat, liberation of hazardous gases, and possible fire and explosion.
NATIONAL INVENTORY STATUS
US INVENTORY STATUS: Toxic Substance Control Act (TSCA): All components are listed or exempt.

16. OTHER INFORMATION

Prepared by: Qualco, Inc.
Rev. Date: May 27, 2015
HMIS SCALE (0-4) (Rated using National Paint & Coatings Association HMIS: Ratings Instructions 2nd Edition)
Health Rating = 3
Flammability Rating = 0
Reactivity Rating = 1
NFPA 704 – Hazrd Identification Ratings (SCALE 0-4)
Health Rating = 2
Flammability = 0
Reactivity Rating = 1

Reasons for Revision: Changed the SDS format to meet the GHS requirements of the revised 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200) Updated SDS header Added GHS Information Updated FIFRA Regulations Added revision date
This MSDS supersedes all previous MSDS. DISCLAIMER: Although reasonable care has been taken in the preparation of this document, we extend no warranties and make no responsibilities as to the accuracy or completeness of the information contained therein, ad assume no responsibility regarding the suitability if this information for the user's intended purposes or for the consequences of its use. Each individual should make a determination as to the suitability of the information for their particular purpose(s).

SAFETY DATA SHEET

According to Canadian Hazardous Products Regulations (HPR) (SOR/2015/17)

POWER STEERING FLUID

SDS # : 088374

Section 1. Identification

Product identifier : POWER STEERING FLUID

Relevant identified uses of the substance or mixture and uses advised against

Identified uses
Power steering fluid

Supplier's details :

TOTAL CANADA INC.
220, LAFLEUR
LASALLE, QUEBEC
H8R 4C9
Tel: (514) 595-7579
Fax: (514) 595-5950
ProductSafety@total.com

Emergency telephone number (with hours of operation) :

1-800-463-3955
1-866-928-0789 (For Emergencies, call CARECHEM 24/7 Domestic)
1-215-207-0061 (For Emergencies, call CARECHEM 24/7 International)

Section 2. Hazard identification

Classification of the substance or mixture : Not classified.

GHS label elements

Signal word : No signal word.

Hazard statements : No known significant effects or critical hazards.

Precautionary statements

General : Not applicable.

Prevention : Not applicable.

Response : Not applicable.

Storage : Not applicable.

Disposal : Not applicable.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Additional information : Mineral oil of petroleum origin Product containing mineral oil with less than 3% DMSO extract as measured by IP 346

There are no ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First-aid measures

Description of necessary first aid measures

Eye contact : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.

Inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.

Skin contact : Wash skin thoroughly with soap and water or use recognized skin cleanser. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.

Ingestion : Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : No known significant effects or critical hazards.

Inhalation : No known significant effects or critical hazards.

Skin contact : Defatting to the skin. May cause skin dryness and irritation.

Ingestion : No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact : No specific data.

Inhalation : No specific data.

Skin contact : Adverse symptoms may include the following:
irritation
dryness
cracking

Ingestion : No specific data.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments : No specific treatment.

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

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use dry chemical, CO_2, alcohol-resistant foam or water spray (fog).

Unsuitable extinguishing media : Do not use water jet.

Specific hazards arising from the chemical : In a fire or if heated, a pressure increase will occur and the container may burst.

Hazardous thermal decomposition products	:	No specific data.
Special protective actions for fire-fighters	:	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
Special protective equipment for fire-fighters	:	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel	:	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment.
For emergency responders	:	If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
Environmental precautions	:	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Small spill	:	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
Large spill	:	Stop leak if without risk. Move containers from spill area. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures	:	Put on appropriate personal protective equipment (see Section 8).
Advice on general occupational hygiene	:	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
Conditions for safe storage, including any incompatibilities	:	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

None.

Appropriate engineering controls : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Advisory OEL : Mineral oil mist: USA: OSHA (PEL) TWA 5 mg/m3, NIOSH (REL) TWA 5 mg/m3, STEL 10 mg/m3, ACGIH (TLV) TWA 5 mg/m3 (highly refined)

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.
Hydrocarbon-proof gloves
Fluorinated rubber
nitrile rubber
Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time.

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use. Respirator with combination filter for vapor/particulate Type A/P1 Warning ! filters have a limited use duration The use of breathing apparatus must comply strictly with the manufacturer's instructions and the regulations governing their choices and uses None under normal use conditions

Section 9. Physical and chemical properties

Appearance

Physical state	:	Liquid.
Color	:	Amber.
Odor	:	Petroleum distillates
Odor threshold	:	Not available.
pH	:	Not available.
Melting point/freezing point	:	Not available.
Boiling point	:	Not available.
Flash point	:	Open cup: 230°C (446°F) [Cleveland Open Cup (COC)]
Evaporation rate	:	Not available.
Flammability (solid, gas)	:	Not available.
Lower and upper explosive (flammable) limits	:	Not available.
Vapor pressure	:	Not available.
Vapor density	:	Not available.
Relative density	:	0.88 [ASTM D 1298]
Solubility	:	Insoluble in the following materials: cold water and hot water.
Solubility in water	:	Insoluble
Partition coefficient: n-octanol/water	:	Not available.
Auto-ignition temperature	:	Not available.
Decomposition temperature	:	Not available.
Viscosity	:	Kinematic (40°C (104°F)): 0.46 cm^2/s (46 cSt) [ASTM D 445]
Flow time (ISO 2431)	:	Not available.

Section 10. Stability and reactivity

Reactivity	:	No specific test data related to reactivity available for this product or its ingredients.
Chemical stability	:	The product is stable.
Possibility of hazardous reactions	:	Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	:	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
Incompatible materials	:	Strong oxidizing agents
Hazardous decomposition products	:	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Conclusion/Summary : Based on available data, the classification criteria are not met.

Irritation/Corrosion

Conclusion/Summary : Based on available data, the classification criteria are not met.

Sensitization

Not available.

Conclusion/Summary : Based on available data, the classification criteria are not met.

Mutagenicity

Not available.

Conclusion/Summary : Based on available data, the classification criteria are not met.

Carcinogenicity

Not available.

Conclusion/Summary : Based on available data, the classification criteria are not met.

Reproductive toxicity

Not available.

Conclusion/Summary : Based on available data, the classification criteria are not met.

Teratogenicity

Not available.

Conclusion/Summary : Based on available data, the classification criteria are not met.

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 : Defatting to the skin. May cause skin dryness and irritation.

Ingestion : No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : No specific data.

Inhalation : No specific data.

Skin contact : Adverse symptoms may include the following:
irritation
dryness
cracking

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

N/A

Section 12. Ecological information

Toxicity

Persistence and degradability

Not available.

Bioaccumulative potential

Not available.

Mobility in soil

Soil/water partition coefficient (K_{OC}) : Not available.

Mobility in soil : Given its physical and chemical characteristics, the product generally shows low soil mobility Loss by evaporation is limited

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

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

Additional information

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according to Annex II of MARPOL and the IBC Code : Not available.

Section 15. Regulatory information

Canadian lists

Canadian NPRI : None of the components are listed.

CEPA Toxic substances : None of the components are listed.

National regulations

This product has been classified in accordance with the hazard criteria of the Hazardous Products Regulations (HPR) (SOR/2015/17) and the Safety Data Sheet (SDS) contains all the information required by the HPR

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

Inventory list

Australia	:	All components are listed or exempted.
Canada	:	All components are listed or exempted.
China	:	All components are listed or exempted.
Europe	:	All components are listed or exempted.
Japan	:	**Japan inventory (ENCS)**: At least one component is not listed. **Japan inventory (ISHL)**: Not determined.
New Zealand	:	All components are listed or exempted.
Philippines	:	All components are listed or exempted.
Republic of Korea	:	All components are listed or exempted.
Taiwan	:	All components are listed or exempted.
Thailand	:	Not determined.
Turkey	:	Not determined.
United States	:	All components are listed or exempted.
Viet Nam	:	Not determined.

Section 16. Other information

History

Date of revision	:	2/23/2021
Date of previous revision	:	No previous validation
Version	:	1
Key to abbreviations	:	ATE = Acute Toxicity Estimate BCF = Bioconcentration Factor GHS = Globally Harmonized System of Classification and Labelling of Chemicals HPR = Hazardous Products Regulations IATA = International Air Transport Association IBC = Intermediate Bulk Container IMDG = International Maritime Dangerous Goods LogPow = logarithm of the octanol/water partition coefficient MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution) N/A = Not available UN = United Nations

Procedure used to derive the classification

Classification	Justification
Not classified.	

References : Not available.

Indicates information that has changed from previously issued version.

Notice to reader

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

Revision Number: 004.0

Issue date: 02/08/2013

1. PRODUCT AND COMPANY IDENTIFICATION

Product name: Pro Lock(TM) Tight(R) Anaerobic Gel
Product type: Anaerobic Adhesive

IDH number: 234345
Item number: 51604
Region: United States

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

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

2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

HMIS:

Physical state: Liquid
Color: Blue
Odor: Mild

HEALTH: *2
FLAMMABILITY: 2
PHYSICAL HAZARD: 1
Personal Protection: See MSDS Section 8

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

Relevant routes of exposure: Skin, Inhalation, Eyes

Potential Health Effects

Inhalation: May cause irritation to nose and throat.
Skin contact: May cause allergic skin reaction. Causes skin irritation.
Eye contact: Mild eye irritation. Contact with eyes will cause irritation.
Ingestion: May be harmful if swallowed.

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

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

See Section 11 for additional toxicological information.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Hazardous components	CAS NUMBER	%
Polyglycol dimethacrylate	25852-47-5	60 - 100
Dibutyl phthalate	84-74-2	10 - 30
Silicon dioxide	7631-86-9	5 - 10
Cellulose ester	9004-36-8	1 - 5
Saccharin	81-07-2	1 - 5
Cumene hydroperoxide	80-15-9	1 - 5
Propane-1,2-diol	57-55-6	1 - 5
1-Acetyl-2-phenylhydrazine	114-83-0	0.1 - 1
Cumene	98-82-8	0.1 - 1

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: Wash with soap and water. Remove contaminated clothing and footwear. Wash clothing before reuse. If symptoms develop and persist, get medical attention.

Eye contact: Flush with copious amounts of water, preferably, lukewarm water for at least 15 minutes, holding eyelids open all the time. Get medical attention.

Ingestion: Do not induce vomiting. Never give anything by mouth to an unconscious person. Keep individual calm. Get medical attention.

5. FIRE FIGHTING MEASURES

Flash point: 77.8 °C (172.04 °F) Pensky Martens closed cup

Autoignition temperature: Not available.

Flammable/Explosive limits - lower: Not available.

Flammable/Explosive limits - upper: Not available.

Extinguishing media: Foam, dry chemical or carbon dioxide.

Special firefighting procedures: Wear self-contained breathing apparatus and full protective clothing, such as turn-out gear.

Unusual fire or explosion hazards: Not available.

Hazardous combustion products: Oxides of carbon. Irritating organic vapours.

6. ACCIDENTAL RELEASE MEASURES

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

Environmental precautions: Do not allow product to enter sewer or waterways.

Clean-up methods: Ensure adequate ventilation. Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Store in a partly filled, closed container until disposal.

7. HANDLING AND STORAGE

Handling: Avoid contact with eyes, skin and clothing. Do not breathe gas/fumes/vapor/spray.

Storage: For safe storage, store at or below 38 °C (100.4 °F)
Store away from ignition sources.

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

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

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

Hazardous components	ACGIH TLV	OSHA PEL	AIHA WEEL	OTHER
Polyglycol dimethacrylate	None	None	None	None
Dibutyl phthalate	5 mg/m3 TWA	5 mg/m3 TWA	None	None
Silicon dioxide	6 mg/m3 TWA	20 MPPCF TWA 0.8 mg/m3 TWA	None	3 mg/m3 TWA Respirable fraction.
Cellulose ester	None	None	None	None
Saccharin	None	None	None	None
Cumene hydroperoxide	None	None	(SKIN) 1 ppm (6 mg/m3) TWA	None
Propane-1,2-diol	None	None	10 mg/m3 TWA Aerosol.	None
1-Acetyl-2-phenylhydrazine	None	None	None	None
Cumene	50 ppm TWA	50 ppm (245 mg/m3) TWA (SKIN)	None	None

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

Respiratory protection: Use NIOSH approved respirator if there is potential to exceed exposure limit(s).

Eye/face protection: Safety goggles or safety glasses with side shields.

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

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state: Liquid
Color: Blue
Odor: Mild
Odor threshold: Not available.
pH: Not applicable
Vapor pressure: < 5 mm hg (27 °C (80.6 °F))
Boiling point/range: > 149 °C (> 300.2 °F)
Melting point/ range: Not available.
Specific gravity: 1.1575
Vapor density: Not available.
Flash point: 77.8 °C (172.04 °F) Pensky Martens closed cup
Flammable/Explosive limits - lower: Not available.
Flammable/Explosive limits - upper: Not available.
Autoignition temperature: Not available.
Evaporation rate: Not available.
Solubility in water: Slight
Partition coefficient (n-octanol/water): Not available.
VOC content: < 4 %

10. STABILITY AND REACTIVITY

Stability: Stable

Hazardous reactions: Will not occur.

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

Incompatible materials: Strong oxidizing agents. Strong reducing agents. Strong alkalis. Amines. Other polymerization initiators.

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

11. TOXICOLOGICAL INFORMATION

Acute oral product toxicity: LD50 (rat) > 5,000 mg/kg (Estimated)

Acute dermal product toxicity: LD50 (rabbit) > 2,000 mg/kg (Estimated)

Hazardous components	NTP Carcinogen	IARC Carcinogen	OSHA Carcinogen (Specifically Regulated)
Polyglycol dimethacrylate	No	No	No
Dibutyl phthalate	No	No	No
Silicon dioxide	No	No	No
Cellulose ester	No	No	No
Saccharin	No	No	No
Cumene hydroperoxide	No	No	No
Propane-1,2-diol	No	No	No
1-Acetyl-2-phenylhydrazine	No	No	No
Cumene	No	Group 2B	No

Hazardous components	Health Effects/Target Organs
Polyglycol dimethacrylate	Irritant, Allergen
Dibutyl phthalate	Central nervous system, Developmental, Irritant, Reproductive
Silicon dioxide	Nuisance dust
Cellulose ester	No Target Organs
Saccharin	No Target Organs
Cumene hydroperoxide	Allergen, Central nervous system, Corrosive, Irritant, Mutagen
Propane-1,2-diol	Irritant
1-Acetyl-2-phenylhydrazine	Allergen, Blood, Kidney, Mutagen, Some evidence of carcinogenicity
Cumene	Central nervous system, Irritant, Lung

12. ECOLOGICAL INFORMATION

Ecological information: Not available.

13. DISPOSAL CONSIDERATIONS

Information provided is for unused product only.

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

Hazardous waste number: Not a RCRA hazardous waste.

14. TRANSPORT INFORMATION

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

Proper shipping name: Environmentally hazardous substances, liquid, n.o.s. (Di-n-butyl phthalate)
Hazard class or division: 9
Identification number: UN 3082
Packing group: III
Marine pollutant: Di-n-butyl phthalate
DOT Reportable quantity: Dibutyl phthalate, alpha,alpha-Dimethylbenzylhydroperoxide

International Air Transportation (ICAO/IATA)

Proper shipping name: Environmentally hazardous substance, liquid, n.o.s. (Di-n-butyl phthalate)
Hazard class or division: 9
Identification number: UN 3082
Packing group: III

Water Transportation (IMO/IMDG)

Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Di-n-butyl phthalate)
Hazard class or division: 9
Identification number: UN 3082
Packing group: III
Marine pollutant: Di-n-butyl phthalate

15. REGULATORY INFORMATION

United States Regulatory Information

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

CERCLA/SARA Section 302 EHS: None above reporting de minimis
CERCLA/SARA Section 311/312: Immediate Health, Delayed Health, Fire
CERCLA/SARA 313: This product contains the following toxic chemicals subject to the reporting requirements of section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 (40 CFR 372). Dibutyl phthalate (CAS# 84-74-2). Cumene hydroperoxide (CAS# 80-15-9).
CERCLA Reportable quantity: Dibutyl phthalate (CAS# 84-74-2) 10 lbs. (4.54 kg)
Saccharin (CAS# 81-07-2)
Cumene hydroperoxide (CAS# 80-15-9) 10 lbs. (4.54 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/NDSL Status: All components are listed on or are exempt from listing on the Canadian Domestic Substances List.
WHMIS hazard class: B.3, D.2.A, D.2.B

16. OTHER INFORMATION

This material safety data sheet contains changes from the previous version in sections: 1, 3, 8, 11, 15

Prepared by: Kyra Kozak Woods, Manager, Regulatory Affairs

SECTION 1 - IDENTIFICATION: PRODUCT IDENTIFIER AND CHEMICAL IDENTITY

The Coleman Company, Inc.
3600 N Hydraulic
Wichita, Kansas 67219
Phone: 1 800 835 3278 (bus hours)

Chemical Nature:	**Petroleum Gases, Liquefied**
Trade Name:	**Propane**
Product Use:	**Disposable cartridges for use in portable gas appliances**
Creation Date:	**16-August-2012**
Revision Date:	**30-June-2014**

SECTION 2 - HAZARD IDENTIFICATION

UN Number:	**1075, Petroleum Gases, Liquefied**
Classification:	**Flammable Gases, Category 1**
SUSDP Classification:	**S6**

Hazard Statements	**DANGER** **Extremely flammable gas.** **Harmful if inhaled.** **Causes skin irritation.** **Causes serious eye irritation.**
Precautionary Statements	**Keep out of the reach of children.** **Keep container in a well-ventilated place at a temperature not exceeding 48°C.** **Keep away from heat and ignition sources - No Smoking.** **In case of fire, use dry chemical, water fog or foam.** **Use only in well ventilated areas.** **Wash thoroughly with soap and water after handling and before eating, drinking or using tobacco.** **In case of insufficient ventilation, wear suitable respiratory equipment.** **Remove to fresh air immediately. Get medical attention immediately.** **Do NOT induce vomiting. Get immediate medical attention.** **If frostbite, call a physician.** **Hold eyelids apart and flush eyes with plenty of water for at least 15 minutes. Get medical attention.** **Avoid run off to waterways and sewers.**

SECTION 3 - COMPOSITION AND INFORMATION ON INGREDIENTS

Chemical	CAS Number	EC Number	Conc. %	OSHA	Australia	Canada	EU
Propane	74-98-6	200-827-9	90-99%	1000 ppm	not set	1000 ppm	not set
Ethyl Mercaptan	75-08-1	200-837-3	trace	not set	0.5 ppm	0.5 ppm	not set
C2-C4 Hydrocarbons	Various	---	to 100%	not set	not set	1000 ppm	not set

This is a commercial product whose exact ratio of components may vary slightly. Minor quantities of other non hazardous ingredients are also possible.

SECTION 4 - FIRST AID MEASURES

Inhalation Remove person to fresh air and seek immediate medical assistance. Give oxygen if breathing is difficult, give artificial resuscitation if not breathing.

Eye Contact Irrigate with water for 15 minutes. Hold eyelids open to ensure adequate flushing. Seek immediate medical assistance.

Ingestion Do NOT induce vomiting. Seek immediate medical assistance.

Skin Contact In case of cold burns caused by rapidly expanding gas or vaporizing liquid, seek immediate medical assistance. Loosely wrap the affected area in towels wet with warm water.

SECTION 5 - FIRE FIGHTING MEASURES

Liquid releases flammable vapors at well below ambient temperatures and readily forms a flammable mixture with air. Dangerous fire and explosion hazard when exposed to heat, sparks or flame. Vapors are heavier than air and may travel long distances to a point of ignition and flash back. Container may explode in heat or fire. Runoff to sewer may cause fire or explosion hazard.

Extinguishing Media: Use Dry Chemical, Water Fog or Foam extinguishers.

Fire Fighting: Fire fighters to wear respiratory protection (positive pressure if available). Do not enter enclosed or confined spaces without proper protective equipment. Use water to cool containers exposed to flames.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Use personal safety equipment at all times as detailed in Section 8. Evacuate area and shut off all sources of ignition. Contain spill and keep from entering waterways or sewers. Absorb with inert material. Shovel or sweep spill and place in closed container for disposal. Advise EPA or state agency if required.

SECTION 7 - HANDLING AND STORAGE

Handling: Minimize the quantities kept in work areas. Keep product away from high energy ignition sources, heat, sparks, pilot lights, static electricity and open flame. Do not eat, drink or smoke when handling this product. Wash hands thoroughly after handling.

Storage: Store in a cool, well ventilated area with adequate containment in the event of spills and away from sources of ignition. Do not store where temperature may exceed 48^{o}C. Check containers and valves periodically for leaks.

Special Precautions: To prevent and minimize fire or explosion risk from static accumulation and discharge, effectively bond and/or ground product transfer system. Electrical equipment and fittings must comply with local fire prevention regulations for this class of product.

EMPTY CONTAINER WARNING: Empty containers retain residue (liquid and/or vapor) and can be dangerous. DO NOT PRESSURIZE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY OR OTHER SOURCES OF IGNITION. THEY MAY EXPLODE AND CAUSE INJURY OR DEATH. Do not reuse empty containers without commercial cleaning or reconditioning. All containers should be disposed of in an environmentally safe manner and in accordance with governmental regulations.

SECTION 8 - EXPOSURE CONTROLS AND PERSONAL PROTECTION

Engineering Controls: Use only in a well ventilated area. See Section 3 for exposure limits. Use non-sparking equipment and lighting in areas where explosive vapors may form. Loading, unloading, tank gauging, etc., remain upwind. Keep containers closed when not in use.

Personal Protection:

Eye / Face Protection Safety glasses, splash goggles or face shield as appropriate.

Skin Protection Avoid prolonged and/or repeated skin contact. If prolonged contact cannot be avoided, wear protective gloves (cotton, rubber, PVC) and clothing.

Respiratory Protection Use supplied air or self-contained breathing equipment in confined or enclosed spaces, fire fighting or for unknown concentrations.

Environmental Controls: Keep fuel from entering waterways and sewers.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Clear, colorless gas
Odor:	Odorless - a stenching agent (ethyl mercaptan) has been added so leaks can be detected
Boiling Point:	-44°C @ 14.70 PSIA
Melting Point:	-218°C
Flashpoint:	-104°C
Evaporation Rate:	Very Rapid
Flammability Limits:	2.0 - 9.5%
Vapor Pressure:	190 - 208 PSI
Vapor Density:	1.56
Specific Gravity:	0.59
Solubility in Water:	Insoluble
Autoignition Temperature:	450°C

SECTION 10 - STABILITY AND REACTIVITY

Stability: Stable under normal conditions of use.

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

Materials to Avoid: Avoid contact with strong acids, alkalies and oxidizers.

Hazardous Decomposition: Burning may result in sulfur dioxide and sulfur trioxide fumes, smoke, carbon monoxide and carbon dioxide. HAZARDOUS POLYMERIZATION will not occur.

SECTION 11 - TOXICOLOGICAL INFORMATION

Health Effects: Acute

Ingestion Due to high volatility this is not likely to occur.

Inhalation Exposure may produce rapid breathing, headache, dizziness, visual disturbances, muscular weakness, tremors, narcosis, unconsciousness or death depending on concentration/time of exposure.

Skin Exposure Exposure to liquid could result in frostbite symptoms.

Eye Exposure Liquid will cause severe damage. Vapor will cause irritation.

This product is not listed as carcinogenic or a potential carcinogen by the National Toxicology Program.

SECTION 12 - ECOLOGICAL INFORMATION

Liquid release is only expected to cause localized, non-persistent environmental damage, such as freezing. Biodegradation of this product may occur in soil and water. Volatilization is expected to be the most important removal process in soil and water. This product is expected to exist entirely in the vapor phase in ambient air.

SECTION 13 - DISPOSAL CONSIDERATION

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

SECTION 14 - TRANSPORT INFORMATION

U.S. Department of Transportation (DOT)

Proper Shipping Name:	**Petroleum Gases, Liquefied**
UN Number:	**1075**
Hazard Class	**2.1**
Packing Group:	**Not specified**
Marine Pollutant:	**No**

International Maritime Organization (IMDG)

Proper Shipping Name:	**Petroleum Gases, Liquefied**
UN Number:	**1075**
Hazard Class	**2.1**
Packing Group:	**Not specified**
Marine Pollutant:	**No**

Transport of Dangerous Goods by Road (ADR)

Proper Shipping Name:	**Petroleum Gases, Liquefied**
UN Number:	**1075**
Hazard Class	**2.1**
Packing Group:	**Not specified**
Marine Pollutant:	**No**

Transport of Dangerous Goods by Rail (RID)

Proper Shipping Name:	**Petroleum Gases, Liquefied**
UN Number:	**1075**
Hazard Class	**2.1**
Packing Group:	**Not specified**
Marine Pollutant:	**No**

International Air Transport Association (IATA)

Proper Shipping Name:	**Petroleum Gases, Liquefied**
UN Number:	**1075**
Hazard Class	**2.1**
Packing Group:	**Not specified**
Marine Pollutant:	**No**

SECTION 15 - REGULATORY INFORMATION

SECTION 16 - ANY OTHER RELEVANT INFORMATION

This SDS contains only safety-related information. For other data see product literature.

PLEASE READ ALL LABELS CAREFULLY BEFORE USING PRODUCT.

Manufacturer Disclaimer:
The information contained herein is based upon data available to us and reflects our best professional judgment. However no warranty of merchantability, fitness for any use, or other warranty is expressed or implied regarding the accuracy of such data, the results to be obtained from the use thereof, or that any such use does not infringe any patent. Since the information contained herein may be applied under conditions of use beyond our control and with which we may be unfamiliar, we do not assume any responsibility for the results of such application. This information is furnished upon the condition that the person receiving it shall make his own determination of the suitability of the material for his particular purpose.

Within the US:

The Coleman Company, Inc.
3600 N Hydraulic
Wichita, Kansas 67219
Phone: 1 800 835 3278 (bus hours)
American Association of Poison Control Centers: 1 800 222 1222

Within Australia:

Coleman Brands Pty Limited
Suite W2C1, 75-85 O'Riordan St
Sydney Corporate Park, Alexandria, NSW 2015
Phone: 1 800 224 350 (bus hours)
Poisons Information Centre: 13 1126 within Australia, 0800 764 766 in New Zealand

Within Canada:

Sunbeam Corporation (Canada) Limited
20B Hereford Street
Brampton, Ontario L6Y 0M1
Phone: 1 800 387 6161 (bus hours)
Poison and Drug Information Services: 1 866 454 1212

Within United Kingdom:

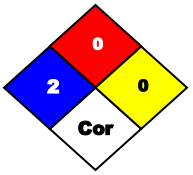
Coleman UK Ltd
Kestrel Court, Harbour Road - Portishead
Bristol, BS20 7AN - England
Phone: 44 (0)1275 845024 (bus hours)
National Poisons Information Service: 0845 4647 in England & Wales, 08454 24 24 24 in Scotland, 01 809 2166 in Republic of Ireland

Revisions:

6/30/2014 **Added Environmental Control information to Section 8, Marine Pollutant information to Section 14 and Campingaz United Kingdom contact information.**

SAFETY DATA SHEET

For Chemical Emergency Spill, Leak, Fire Exposure or Accident
Call INFOTRAC Day or Night
North America: 800-535-5053 International (collect calls accepted): 1-352-323-3500



Section 1– Product And Company Information

Supplier's Name: ChemTron
Supplier's Address: 3911 SW 47TH AVE, # 914, DAVIE, FL, 33314, USA
Product Name: PURPLE POWER DEGREASER
Product Number: CT - 366

DOT Proper Shipping/ Hazard Name (49 CFR 172.101): Sodium Hydroxide, solution
DOT ID # (49 CFR 172.101): UN 1824
DOT Hazard Class (49 CFR 172.101): Class 8, PGIII

FLAMMABILITY (Red): NFPA: 0 **HMIS**: 0
HEALTH (Blue): NFPA: 2 **HMIS**: 2
REACTIVITY (Yellow): NFPA: 1 **HMIS:**0
Personal Protection (HMIS)= D

Section 2 – Health Hazard Identification

This product is considered hazardous according to OSHA's Hazard Communication and international GHS standards and this certification was prepared using Regulations 1907/2006 and 1272/2008.

Classification of the substance or mixture.

 Skin Corr. 1A  Acute toxicity, oral. 3  Acute Hazard. 2

· **Label elements**

· **GHS label elements**
The substance is classified and labeled according to the Globally Harmonized System (GHS).

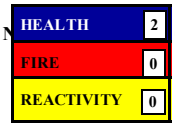
· **Hazard pictograms**

 · **Sig-**  **nal**  **word:** Danger!

· **Hazard-determining components of labeling:**
Nonyl Phenol Ethoxylate; Sodium Hydroxide; Sodium Metasilicate.
· **Hazard statements**
H301 Toxic if Swallowed
H314 Causes severe skin burns and eye damage.
H335 May cause respiratory irritation
H401 Toxic to aquatic life.
· **Precautionary statements**
P260 Do not breathe dust/fume/gas/mist/vapors/spray.
P264 Wash...thoroughly after handling
P270 Do not eat, drink or smoke when using this product
P273 Avoid release to the environment,
P301+P330+ P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P363 Wash contaminated clothing before reuse.
P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P310 Immediately call a POISON CENTER or doctor/physician.
P305+ P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P405 Store locked up.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

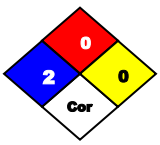
Classification system:
HMIS Ratings (scale 0—4)

Health: 2
Fire: 0
Reactivity: 0



0—4)

Health hazard: 2
Fire: 0
Reactivity Hazard: 0
Special hazard.: Corrosive



Section 3– Components

Component	CAS#	%	ACGIH(TLV-TWA)	OSHA (TWA)
Nonyl Phenol Ethoxylate	127087-87-0	—	NE	NE
Sodium Hydroxide	1310-73-2	10%	2mg/m3	2mg/m3
Sodium Metasilicate	683-49-20	—	NE	NE
Water and non active ingredients	Blend	—	NA	NA

Section 4 - First Aid Measures

If On Skin: Thoroughly wash exposed area with soap and water remove contaminated clothing. If necessary, neutralize with lemon juice. Launder before reuse. Get medical attention.
If In Eyes: Flush with water for 15 minutes, lifting upper and lower lids occasionally. Can be neutralized with lemon juice. Seek medical attention immediately.
If Breathed: If affected, remove individual to fresh air. If breathing is difficult, administer oxygen. Keep person warm and quiet. Get medical attention.
If Swallowed: Do not induce vomiting. Give lemon juice and water to drink. Keep person warm, quiet and seek immediate medical attention.

Section 5 – Fire Fighting Measures

Flash Point: None
Flammable Limits in Air: **Upper:** NAP **Lower**: NAP
Extinguishing Media: Regular foam, carbon dioxide, dry chemical, for surrounding fire.
Hazardous Decomposition Products: Carbon and Nitrogen Oxides.
Firefighting Procedures: Wear self-contained breathing apparatus with a full face piece operated in the positive pressure demand mode when fighting fires.
Special Fire and Explosion Hazards: None

Section 6 - Accidental Release Measures

Personal Precautions:
For personal protection see section 8. Persons not wearing protective equipment should be excluded from the area of the spill until cleanup has been completed.

Environmental Precautions:
Prevent from entering drains, sewers, streams or other bodies of water. Prevent from spreading. If runoff occurs notify authorities as required.

Methods for Cleaning Up Spills:
Small Spill: Use absorbent materials and dispose as directed by local regulatory norms. Can be neutralized with weak acids.
Large Spill: Stop spill at source. Isolate and dike with soaking materials. Pump or vacuum transfer spilled product to clean containers for recovery. Absorb unrecoverable product and dispose according to local laws.

Section 7 – Storage & Handling

KEEP OUT OF REACH OF CHILDREN
For industrial and institutional use only. Store in a cool, dry, well - ventilated area. Do not store at temperatures in excess of 120ºF for prolonged periods.
Always store in original container. Keep container tightly closed. Follow all label instructions and precautions.

Section 8 - Exposure Control / Personal Protection

Respiratory Protection: If workplace exposure limits product or any component is exceeded a NIOSH/MSHA approved air supplied respirator is advised in absence of proper environmental control. OSHA regulations also permit other NIOSH/MSHA respirators (negative pressure types) under specified conditions. Engineering or administrative controls should be implemented to reduce exposure.

Ventilation: Provide sufficient mechanical ventilation to maintain exposure below TLV.
Protective Gloves: Rubber, neoprene or other resistant elastomer.
Eye Protection: Chemical splash resistant goggles or face shield.
Other Protective Clothing & Equipment: Rubber aprons and boots when working with large quanti- ties.

Section 9-Physical And Chemical Properties

Appearance: Transparent Blue liquid.
Color: Blue.
Odor: Odorless.
Physical State: Liquid
pH: ND (Basic)
Melting Point: ND
Boiling Point: 212 ºF
Flash Point: NAP
Evaporation Rate: ND
Flammable Limits: NAP
Vapor Pressure: ND
Specific Gravity (H^2O = 1): 1.09 gr/cc
Refractive Index: ND
Vapor Density: (Air = 1): NA
Auto ignition Temperature: ND
Solubility in Water: Soluble
Partition coefficient (n-octanol/water): ND
% Volatile: 90%

Section 10 – Stability And Reactivity Information

Stability: Stable **Hazardous Polymerization**: Will not occur
Incompatibility (Materials to Avoid): Oxidizing Materials. Acids. Metals (aluminum, copper) **Conditions To Avoid:** none.

Section 11 - Toxicological Information

Oral Toxicity (LD50): Nonyl Phenol Ethoxylate 1410 mg/kg [Rat] Sodium Hydroxide 500 mg/kg [Rabbit]
Inhalation Toxicity: No data
Dermal Toxicity: Nonyl Phenol Ethoxylate (LD50) 2830 mg/kg [Rabbit]
Irritancy of Product: This product is irritating to the skin, eyes, respiratory, and digestive tract.

Section 12 - Ecological Information

Toxicity: This product has the potential to be hazardous to aquatic life.
Persistence and Degradability: Possibly hazardous short term degradation products are not likely. However, hazardous long term degradation products may arise.
Bio-accumulative Potential: No data.
Other Adverse Effects: The products of degradation are less toxic than the product itself.

Section 13 - Disposal Considerations

Waste Disposal Method:
Disposal should be made in accordance with federal, state, and local regulations.

Section 14 - Transport Information

The listed transportation classification does not address regulatory variations due to changes in package size, mode of shipment or other regulatory descriptions.

Road—DOT (ground)
Proper Shipping Name: Sodium Hydroxide solution
Hazard class: 8
UN Number: UN1824
Packaging Group: III
Label/Placard: 8 Corrosive Liquid

Sea—IMDG (sea)
Proper Shipping Name: Sodium Hydroxide solution
Hazard class: 8
UN Number: UN1824
Packaging Group: III
Label/Placard: 8 Corrosive Liquid

Air—IATA (air)
Proper Shipping Name: Sodium Hydroxide solution
Hazard class: 8
UN Number: UN1824
Packaging Group: III
Label/Placard: 8 Corrosive Liquid

Section 15 - Regulatory Information

Federal and State Regulations: Illinois toxic substances disclosure to employee act: Sodium hydroxide Illinois chemical safety act: Sodium hydroxide New York release reporting list: Sodium hydroxide Rhode Island RTK hazardous substances: Sodium hydroxide Pennsylvania RTK: Sodium hydroxide Minnesota: Sodium hydroxide Massachusetts RTK: Sodium hydroxide New Jersey: Sodium hydroxide Louisiana spill reporting: Sodium hydroxide California Director's List of Hazardous Substances: Sodium hydroxide TSCA 8 (b) inventory: Sodium hydroxide
CERCLA: Hazardous substances.: Sodium hydroxide: 1000 lbs. (453.6 kg)
OSHA: Components of this product are considered hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200). EINECS: This product is on the European Inventory of Existing Commercial Chemical Substances

FLAMMABILITY (Red): NFPA: 0 **HMIS**: 0
HEALTH (Blue): NFPA: 2 **HMIS**: 2
REACTIVITY (Yellow): NFPA: 1 **HMIS:** 1
Personal Protection (HMIS)= D

Section 16 – Special Precautions Or Other Comments

Corrosive Liquid! Wash hands with soap and water after use. Avoid contact with open wounds. Although information contained herein is believed to be correct as of the date of this document, ChemTron makes no representation as to the completeness or accuracy of such information. ChemTron shall in no event be responsible for any damages directly or indirectly from use of or reliance on this information. This information is provided solely to assist the customer with the Occupational Safety and Health Act of 1970 and The Right to Know regulations. Any other use is prohibited.

Prepared by: E. Malaguti
Email: emalaguti@chemtron.com

Legend:

NE: Not Evaluated
ND: Not Determined
NA: Not Available
NAP: Not Applicable
NR: Not Regulated

SAFETY DATA SHEET

Date of Issue: 1/12/2020

SECTION 1 – PRODUCT AND COMPANY IDENTIFICATION

PRODUCT IDENTIFICATION	SYNONYMS	CHEMICAL NAME/CAS NO.
Ready-mix Concrete	Mixed Unhardened Concrete, Flowable fill, Concrete grout, Roller-compacted concrete.	Not Applicable

RECOMMENDED USE OR RESTRICTIONS
Ready-mix Concrete is used as a construction material.

MANUFACTURER	ADDRESS	TELEPHONE NO.
Delaware Valley Concrete: Hatboro	248 E County Line Rd Hatboro, PA 19040	215-675-8900
Delaware Valley Concrete: New Britain	20 S Shady Retreat Rd New Britain, PA 18901	215-348-2048
Delaware Valley Concrete: Kennett Square	3 Ways Ln Kennett Square, PA 19348	610-444-2682
Delaware Valley Concrete: Conshohocken	1100 Conshohocken Rd Conshohocken, PA 19428	610-275-6555
Delaware Valley Concrete: Gap	5834 Old Lincoln Hwy Gap, PA 17527	717-407-5348
Delaware Valley Concrete: Malvern	660 N. Morehall Rd-Rt 29 Malvern, PA 19355	610-296-8190
Delaware Valley Concrete: Elizabethtown	483 Anchor Rd Elizabethtown, PA 17022	717-689-3231

SDS PREPARED BY	ADDRESS	TELEPHONE NO.
Delaware Valley Concrete	248 E County Line Rd Hatboro, PA 19040	215-675-8900

SECTION 2 – HAZARD(S) IDENTIFICATION

HAZARD CLASSIFICATION:
Category 1A Carcinogen
Category 1 Specific Target Organ Toxicity (STOT) following repeated exposures
Category 1 Eye Damage
Category 2 Skin Irritant

SIGNAL WORD: DANGER

HAZARDS OVERVIEW: Skin and eye exposure to the wet material may occur without protective clothing and/or personal protective equipment. Extended exposure to skin and eyes must be avoided since it may cause serious caustic, alkaline burns and tissue damage, which is potentially irreversible. Respirable crystalline silica exposure is unlikely when handling the wet, unhardened ready-mix concrete. However, cutting, sawing, grinding, or crushing hardened concrete will likely produce airborne dust containing respirable crystalline silica posing an inhalation hazard. Avoid breathing dust created from the breaking of hardened concrete.

Long-term overexposure to respirable crystalline silica in the workplace may cause lung damage and silicosis. Crystalline silica is listed as a Group 1 carcinogen (carcinogenic to humans) by the IARC and NTP.

PRIMARY ROUTE(S) OF EXPOSURE: Skin and/or eye contact

ADDITIONAL ROUTE(S) OF EXPOSURE: Inhalation

EYE CONTACT: Must be avoided. Eye contact with wet, unhardened ready-mix concrete may cause immediate irritation or alkaline burns and require immediate first aid and possible medical attention to prevent serious damage.

SKIN CONTACT: Contact with wet, unhardened concrete should be avoided. Short-term exposure may cause dry skin, discomfort, and irritation. Longer-term, prolonged exposure may cause serious alkaline burns and dermatitis. Irritant dermatitis may be caused by alkalinity and the abrasiveness of the concrete. Some people may experience more serious skin allergy ranging from a mild rash to more serious scaling, cracking, or ulceration of the skin. Exposed persons maynot feel discomfort until hours after the exposure has ended.

SKIN ABSORPTION: Not expected.

INGESTION: Not likely but should not be ingested. Small amounts may cause temporary irritation. Large amounts could result in more serious caustic, alkalineburns.

INHALATION: Not likely while handling wet, unhardened material, but should be avoided by using personal protective equipment, if necessary. Dust generated during breaking of hardened concrete may cause irritation of the nose, throat, and lungs and should be avoided due to the dust containing respirable crystalline silica (quartz). Prolonged inhalation to respirable crystalline silica may causesilicosis.

See Section 8 for exposure thresholds.

SECTION 3 – COMPOSITION / INFORMATION ON INGREDIENTS

CAS No.	COMPONENT / CHEMICAL NAME	Wt.% (Approx.)
1317-65-3	Limestone aggregate	40-50
14808-60-7	Sand, Crystalline Silica (Quartz) *	30-40
65997-15-1	Portland cement	5-10
--	Pozzolans / Other Cementitious Materials	1-10

The exact composition of ready-mix concrete will vary based on mix design. Unhardened ready-mix concrete is typically a light grey, flowable, granular consistency. The product is mixed, transported, and placed while wet. Various colors and textures may be included in the mixing or finishing of the concrete. Concrete may contain pozzolans such as fly ash, slag cement, etc., and various admixtures to improve the workability or finished properties of the product.

* Product contains greater than 0.1% total crystalline silica (quartz) and greater than 0.1% respirable crystalline silica (particle size ≤4 um). Crystalline silica would be
* bound in the wet, unhardened ready-mix concrete, but may be released upon sawing, cutting, grinding, or crushing, the dry, hardened product. Respirable crystalline silica is considered a hazardous chemical as defined by ACGIH and NIOSH.

SECTION 4 – FIRST-AID MEASURES

EYES: Rinse immediately with plenty of water for at least 15 minutes. If irritation persists, seek medicalattention.

SKIN: Wash thoroughly with soap and water. Seek medical attention for rash, burns, irritation, or dermatitis due to prolonged unprotected exposure to wet concrete.

INHALATION: Remove person from exposure area to fresh air. Adverse health effects associated with exposure to respirable crystalline silica (quartz) during cutting or demolition of hardened concrete typically results from chronic (long-term), not acute (short-term) exposure. Seek medical attention if irritation, coughing, or discomfortpersists.

INGESTION: Product is considered non-toxic in small amounts. If large amounts are ingested do not induce vomiting. If person is conscious, give large amounts of water. Seek medical attention since gastrointestinal irritation and/or blockage may result.

SECTION 5 – FIRE-FIGHTING MEASURES

EXTINGUISHING AGENTS: Product is not flammable, combustible, or explosive. Use extinguishing media appropriate for surrounding fire.

SPECIAL FIRE FIGHTING PROCEDURES: Use self-contained breathing apparatus (SCBA) with full face

mask. UNUSUAL FIRE AND EXPLOSION HAZARDS: See Section 10 regarding Stability and Reactivity.

SECTION 6 – ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

PERSONAL PRECAUTIONS: The personal protection and control measures identified in Section 8 of this SDS should be used as appropriate.

ENVIRONMENTAL PRECAUTIONS: A spill on the ground is not a hazard. However, prevent unhardened concrete or any run-off in contact with unhardened concrete from entering any waterway, storm drain, or sewer system where it would harden and potentially impede flow. Water runoff which contacts unhardened concrete becomes alkaline. Prevent any water runoff from entering a waterway where it may cause an unsightly scum on the water and may raise the pH of the water. This may affect aquatic life depending on the concentration. Discard any product, residue, disposable container or liner in compliance with regulatory requirements.

CLEANUP PROCEDURES: Use normal clean-up methods. It can be disposed of as common waste in a landfill or used as fill after concrete has hardened.

SPECIAL PROCEDURES: No special containment or evacuation procedures are necessary.

SECTION 7 – HANDLING AND STORAGE

Follow the personal protection and control measures set forth in Section 8 of this SDS when handling this product. Respirable crystalline silica may be generated in airborne dust when demolishing, cutting, sawing, grinding, or crushing hardened concrete. Avoid breathing dust during demolition or surface cutting. Always wash skin thoroughly after contact with wet, unhardened concrete.

SECTION 8 – EXPOSURE CONTROLS / PERSONAL PROTECTION

CAS No.	COMPONENT / CHEMICAL NAME	Wt.% (Approx.)	IDLH (mg/m3)	EXPOSURE LIMITS [a],[b]			
				TYPE	OSHA PEL (8-HR TWA)	NIOSH REL (TWA)	ACGIH (TWA)
1317-65-3	Limestone	40-50	NE	Respirable fraction[d]	5 mg/m^3	NA	Use Respirable Silica TLV
				Total dust[e]	15 mg/m^3		10 mg/m^3
14808-60-7	Sand, Crystalline Silica (Quartz) [c]	30-40	50	Respirable fraction	10 mg/m^3 ÷ (%SiO_2 +2)	0.05 mg/m^3	0.025 mg/m^3
				Total dust	30 mg/m^3 ÷ (%SiO_2 +2)		NE[f]
65997-15-1	Portland Cement	5-10		Respirable fraction	5 mg/m^3	5 mg/m^3	10 mg/m^3
				Total dust	15 mg/m^3	10 mg/m^3	NE
--	Pozzolans / Other Cementitious Materials	1-10		Respirable fraction	5 mg/m^3	NA	NE
				Total dust	15 mg/m^3		NE

Concrete may contain pozzolans such as fly ash, blast furnace slag, etc. and various admixtures to improve the workability or finished properties of the product.

Notes:

(a) OSHA PEL (permissible exposure limits) taken from 29 CFR 1910.1000, Table Z-1. Proposed MSHA PEL withdrawn in 2002 and 2004; therefore, assume the OSHA PEL to represent any MSHA PEL. NIOSH and IDHL values obtained from the Centers for Disease Control and Prevention (CDC) NIOSH Pocket Guide. ACGIH values obtained from www.acgih.org where available.

(b) TWA = 8-Hour Time Weighted Average. No ceiling or short-term exposure limits (STEL) have been designated for the above ingredient(s).

(c) Composition varies naturally – typically contains >99% crystalline silica (quartz). Product contains approximately 28% of respirable crystalline silica (particle size ≤4 um) based on analytical results of bulk powder samples of this product analyzed using a particle size laser diffraction test method and MicroTrac S-3000 instrumentation. Only respirable crystalline silica is considered a hazardous chemical as defined by ACGIH and NIOSH.

(d) "Respirable fraction" refers to the amount of airborne dust in sizes capable of passing through the upper respiratory system to reach the lower lung passages, i.e., the amount of dust small enough to be inhaled into the lungs during periods of exposure to a product. Not all dust is respirable.

(e) "Total dust" refers to the total amount of all airborne particulate generated for a particular component.

(f) NE = Not Established

ACGIH – American Conference of Governmental Industrial Hygienists IDLH -- Immediately Dangerous to Life and Health
MSHA – Mine Safety and Health Administration
NIOSH – National Institute for Occupational Safety and Health OSHA -- Occupational Safety and Health Administration
PEL – Permissible Exposure Limit
REL – Recommended Exposure Limit
STEL – Short Term Exposure Limit TLV – Threshold Limit Value
TWA – Time Weighted Average

ENGINEERING CONTROLS:	Provide adequate local exhaust ventilation to maintain worker exposure below exposure limits during cutting, sawing, grinding, or demolition of dry, hardened concrete.

PERSONAL PROTECTIVE EQUIPMENT:

RESPIRATORY PROTECTION:	Not typically needed when working with wet product. Recommended while cutting, sawing, grinding, or demolishing dry, hardened concrete. Wear a NIOSH/MSHA approved respirator with N-100 or P-100 filters when adequate ventilation is not available or occupational exposure limits are exceeded. For dusty conditions use an approved dust mask.
VENTILATION:	Use local exhaust ventilation aswell as sufficient general area ventilation.
SKIN PROTECTION:	Wearing of protective gloves, boots, and clothing isrecommended and to prevent skin contact.
EYE PROTECTION:	Safety glasses with side shields should be worn to prevent splash of wet, unhardened concrete into eyes. Dust goggles should be worn when excessively (visible) dusty conditions are present or are anticipated during cutting, grinding, sawing, or demolition of hardened concrete. The employer should provide an eye-wash station or fountain within the immediate working area for emergency use.
HYGIENE:	Wash dust-exposed skin with soap and water before eating, drinking, smoking, and using toilet facilities. Wash work clothes after eachuse.
OTHER CONTROL MEASURES:	A clean water supply for first aid and cleaning should be available. Engineering controls, including, but not limited to, wet suppression, ventilation, enclosures, etc., should be used as needed to reduce employee exposure to particulates and to maintain exposure levels below allowable limits. Dust exposure should be monitored by a health and safety professional as needed to determine worker exposure levels.

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE AND ODOR: Normally light gray (may be colored at times), flowable, semi-solid, granular mixture with no odor.

pH: 10-14 (Alkaline).	SPECIFIC GRAVITY (H2O = 1): 2.68-2.85
MELTING POINT/FREEZING POINT: Not Applicable	BOILING POINT (AT 1 ATM): Not Applicable
FLASHPOINT (Method Used): None	FLAMMABLE LIMITS IN AIR: Not flammable LFL - NA UFL – NA
EVAPORATION RATE (ETHER = 1): Not Applicable	VAPOR DENSITY IN AIR (AIR = 1): Not Applicable
VAPOR PRESSURE: Not Applicable	BULK DENSITY: 135-150 lbs/ft^3
SOLUBILITY IN WATER: Negligible	DECOMPOSITION TEMPERATURE: Not Available
AUTOIGNITION TEMPERATURE: Not Applicable	VISCOSITY: Not Applicable

PARTITION COEFFICIENT (n-octanol/water): Not applicable. The partition coefficient does not apply to solids.

SECTION 10 – STABILITY AND REACTIVITY

CHEMICAL STABILITY:	Stable
CONDITIONS TO AVOID:	Unintentional contact with water
INCOMPATABILITY AND REACTIVITIES: (MATERIALS TO AVOID):	Wet, unhardened concrete is caustic (alkaline) with a pH of approximately 12. It may react with strong acids, ammonium salts, and aluminum metal. Concrete dissolves in hydrofluoric acid producing a corrosive gas, silicon tetrafluoride. Silica may react with powerful oxidizing agents such as fluorine, chlorine, trifluorides, and oxygen difluoride.
HAZARDOUS DECOMPOSITION PRODUCTS:	No spontaneous decomposition
HAZARDOUS POLYMERIZATION:	Not known to polymerize

SECTION 11 – TOXICOLOGICAL INFORMATION

EFFECTS OF ACUTE OVEREXPOSURE:

EYE CONTACT: Eye contact with wet, unhardened ready-mix concrete may cause immediate irritation or alkaline burns. Dust created from sawing, cutting, grinding, or demolition of dry, hardened concrete may cause mechanical irritation of the eyes.

SKIN CONTACT: Short-term exposure to wet, unhardened concrete may cause dry skin, discomfort, and irritation.

INGESTION: Small amounts may cause temporary irritation. Large amounts could result in more serious caustic burns.

INHALATION: Not a factor with wet, unhardened material. Dry, hardened concrete is not harmful unless dust is created by sawing, grinding, cutting, or demolishing the concrete. Short-term exposure to that dust is likely to cause mechanical irritation of the mucous membranes and respiratory tract.

EFFECTS OF CHRONIC OVEREXPOSURE:

SKIN CONTACT: Longer-term, prolonged exposure may cause serious alkaline burns and dermatitis. Irritant dermatitis may be caused by alkalinity and the abrasiveness of the concrete. Some people may experience more serious skin allergy ranging from a mild rash to more serious scaling, cracking, or ulceration of the skin.

INGESTION: Not expected to occur.

INHALATION: Not a factor with wet, unhardened material. Dry, hardened concrete is not harmful unless dust is created by sawing, grinding, cutting, or demolishing the concrete. Concrete dust may contain crystalline silica and continued long-term exposure to respirable crystalline silica may affect respiratory function, cause pulmonary fibrosis, or silicosis.

CARCINOGENICITY: Unhardened ready-mix concrete is not listed by the National Toxicology Program (NTP), or the International Agency for Research on Cancer (IARC) as a carcinogen. However, respirable crystalline silica, a trace element in this product, is listed as a Group 1 carcinogen (carcinogenic to humans) by the IARC. The NTP and ACGIH also list respirable crystalline silica as a known or suspected human carcinogen. These classifications are based on sufficient evidence of carcinogenicity in experimental animals and on selected epidemiological studies of workers exposed to crystalline silica.

Respirable crystalline silica exposure is not a hazard when handling the wet, unhardened ready-mix concrete or working on or around the dry, hardened concrete. However, cutting, sawing, grinding, or crushing hardened concrete will likely produce airborne dust containing respirable crystalline silica posing an inhalation hazard.

Chronic tobacco smoking may further increase the risk of developing chronic lung problems and may exacerbate the effects of overexposure to respirable crystalline silica.

Ready-mix concrete may contain trace amounts (<0.1%) of hexavalent chromium and certain chromium compounds which are listed in the NTP and IARC lists of carcinogens. Overexposure to those compounds is not expected under normal use of this product.

SECTION 12 – ECOLOGICAL INFORMATION

No ecological data available. Product is not expected to be ecotoxic or harmful to aquatic life. Product is a solid, therefore the following parameters are not affected by the components listed in Section 3: persistence and degradability, bioaccumulative potential, and mobility in soil.

SECTION 13 – DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD: Not a RCRA hazardous waste. Collect and reuse clean materials. Dispose of waste material in accordance with applicable federal, state, and local laws and regulations.

SECTION 14 – TRANSPORT INFORMATION

DOT HAZARD CLASS: Not restricted. Not hazardous under U.S. Department of Transportation

regulations. UN NUMBER OR SHIPPING NAME: None

PACKING GROUP: NA

PLACARD REQUIRED: None

LABEL REQUIRED: Label as required by the OSHA Hazard Communication standard [29 CFR 1910.1200(f)] and applicable state and local laws and regulations.

ENVIRONMENTAL HAZARDS: None. Product is not expected to be ecotoxic or harmful to aquatic

life SPECIAL PRECAUTIONS: None

SECTION 15 – REGULATORY INFORMATION

US FEDERAL REGULATIONS:

Occupational Health and Safety Administration (OSHA)

This product should be included in an employer's hazard communication program. OSHA requires carcinogens as defined on the following lists to be reported when present at quantities of 0.1% or greater:

National Toxicology Program (NTP) Annual Report on Carcinogens

Crystalline Silica (Respirable Size) is listed on the NTP 13th Report on Carcinogens (Updated October 2, 2014) and is known to be a human carcinogen. Respirable crystalline silica is expected to be present at levels exceeding 0.1%.

International Agency for Research on Cancer (IARC) Monographs

Chemical	*CAS No.*	*Group*	*Carcinogenicity Status*
Crystalline Silica, Dust	14808-60-7	1	Carcinogenic to humans

Signal word: DANGER Pictogram(s):

Toxic Substance Control Act (TSCA)

TSCA Status: Some substances in ready-mix concrete are listed Toxic Substances Control Act substances.

Superfund Amendments and Reauthorization Act (SARA) Title III / Emergency Planning and Community Right to Know Act (EPCRA)

Section 302/304: This product is not listed under Section 302/304.

Section 311/312: This product may be subject to SARA Title III (EPCRA) Section 311 requirements and Tier I or II reporting under Section 312 may apply depending on the quantity of product handled, stored, or used. The product is considered a delayed health hazard.

Section 311 requires reporting of safety data sheets (SDS) or a list of covered chemicals to the state emergency response commission (SERC), local emergency planning committee (LEPC), and local fire department. Section 312 requires reporting of the Tier I/Tier II - Emergency and hazardous chemical inventory form. Minimum thresholds for reporting under Sections 311 and 312 are as follows: For Extremely Hazardous Substances (EHS) designated under Section 302 of Title III, (this product is not considered an EHS) the reporting threshold is 500 pounds (or 227 kg.) or the threshold planning quantity (TPQ), whichever is lower. For all other hazardous chemicals for which facilities are required to have or prepare an SDS, the minimum reporting threshold is 10,000 pounds (or 4,540 kg.).

Section 313: This product is not subject to the reporting requirements of SARA Title III (EPCRA), Section 313 relating to Toxic Release Inventory (TRI) Reporting.

Comprehensive Environmental Response, Compensation and Liability Act (CERCLA)

This product is not a CERCLA hazardous substance so releases of this product, in quantities equal to or greater than their reportable quantity (RQ), are not subject to reporting to the National Response Center under CERCLA or to state and local emergency planning committees under Section 304 of SARA Title III (EPCRA).

US STATE REGULATIONS:

State Right-to-Know Regulations

Some states within the US that have promulgated State Right-to-Know regulations with chemical listing requirements including the chemicals in this product are provided below. This list is not all-inclusive. Other states may also regulate this product and the user should consult state or local authorities for specific regulations that may apply.

Chemical	CAS No.	State						
		DE	MD	NJ	NY	PA	VA	WV
Limestone	1317-65-3	X		X		X		
Sand, Crystalline Silica (Quartz)	14808-60-7	X		X		X		
Portland Cement	65997-15-1	X		X		X		
Pozzolans / Other Cementious Materials	--	X						

Other State Listings

California Proposition 65
The Safe Drinking Water and Toxic Enforcement Act of 1986, commonly known as Proposition 65, is a California law which requires any manufacturer, packager, or producer who conducts business in California to comply with the provisions of Proposition 65 by adding specific warnings to products and shipments that are sent to California.

This product contains substances (crystalline silica, chromium, cobalt, nickel) listed on the California Proposition 65 (last updated May 11, 2015) as a carcinogen.

Delaware Air Quality Management List
This product is not listed under Delaware's *Reporting of a Discharge or Air Contaminant* (7 Del. C., Section 6028) regulation for reporting the discharge of a pollutant or air contaminant meeting or exceeding a "Delaware Reportable Quantity" (DRQ).

New Jersey TCPA EHS List
New Jersey's Toxic Catastrophe Prevention Act (TCPA) (N.J.S.A. 13:1K-19 et seq.) verifies compliance with state and federal accidental release prevention (ARP) requirements, including mandates to have a DEP-approved risk management program (RMP) if an extraordinarily hazardous substance (EHS) is handled, used, manufactured, stored, or generated over the specific quantities listed in the Act. This product contains no chemicals currently listed on the TCPA EHS List.

SECTION 16 – OTHER INFORMATION

The information in this SDS, including but not limited to product composition, recommended industrial hygiene, and safe handling procedures, was obtained from sources believed to be reliable and is offered in good faith as generally applicable; however, exact compositions may vary. Each user should review these recommendations in the specific context of the intended use and determine whether they are appropriate. No warranty, either express or implied, is hereby made. Once this product leaves this facility, the conditions or methods of handling, storage, use and disposal of the product are beyond our control and may be beyond our knowledge. We do not assume responsibility and expressly disclaim liability for loss, damage, or expense arising out of, or in any way connected with, the handling, storage, use, or disposal of the product. The recipient of this material should be aware of the possible existence of additional local regulations which may be applicable to this material.

Rock Salt Shop - Specification and Safety Data Sheet

Product Specification - De-icing Rock Salt

Product: 6mm Low moisture Rock Salt for De-icing (BS 3247 fine grade 6.3mm) Date: July 2009

Rock Salt is extracted and crushed at a dedicated mine in Winsford, Cheshire. Containing a small quantity of anti-caking additive to maintain spreading properties after prolonged storage. The product is ideal for customers who need a de-icing product with a low moisture content.

Chemical Specification

Test methods are as specified in BS3247:1991 salt for spreading on Highways for Winter maintenance or equivalent.

Property	Unit	Specification	Typical Analysis
Sodium Chlorides	%m/m NaCl	>90.0	94.3
Soluble Sulphate	%m/m CaSO4	<2.5	1.6
Insolubles	%m/m	<7.5	4.0
Moisture	%m/m	<2.0	0.7
Anti-caking Agent	Mg/Kg	>30	60

Grading

Passing BS 410 Test Sieve	Specification % m/m	Typical Analysis
10 mm	100	100
6.3 mm	100	100
2.36 mm	30-80	60
0.3 mm	<20	13

Bulk Density

Delivered product has a bulk density of approximately 1200 kg/m3

Material Safety Data Sheet

1 Identification of the Substance and Company

PRODUCT NAME: ROCK SALT: GROUND ROCK SALT

Address/Phone Number:

Rock Salt Shop, 30 High Street, eccleshall , Staffordshire, ST21 6BZ

Tel: 01785 850 653

Emergency Phone Number: IN AN EMERGENCY DIAL 999 For specialist advice in an emergency telephone
Winsford (01606) 592201

2

Product Description

Rock Salt is approximately 94% pure salt and has a characteristic reddish-brown colour owing to the presence of marl (an insoluble mineral) which is the chief impurity. **Alternative Names:** Sodium Chloride, Common Salt, Halite
CAS Number: 007647 14 5
EINECS Number: 231 598 3
HAZARDOUS INGREDIENT(S) Contains no Hazardous Ingredients
EC Directive 93/112/EEC

3

Hazards Identification

Unlikely to cause harmful effects under normal conditions of handling and use.

4

First Aid Measures

Inhalation: Remove patient from exposure.
Skin Contact: Wash skin with water. eyelids
Eye Contact: Irrigate with eyewash solution or clean water, holding the eyelids

apart, for at least 10 minutes. If symptoms develop, obtain medical attention.
Ingestion: Wash out mouth with water and give 200-300ml (half a pint) of water to drink. Obtain medical attention if ill-effects occur.
Further Medical Treatment: Symptomatic treatment and supportive therapy as indicated.

5

Fire Fighting Measures

Non-combustible
Extinguishing Media: As appropriate for surrounding fire.
Fire Fighting Protective Equipment: No special requirements.

6

Accidental Release Measures

• Clear up spillages.
• Transfer to a container for disposal.
• Wash the spillage area with water.
• Spillages or uncontrolled discharges into water courses, drains or sewers must be IMMEDIATELY alerted to the Environment Agency or other appropriate regulatory body

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7

Handling and Storage

HANDLING
Avoid contact with eyes. Avoid prolonged skin contact. Atmospheric levels should be controlled
in compliance with the occupational exposure limit for dust. Keep away from strong acids and common metals.Static electricity can be generated by pneumatic conveying, therefore pipes should be bonded and earthed, especially where a spark could prove hazardous.
STORAGE Keep away from concentrated acids. Rock salt can be stored outside. Care should

be taken to avoid excessive run-off into water or onto vegetation

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8

Personal Protection and Exposure Controls

Wear suitable protective clothing, gloves and eye/face protection. An approved dust mask should
be worn if exposure to levels above the occupational exposure limit is likely.
Occupational Exposure Standard (UK HSE Guidance Note EH40)

Time Weighted Average

mg/m ^{3}

(ppm)
Dust (Total Inhalable Dust) 10 Dust (Respirable Dust) 4

9

Physical and Chemical Properties **Form:** Crystalline solid
Colour: Red-brown
Odour: Odourless

Boiling Point (Deg C): 1413
Melting Point (Deg C): 802
Density of Sodium Chloride (g/ml): up to 2.165 at 20 Deg C
Bulk Density (g/ml): 1.2 to 1.5 approx
Solubility (Water): freely soluble, with some insoluble marlstone residue
NOMINAL PARTICLE SIZE RANGE:
Thawrox 10 0-10mm
Thawrox 6 0-6mm
Betrox 0-6mm

10

Stability and Reactivity
Hazardous Reactions: Reactions with concentrated acid will produce hydrogen chloride.Under
wet conditions, will corrode many common metals, particularly iron, aluminium and zinc.

11

Toxicological Information
Inhalation: High concentrations of dust may be irritant to the respiratory tract.
Skin Contact: Will remove the natural greases resulting in dryness, cracking and

possibly dermatitis. Repeated and /or prolonged skin contact may cause irritation.
Eye Contact: Dust may cause irritation.
Ingestion: May cause vomiting and diarrhoea. The swallowing of small amounts is unlikely to cause any adverse effects.
Long Term Exposure: Repeated ingestion of excessive amounts may cause disturbance of body
electrolyte and fluid balance.

12

Ecological Information

Environmental Fate and Distribution High tonnage material with wide disperse use. Solid with
low volatility. The product is soluble in water. The product has no potential for bioaccumulation.
The product is predicted to have high mobility in soil.
Toxicity Low toxicity to aquatic organisms.
Effect on Effluent Treatment Adverse effects would not be expected.

13

Disposal Considerations

Disposal should be in accordance with local, national and European Community legislation

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14 Transport Information

Not classified as dangerous for transport

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15 Regulatory Information

Not classified as dangerous for supply or use

16

Other Information

USES: HIGHWAYS DE-ICING, ETC.
This data sheet was prepared in accordance with Directive 93/112/EC and the Chemicals (Hazard Information and Packaging for Supply) Regulations 1994.

Information in this publication
is believed to be accurate and is given in good faith but the Customer should ensure the suitability for any particular purpose. Accordingly, Online Rock Salt gives no warranty as to the
fitness of the Product for use and any implied warranty or condition (statutory or otherwise) is excluded except to the extent that such exclusion is prevented by law. Freedom under Patent, Copyright and Designs cannot be assumed.

Safety Data Sheet (SDS)

ALLIED CHISEL PASTE

SECTION 1: IDENTIFICATION OF THE SUBSTANCE /MIXTURE AND OF THE COMPANY /UNDERTAKING

1.1 Product Identifier

Material Name: Royal Hammer Paste

Product Code: 952 XA, 952 XB

1.2 Relevant identified uses of the substance or mixture and uses advised against

Product Use: Industrial grease

Uses advised against: This product must not be used in applications other than recommended in section 1 without taking the advice from supplier/manufacturer

1.3 Details of supplier of safety data sheet

Manufacturers/Supplier: Royal Mfg Co LP
P.O. Box 693, Tulsa, OK 74101- 0693

Telephone Number: (918) 584 - 2671
Emergency Telephone Number: (918) 584 - 2671
Email Address: Info@royalmfg.com

SECTION 2: HAZARD IDENTIFICATION

2.1 Classification of the substance of mixture

OSHA Hazard Communication Standard : This material is not considered hazardous in accordance with OSHA HazCom 2012, 29 CFR 1910.1200

2.2 Label elements

No significant hazard as per GHS

2.3 Other hazards

Health hazards: Not expected to be a health hazard when used under normal conditions. Prolonged or repeated skin contact without proper cleaning may clog the skin pores resulting disorders like acne/folliculitis. Used grease may contain harmful impurities/ harmful extraneous substances.

Safety hazard: Not classified as flammable but will burn

Environmental hazard: Not classified as environmental hazard under GHS criteria

Precautionary statements:

Prevention: Wear protective gloves while handling. Wear eye and face protection. Wash hand thoroughly after handling

Response: If on skin, wash with plenty of soap and water. Remove contaminated cloth and wash thoroughly before use. If skin irritation occurs, get medical advice. If in eyes, wash with water for several minutes, in case of contact lenses, remove and wash with plenty water. In case of irritation, get medical attention.

Storage: Store the product in well-ventilated area. Keep the container straight lid upside. Do not lay down upside down or do not keep container horizontally. This product has natural tendency to squeeze oil if not kept properly.

Disposal: Take expert advice of local regulatory agency for disposing this product.

Hazard not otherwise classified (HNOC): None as classified under 29 CFR 1900.1200

SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

This material is defined as mixture and has no known hazards under GHS classification .

Additional information:

As per 29 CFR 1910.1200 paragraph (i), formulation is considered as trade secret and therefore specific chemical names and their percentages of components used have not been disclosed. The details about their specific chemical names and their percentages may be provided on request to health professionals, authorized representatives of regulatory authority, employees concerned in accordance with applicable provisions of this paragraph.

SECTION 4: FIRST AID MEASURES

4.1 Description of first aid measures

General information: Not expected to be health hazard if used under normal conditions

Inhalation: Under normal conditions of intended use, this material is not expected to be inhalation hazard. If some symptom exist, remove to fresh air. If not breathing, give artificial respiration. Get medical attention

Skin Contact: Remove contaminated clothes. Flush exposed area with plenty of water followed by washing by soap, if available. If persistent irritation occurs, obtain medical attention. If product is injected into or under the skin due to any reason, the victim, regardless of size or appearance of wound, victim should be brought immediately to medical attention for emergency surgical needs. Though the initial symptoms due to high pressure injection may be minimal / absent, early surgical treatment may significantly reduce the extent of injury.

Eye Contact: Immediately flush with large quantities of cool water for at least 15 minutes. Get medical attention.

Ingestion: In general no treatment is necessary unless large quantities are swallowed, however, it's advisable to take medical attention. Do not induce vomiting unless directed by medical personnel. Do not give anything by mouth by an unconscious person.

Self-protection for first aider: When administering the first aid, ensure that you are wearing the appropriate personal protective equipment according to the incident, injury and surroundings.

SECTION 5: FIRE FIGHTING MEASURES

5.1 Extinguishing Media:

Suitable extinguishing media: Water Spray (fog), dry chemical, foam, or carbon dioxide, sand to extinguish flames.

Unsuitable extinguishing media: Water stream may splash burning liquid and spread fire.

5.2 Special hazard arising from the substances or mixture: Copper powder used in this product is reported to be flammable solid and may flare burring effect **.** Hazardous combustion product may include a complex mixture of airborne solid and liquid particulates and gases (smoke), carbon monoxide, unidentified inorganic and organic compounds**.**

5.3 Advice to firefighters: Proper protective equipment include chemical resistant gloves to be worn, chemical resistant suit is recommended when large contact with spill product is expected. Self-contained breathing apparatus (SCBA) must be worn when approaching a fire in confined area. Select the fire fighters clothing approved by relevant standard

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. Do not touch and walk through spill area. Do not touch damaged container or spilled material unless wearing appropriate protective clothing/equipment. Ventilate the closed area.

6.2 Emergency procedures

Isolate the spill / leak area in all directions for about 50 meters (150 ft) for liquids and about 25 meters (75 ft.) for solids and semi-solids. Eliminate all ignition sources (no smoking, flares, sparks / flames in close vicinity). Keep unauthorize person away and ventilate closed space before entering.

6.3 Environmental procedures:

Use appropriate measures for containment of spilled material to the environment. Prevent from entering/ spreading to drain, water, river, ditches by using sand, earth, floor dryers or other appropriate barriers.

6.4 Methods and materials for containment and cleaning up

Shovel into suitable properly marked container for disposal or reclamation in accordance with local regulations.

6.5 Reference to other sections

Refer to section 8 – exposure control / personal protection and section 13- disposal considerations

SECTION 7: HANDLING AND STORAGE

7.1 General Precautions

Store in well-ventilated area, if risk on vapor inhalation is there. Use the information in this data sheet as input for risk management arising due to local conditions which help to manage safe handling of this product.

7.2 Precautions for safe handling

Avoid prolonged and repeated contact with skin. Avoid inhaling the vapors/mist. When handling the drums, kegs, pails etc., proper safety shoes, and other protective clothes, safety glasses etc. should be worn. Dispose appropriately any contaminated rags/material as per prevailing local allowable practices. Keep containers in closely tight and, cool and well ventilated areas.

7.3 Conditions for safe storage, including any incompatibilities

Keep containers tightly close, well-ventilated areas but covered, avoiding contact with rain or other water ingress possibilities. Keep the storage place cool preferably <120 °F / <50 °C. Higher temperature may create pressure buildup inside container and chances of container busting or leakage may occur under aggravated conditions. Keep away from other oxidizing and incompatible materials.

7.4 Specific End Use (s):

This material should not be used for any other purpose than the intended use as per section 1 without the expert advice.

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters

Material	Source	Type	ppm	mg/m3	Notation
Mineral oil mist	TWA(mist) , ACGIH	Ceiling		5.0 mg/m3	
Copper powder	ACGIH	Dust & mist as Cu		1 mg/m3	

Additional information:

Due to semi-solid nature of the product, generation of mist and dusts is unlikely to occur

Biological exposure index (BEI):

No biological limit allocated

PNEC related information:

Data not available

Monitoring methods:

Monitoring of the concentration of substances in the breathing zone of workers or in general workplace may be required to confirm the compliance with local governing authority.

8.2 Engineering measures/controls

Adequate ventilation systems may be needed to control concentrations of airborne contaminants above permissible threshold applicable limits.

8.3 Personal protective equipment pictograms

Respiratory: In case of insufficient ventilation, use suitable respiratory equipment

Eye/Face: Wear safety goggles

Skin/Body: Wear safety shoes and protective gloves

8.4 Environmental Exposure controls

Minimize release to the environment. Follow best practices for site management and disposal of waste as per local regulations

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Information on physical and chemical properties

Material description	
Appearance	Semi-solid
Color	Copper / grey
Odor	Slight hydrocarbon
Odor threshold	Data not available
General properties	
Boiling point	No data available
pH	Not applicable
Specific gravity (15 ^{0}C)	0.87, 7.506 (lbs/gal)
Flash point, COC, ^{0}F/^{0}C	400 / 204
Upper/lower flammability limits	No data available
Auto-ignition temperature	No data available
Flammability	No data available
VOC, % wt., ASTM D-972	1
Vapor pressure @ ambient temp.	< 0.13 kPa (< 1 mm Hg)
Vapor density (air =1)	< 1
Explosive properties	Not classified
Oxidizing properties	No data available
Other Information	
Electrical conductivity	Though no data available, this material is not expected to be a static accumulator

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity :	No reactivity is expected under normal conditions of intended use. However, under high temperature or adverse operating conditions thermal / chemical decomposition of the product may be possible

10.2 Chemical Stability :	No hazardous reaction is expected under normal conditions of temperature and pressure
10.3 Possibility of hazardous reactions	Hazardous polymerization is not expected. Reacts with strong oxidizing agents.
10.4 Conditions to avoid	Extreme temperature and direct sunlight / heat /flame
10.5 incompatible materials	Strong oxidizing agents
10.6 hazardous decomposition products	Hazardous decomposition is not expected to form under normal conditions of storage

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Basis of assessment	Information given hereby is based on the components and the toxicology of similar products and the data indicated here are representative of mainly base oil which is present in majority
Acute oral toxicity	Expected to be low toxicity ; LD 50 (rat) > 5000 mg/kg (literature)
Acute dermal toxicity	Expected to be low toxicity ; LD 50 (rat) > 3000 mg/kg (literature)
Acute inhalation toxicity	Not determined
Skin corrosion / irritation	Expected to be slightly irritating . prolonged/repeated contact with skin without adequate cleaning may clog the pores of the skin , may result disorder such as oil acne/folliculitis
Serious eye damage /irritation	Expected to be slightly irritating
Respiratory /skin sensitization	Not determined
Aspiration hazard	Not determined
Germ cell mutagenicity	Not determined
Carcinogenicity	Not considered to be carcinogenic as it contain severely hydrotreated mineral oils which are reported to be non-carcinogenic in lab animal studies. The class of oils used in making this product are not classified as carcinogenic by IARC

11.2 Material	**Carcinogenicity Classification**
Highly refined base oil blend (IP 346 < 3 %)	ACGIH group A4 ; not classified as human carcinogen
	IARC 3 ; not classified as to carcinogen to humans
	GHS / CLP , no carcinogenicity classification

Based on our raw material suppliers information/SDS , this material is not known to contain any chemical listed as a carcinogen or suspected carcinogen by OSHA Hazard Communication Standard 29CFR 1910.1200, IARC, or the National Toxicology Program (NTP).

SECTION 12: ECOLOGICAL INFORMATION

Basis of assessment	Eco-toxicological data has not been determined specifically on this product. The information given herewith are based on the information given on eco-toxicity of components and/or on similar products. the information given here are representative of the product as whole and not as individual components

12.1 Toxicity	Sparingly soluble mixture in aqueous media. Not toxic to fish but may coat gill structure and cause suffocation if spilled. This product may cause gastrointestinal distress in birds and mammals through ingestion.
12.2 Persistence and degradability	Expected to be not readily biodegradable. The major oil component expected to biodegrade over period of 100-120 days in aerobic environment at temperature above 70 F (21 °C), however finished product contain component that may persist in the environment.
12.3 Bioaccumulative potential	May contain component that bioaccumulate
12.4 Mobility in soil	Product is semi-solid in nature in most conditions and may absorb to soil and may not be mobile. It floats on water
12.5 other adverse effects	Product contain the components that have been classified non-volatile in nature and therefore not expected to release to environment in significant quantities.

SECTION 13: DISPOSAL INFORMATION

13.1 Waste treatment methods

Product disposal	Try to minimize the product waste by using best applicable practices. It is the responsibility of the waste generator to evaluate the waste classification and appropriate disposal methodology in accordance with the applicable regulation. Do not dispose in to environment, in drain or in river / ponds / water reservoirs.
Container disposal	To be disposed in accordance with local prevailing and allowable regulations.

SECTION 14: TRANSPORT INFORMATION

	Bulk shipping	Non-bulk shipping	Identification #	Hazardous class
US DOT	Not required	Not required	Not required	Not required
Canadian TDG	Not required	Not required	Not required	Not required
European	Not required	Not required	Not required	Not required
ADR, IMDG, IATA-DGR	Not classified as hazardous product for land, sea and air transport			

SECTION 15: REGULATORY INFORMATION

OSHA Hazard Communication Standard: This material is not considered hazardous in accordance with OSHA HAzCom 2012, 29 CFR 1910.1200.

TSCA Inventory list: All components are listed
SARA Ext Haz. Sub.: This substance does not contain > 1.0 % of any chemical substance on SARA extremely hazardous substance list
SARA 313): This product doesn't contain > 1.0 % (> 0.1 % for carcinogenic substance) of any chemical substances listed under SAR 313
Classification: Immediate (acute) health hazard, delayed (chronic) health hazard

Component	Fire hazard	Sudden release of pressure	Reactive	Acute health hazard	Delayed health hazard
Base oil	No	No	No	No	Yes
Calcium Dodecyl benzene sulfonate	No	No	No	Yes	Yes
Copper	Yes	No	No	Yes	Yes

Cal Prop 65 : Copper used in this grease contain traces of nickel and cobalt that are known by state of California to cause cancer and/or birth defects**.**
WHMIS: Class D
Canadian NPRI: none of the components are listed
CEPA toxic substance: none of the components are listed
Canadian (NDSL) : All components are listed
Ausralia Inventory (AICS) : All components are listed or exempted
China Inventory (IECSC) : All components are listed
Japan Inventory All components are listed or exempted
Korea Inventory : All components are listed
Malaysia Inventory (EHS Register) : Not determined
New Zealand inventory of Chemicals (NZIoC) : All components are listed or exempted
Philipines Inventory (PICCS) : All components are listed or exempted
Taiwan Inventory (CSNN) : Not determined

SECTION 16: OTHER INFORMATION

	NFPA 704	HMIS	KEY
Health	1	0	0 = Minimal
Fire	1	1	1 = slight
Reactivity	0	0	2 = Moderate
Specific	None	N/A	3 = Serious

This safety data sheet contains the following revisions:

Revision Date: May 7, 2015
Supersedes: March 25, 2015
Prepared by: Riverside Laboratories

Royal Mfg Co Company, LP believes that the information and recommendations given hereby is based reported information based on the components and of similar products. The data indicated here are representative of the product as whole rather than for individual components. No warranty of fitness, warranty of merchantability or any other warranty, expressed or implied, is made concerning the information provided herein. The information provided herein relates only to the specific product designated and may not be valid where such product is used in combination with any other materials or process. Further, since the conditions and methods of use of this product and of the information referred to herein are beyond the control of Royal Mfg Co LP, Royal Mfg CO LP expressly disclaims

any and all liability as to any results obtained or arising from any use of the product or reliance on such information.

Material Safety Data Sheet
acc. to ISO/DIS 11014

Date Prepared: 12/21/2007 *Reviewed On: 12/21/2007*

1 Identification of substance:

· **Product name: Saline**
· **Catalog number:** 292896

· **Manufacturer/Supplier:**
BD Diagnostic Systems
7 Loveton Circle
Sparks, MD 21152
Telephone: (410) 771 - 0100 or (800) 638 - 8663
· **Information department:**
Technical services
Technical Services
· **Emergency information:**
In case of a chemical emergency, spill, fire, exposure, or accident contact BD Diagnostic Systems (410) 771-0100 or (800)-638-8663, or ChemTrec at (800) 424-9300.

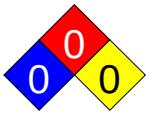
2 Composition/Data on components:

· **Chemical characterization**
· **Description:** Mixture of the substances listed below with nonhazardous additions.

· **Dangerous components:** Void

3 Hazards identification

· **Hazard description:**
This product contains no hazardous constituents, or the concentration of all chemical constituents are below the regulatory threshold limits described by Occupational Safety Health Administration Hazard Communication Standard 29 CFR 1910.1200, the Canada's Workplace Hazardous Materials Information System (WHMIS) and the European Directive 91/155/EEC, and 93/112/EC.
· **NFPA ratings (scale 0-4)**



Health = 0
Fire = 0
Reactivity = 0

· **HMIS ratings (scale 0-4)**

Health = 0
Fire = 0
Reactivity = 0

4 First aid measures

· **General information** No special measures required.
· **After inhalation** Seek medical treatment in case of complaints.
· **After skin contact** Immediately wash with water and soap and rinse thoroughly.
· **After eye contact**
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
· **After swallowing** If symptoms persist consult doctor.

(Contd. on page 2)

Material Safety Data Sheet
acc. to ISO/DIS 11014

Date Prepared: 12/21/2007 Reviewed On: 12/21/2007

Product name: Saline

(Contd. of page 1)

· **Information for doctor** Show this product label or this MSDS.

5 Fire fighting measures

· **Suitable extinguishing agents**
CO2, ABC multipurpose dry chemical or water spray. Fight larger fires with water spray or alcohol resistant foam.
· **Protective equipment:** No special measures required.

6 Accidental release measures

· **Person-related safety precautions:** Not required.
· **Measures for environmental protection:** Wipe up with damp sponge or mop.
· **Measures for cleaning/collecting:** No special measures required.
· **Additional information:** No dangerous substances are released.

7 Handling and storage

· **Handling**
· **Information for safe handling:** No special measures required.
· **Information about protection against explosions and fires:** No special measures required.

· **Storage**
· **Requirements to be met by storerooms and receptacles:** 2 - 25 C
· **Information about storage in one common storage facility:** Store away from oxidizing agents.
· **Further information about storage conditions:** None.

8 Exposure controls and personal protection

· **Additional information about design of technical systems:** No further data; see item 7.

· **Components with limit values that require monitoring at the workplace:**
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
· **Additional information:** The lists that were valid during the creation were used as basis.

· **Personal Protective Equipment**
· **General protective and hygienic measures**
The usual precautionary measures for handling chemicals should be followed.
· **Breathing equipment:** Not required.
· **Protection of hands:**

Chemical resistant gloves (i.e. nitrile, or equivalent).

· **Eye protection:** Safety glasses

(Contd. on page 3)

Material Safety Data Sheet
acc. to ISO/DIS 11014

Date Prepared: 12/21/2007 Reviewed On: 12/21/2007

Product name: Saline

(Contd. of page 2)

· **Body protection:** Protective work clothing (lab coat).

9 Physical and chemical properties:

· **General Information**	
Form:	Liquid
Color:	Colorless
Odor:	Characteristic
· **Change in condition**	Undetermined
· **Melting point/Melting range:**	Not determined
· **Boiling point/Boiling range:**	Not determined
· **Flash point:**	Not applicable
· **Auto igniting:**	Product is not self igniting.
· **Danger of explosion:**	Product does not present an explosion hazard.
· **Density:**	Not determined
· **Solubility in / Miscibility with**	
Water:	Soluble

10 Stability and reactivity

· **Thermal decomposition / conditions to be avoided:**
No decomposition if used according to specifications.
· **Materials to be avoided:** Incompatible material: strong oxidizers.
· **Dangerous reactions** No dangerous reactions known
· **Dangerous products of decomposition:** No dangerous decomposition products known.

11 Toxicological information

· **Acute toxicity:**
· **Primary irritant effect:**
· **on the skin:** No irritating effect.
· **on the eye:** No irritating effect.
· **Sensitization:** No sensitizing effects known.
· **Additional toxicological information:**
The product is not subject to OSHA classification according to internally approved calculation methods for preparations.
When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

(Contd. on page 4)

Material Safety Data Sheet
acc. to ISO/DIS 11014

Date Prepared: 12/21/2007 Reviewed On: 12/21/2007

Product name: Saline

(Contd. of page 3)

12 Ecological information:

· **Ecotoxical effects:**
· **Other information:**
The ecological effects have not been thoroughly investigated, but currently none have been identified.
· **General notes:** Generally not hazardous for water.

13 Disposal considerations

· **Product:**
· **Recommendation**
Smaller quantities can be disposed of with solid waste.
Dispose of material in accordance with federal (40 CFR 261.3), state and local requirements.
This product is not considered a RCRA hazardous waste.

· **Uncleaned packagings:**
· **Recommendation:** Disposal must be made according to state and federal regulations.
· **Recommended cleansing agent:** Water, if necessary with cleansing agents.

14 Transport information

· **DOT regulations:**
· **Hazard class:** -

· **Land transport ADR/RID (cross-border)**
· **ADR/RID class:** -

· **Maritime transport IMDG:**
· **IMDG Class:** -
· **Marine pollutant:** No

· **Air transport ICAO-TI and IATA-DGR:**
· **ICAO/IATA Class:** -

· **Transport/Additional information:**
If a dashed line appears in the Hazard Class section for the type of transportation, this indicates the product is not regulated for transportation.

15 Regulations

· **SARA Section 355 (extremely hazardous substances)**
None of the ingredients is listed.

· **SARA Section 313 (specific toxic chemical listings)**
None of the ingredients is listed.

· **TSCA (Toxic Substances Control Act)**
None of the ingredients is listed.

(Contd. on page 5)

Material Safety Data Sheet
acc. to ISO/DIS 11014

Date Prepared: 12/21/2007 Reviewed On: 12/21/2007

Product name: Saline

(Contd. of page 4)

· **California Proposition 65 - Chemicals known to cause cancer**
None of the ingredients is listed.

· **California Proposition 65 - Chemicals known to cause reproductive toxicity for females:**
None of the ingredients is listed.

· **California Proposition 65 - Chemicals known to cause reproductive toxicity for males:**
None of the ingredients is listed.

· **California Proposition 65 - Chemicals known to cause developmental toxicity:**
None of the ingredients is listed.

· **Carcinogenicity categories**

· **IARC (International Agency for Research on Cancer)**
None of the ingredients is listed.

· **NTP (National Toxicology Program)**
None of the ingredients is listed.

· **TLV (Threshold Limit Value established by ACGIH)**
None of the ingredients is listed.

· **Product related hazard information:**
Observe the general safety regulations when handling chemicals
The product is not subject to identification regulations pertaining to regulations on hazardous materials.

· **National regulations**

· **Water hazard class:** Generally not hazardous for water.

16 Other information:

To the best of our knowledge, the information contained herein is accurate. However, neither Becton Dickinson and Company or any of its subsidiaries assumes any liabilities 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 can not guarantee that these are the only hazards that exist.

· **Department issuing MSDS:**
Safety and Environment Department
MSDS created by Michael J. Spinazzola
· **Contact:** Technical Service Representative

SAFETY DATA SHEET

Revision Date 11-Jun-2015
Version 3

1. Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Product name Signal Green™ Paint
Product code 215-18

1.2 Relevant identified uses of the substance or mixture and uses advised against

Recommended Use Paint
Restrictions on use No information available

1.3 Details of the supplier of the safety data sheet

Supplier

DayGlo Color Corp.
4515 St. Clair Avenue
Cleveland, OH 44103
(216) 391-7070
+1 216-391-7070 (outside the US)

E-mail Address ehs@dayglo.com

1.4 Emergency telephone number

Emergency telephone number

Chemtrec: +1 703-527-3887 ex-USA
Chemtrec: 1-800-424-9300 USA

2. Hazards identification

2.1 Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910.1200

Aspiration toxicity	Category 1
Flammable liquids	Category 3

2.2 Label elements

Signal Word
Danger

Hazard Statements
May be fatal if swallowed and enters airways
Flammable liquid and vapor

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

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
Do NOT induce vomiting
In case of fire: Use CO2, dry chemical, or foam for extinction

Precautionary Statements - Storage
Store locked up
Store in a well-ventilated place. Keep cool

Precautionary Statements - Disposal
Dispose of contents/container to an approved waste disposal plant

2.3. Other Hazards Hazards not otherwise classified (HNOC)
Not Applicable

2.4 Other information
Not Applicable

Unknown Acute Toxicity 17.0933% of the mixture consists of ingredient(s) of unknown toxicity

3. Composition/Information on Ingredients

Substance

Chemical Name	CAS-No	Weight %
Distillates, petroleum, hydrotreated light	64742-47-8	30 - 40
Stoddard Solvent	8052-41-3	< 1

*The exact percentage (concentration) of composition has been withheld as a trade secret.

4. First aid measures

4.1 Description of first-aid measures

General advice Show this material safety data sheet to the doctor in attendance. When symptoms persist or in all cases of doubt seek medical advice.

Eye contact Remove contact lenses. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Call a physician if irritation develops or persists.

Skin contact Wash off immediately with soap and plenty of water. Remove all contaminated clothes and shoes. If skin irritation persists, call a physician.

Inhalation Consult a physician.

Ingestion Do NOT induce vomiting. Drink plenty of water. Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms See Section 2.2, Label Elements and/or Section 11, Toxicological effects.

4.3 Recommendations for immediate medical care and/or special treatment

Notes to physician Treat symptomatically.

5. Fire-Fighting Measures

5.1 Extinguishing media

Suitable extinguishing media
Use water spray, fog, Carbon dioxide (CO_2), foam or dry chemical.

Unsuitable Extinguishing Media High volume water jet.

5.2 Specific hazards arising from the substance or mixture

Special Hazard
Hazardous decomposition products formed under fire conditions

Hazardous Combustion Products No information available.

Explosion Data
Sensitivity to Mechanical Impact None.
Sensitivity to Static Discharge May be ignited by heat, sparks or flames.

5.3 Advice for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Remove all sources of ignition. Ensure adequate ventilation, especially in confined areas. Avoid contact with skin, eyes and clothing. Do not breathe vapors or spray mist.

6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. Do not allow material to contaminate ground water system. See Section 12 for additional Ecological information.

6.3 Methods and materials for containment and cleaning up

Methods for Containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Soak up with inert absorbent material. Prevent product from entering drains. Ground and bond containers when transferring material. Keep in suitable and closed containers for disposal.

7. Handling and storage

7.1 Precautions for safe handling

Advice on safe handling Keep away from heat, sparks and open flame. No smoking. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapors).

Hygiene measures When using, do not eat, drink or smoke. Wash hands before breaks and at the end of workday. Remove and wash contaminated clothing before re-use.

7.2 Conditions for safe storage, including any incompatibilities

Storage Conditions Keep away from heat and sources of ignition. Keep container tightly closed in a dry and well-ventilated place.

Materials to Avoid Strong oxidizing agents.

8. Exposure controls/personal protection

8.1 Occupational Exposure Limits (OEL)

Chemical Name	ACGIH TLV	OSHA PEL	British Columbia	Alberta	Quebec	Ontario TWAEV
Distillates, petroleum, hydrotreated light 64742-47-8	-	-	TWA: 200 mg/m³ Skin			
Stoddard Solvent 8052-41-3	TWA: 100 ppm	TWA: 500 ppm TWA: 2900 mg/m³	TWA: 290 mg/m³ STEL: 580 mg/m³	TWA: 100 ppm TWA: 572 mg/m³	TWA: 100 ppm TWA: 525 mg/m³	TWA: 525 mg/m³

8.2 Appropriate engineering controls

Engineering Measures Ensure adequate ventilation, especially in confined areas.

8.3 Individual protection measures, such as personal protective equipment

Eye/Face Protection Wear chemical-resistant glasses and/or goggles and a face shield when eye and face contact is possible due to handling and processing of material.

Skin and body protection Long sleeved clothing.

Respiratory protection Respirator with filter for organic vapor. If these are not sufficient to maintain concentrations of particulates and solvent vapor below the OEL, suitable respiratory protection must be worn.

Hygiene measures See section 7 for more information

9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	Liquid
Appearance	Liquid
Color	Green
Odor	Solvent
Odor Threshold	No information available

Property	**Values**	**Remarks • Methods**
pH		No information available
Melting/freezing point		No information available
Boiling point/boiling range	154 °C / 309 °F	
Flash Point	41 °C / 106 °F	
Evaporation rate	no data available	No information available
Flammability (solid, gas)		No information available
Flammability Limits in Air		
upper flammability limit		No information available
lower flammability limit		No information available
Vapor pressure		No information available
Vapor density		No information available
Specific Gravity	1.05	
Water solubility	Insoluble in water	
Solubility in other solvents		No information available
Partition coefficient		No information available
Autoignition temperature		No information available
Decomposition temperature		No information available
Viscosity, kinematic		No information available
Viscosity, dynamic		No information available
Explosive properties		No information available
Oxidizing Properties		No information available

9.2 Other information

Volatile organic compounds (VOC) content	383 g/L

10. Stability and Reactivity

10.1 Reactivity

No dangerous reaction known under conditions of normal use

10.2 Chemical stability

Stable

10.3 Possibility of hazardous reactions

None under normal processing.

10.4 Conditions to Avoid

Heat, flames and sparks.

10.5 Incompatible Materials

Strong oxidizing agents.

10.6 Hazardous Decomposition Products

Carbon oxides. Nitrogen oxides (NOx).

11. Toxicological information

11.1 Acute toxicity

Numerical measures of toxicity: Product Information

The following values are calculated based on chapter 3.1 of the GHS document

Unknown Acute Toxicity 17.0933% of the mixture consists of ingredient(s) of unknown toxicity

Oral LD50 11,895.00 mg/kg
Dermal LD50 4,758.00 mg/kg

Numerical measures of toxicity: Component Information

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Distillates, petroleum, hydrotreated light 64742-47-8	5000 mg/kg (Rat)	> 2000 mg/kg (Rabbit)	> 5.2 mg/L (Rat) 4 h

11.2 Information on toxicological effects

Skin corrosion/irritation
Product Information
• Irritating to skin
Component Information
• No information available

Eye damage/irritation
Product Information
• Irritating to eyes
Component Information
• No information available

Respiratory or skin sensitization
Product Information
• No information available
Component Information
• No information available

Germ Cell Mutagenicity
Product Information
• No information available
Component Information
• No information available

Carcinogenicity
Product Information
• This product contains <0.1% free formaldehyde and may be capable of outgassing formaldehyde at levels in excess of OSHA's Action Level under some conditions of use. Formaldehyde is a known cancer hazard. Long term exposure may result in dermatitis or respiratory sensitization for sensitive individuals.
Component Information
•

Reproductive toxicity
Product Information
• No information available
Component Information

• No information available

STOT - single exposure
No information available

STOT - repeated exposure
No information available

Other adverse effects
Target Organs
• No information available
Product Information
• No information available
Component Information
• No information available

Aspiration hazard
Product Information
• No information available
Component Information
• No information available

12. Ecological information

12.1 Toxicity

Ecotoxicity No information available

< 1 % of the mixture consists of components(s) of unknown hazards to the aquatic environment

Ecotoxicity effects

Chemical Name	Toxicity to algae	Toxicity to fish	Toxicity to daphnia and other aquatic invertebrates
Distillates, petroleum, hydrotreated light 64742-47-8	-	LC50: 96 h Pimephales promelas 45 mg/L flow-through LC50: 96 h Lepomis macrochirus 2.2 mg/L static LC50: 96 h Oncorhynchus mykiss 2.4 mg/L static	-

12.2 Persistence and degradability

No information available.

12.3 Bioaccumulative potential

Discharge into the environment must be avoided

12.4 Mobility in soil

No information available.

12.5 Other adverse effects

Discharge into the environment must be avoided

13. Disposal Considerations

13.1 Waste Disposal Guidance

Dispose of in accordance with local regulations.

14. Transport Information

DOT Not regulated. (If shipped in NON BULK packaging by ground transport)

MEX Not regulated no data available

IMDG

Proper shipping name	UN1263, Paint, 3, PGIII
Hazard class	3
UN Number	UN1263
Packing Group	PGIII

IATA

UN Number	UN1263
Proper shipping name	UN1263, Paint, 3, PGIII
Proper shipping name	Flammable Liquid, n.o.s. (Mineral Spirits)
Hazard class	3
Packing Group	PGIII

15. Regulatory information

15.1 International Inventories

TSCA	Complies
DSL	Complies
EINECS/ELINCS	-
ENCS	-
IECSC	-
KECL	-
PICCS	-
AICS	-
NZIoC	-

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL - Canadian Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances
NZIoC - New Zealand Inventory of Chemicals

15.2 U.S. Federal Regulations

SARA 313
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

15.3 Pesticide Information

Not applicable

15.4 U.S. State Regulations

California Proposition 65
This product contains the following Proposition 65 chemicals:

Chemical Name	California Prop. 65
Formaldehyde - 50-00-0	Carcinogen

Ethylbenzene - 100-41-4	Carcinogen

16. Other information

NFPA	**Health Hazard** -	**Flammability** -	**Instability** -	**Physical and chemical hazards** -
HMIS	**Health Hazard** 2	**Flammability** 2	**Physical Hazard** 0	**Personal protection** X

Legend:
ACGIH (American Conference of Governmental Industrial Hygienists)
Ceiling (C)
DOT (Department of Transportation)
EPA (Environmental Protection Agency)
IARC (International Agency for Research on Cancer)
International Air Transport Association (IATA)
International Maritime Dangerous Goods (IMDG)
NIOSH (National Institute for Occupational Safety and Health)
NTP (National Toxicology Program)
OSHA (Occupational Safety and Health Administration of the US Department of Labor)
PEL (Permissible Exposure Limit)
Reportable Quantity (RQ)
Skin designation (S*)
STEL (Short Term Exposure Limit)
TLV® (Threshold Limit Value)
TWA (time-weighted average)

Prepared By No information available DayGlo Color Corp.
Regulatory Affairs/Product Safety
Revision Date 11-Jun-2015
Revision Note
No information available

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.

End of Safety Data Sheet

Safety Data Sheet For 30015 – Sun Screen Lotion SPF50 200ML

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND COMPANY NAME

NAME OF MANUFACTURER/SUPPLIER:

Technikraft Ltd.,
Britannia Road,
Goole,
East Yorkshire.
DN14 6ET

BUSINESS TELEPHONE No: 01405 768815 FAX No: 01405 768908
EMERGENCY TELEPHONE No: 01405 768815 (Office hours only)
E-Mail: malcolm@technikraft.co.uk

PRODUCT NAME: Sunscreen Lotion SPF50
PRODUCT CODE: T6250
USE OF SUBSTANCE/MIXTURE PC39: Cosmetics, personal care products.

2. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients; Aqua, Octyl Methoxycinnamate, C12 – 15 Alkyl Benzoate, Cetearyl Alcohol, Butyl Methoxydibenoylmethane, Helianthus Annuus Seed Oil, Polysorbate 20, 4-Methylbenzyldene camphor, Dimethicone, Hydroxy Ethyl Cellulose, 2-Phenoxyethanol, Benzoic Acid, Dehydroacetic acid

3. HAZARDS IDENTIFICATION

Classification under CLP:
This product has no classification under CLP

Label elements:
This product has no label elements

Other hazards:
Exempt from EC 1272/2008. Regulated by the cosmetic products (safety) regulations 2008 and EU Regulations EC No. 1223/2009.
The product is not identified as a PBT/vPvB substance.

4. FIRST AID MEASURES

Eye Contact:
Bathe the eye with running water for 15 minutes. If irritation persists obtain medical attention.

Skin Contact:
Product is for use on skin. Wash off with water.

Inhalation:
Move to fresh air in case of accidental inhalation of vapours.

Ingestion:
Wash out mouth with water.

Most important symptoms and effects, both acute and delayed

Skin contact:
Skin irritation is unlikely if used as recommended

Eye contact:
May cause temporary irritation

Ingestion:
Nausea and stomach pain may occur

Inhalation:
No known health hazards

Indication of any immediate medical attention and special treatment needed.

Immediate/special treatment:
Eye bathing equipment should be available on the premises.

5. FIRE FIGHTING MEASURES

Extinguishing media:
Suitable extinguishing media for the surrounding fire should be used. Use water spray to cool containers.

Special hazards arising from the substance or mixture:
In combustion emits toxic fumes

Advice for fire-fighters:
Wear self-contained breathing apparatus. Wear protective clothing to prevent contact with skin and eyes.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures
Refer to section 8 of SDS for personal protection details. Turn leaking containers leak-side up to prevent the escape of liquid.

Environmental precautions:
Do not discharge into drains or rivers. Contain the spillage using bunding.

Methods and material for containment and cleaning up
Absorb into dry earth or sand. Transfer to a closable, labelled salvage container for disposal by an appropriate method

Reference to other sections:
Refer to section 8 of SDS

7. HANDLING AND STORAGE

Handling requirements:
Avoid contact with eyes.

Storage:
Store in a cool, well ventilated area.

Specific Uses:
PC39: Cosmetics, personal care products.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters
Workplace exposure limits: No data available

DNEL/PNEC
No data available

Exposure controls

Respiratory protection
Respiratory protection not required

Hand protection
Product is for use on the skin

Eye protection
Unlikely to be necessary. Avoid contact with eyes

Skin protection
Not applicable

9. PHYSICAL AND CHEMICAL PROPERTIES

State:	Liquid
Colour:	White
Odour:	Barely perceptible odour
Evaporation rate:	Slow
Oxidising:	Not applicable
Solubility in water:	Soluble
Viscosity:	Viscous
Boiling point/rangeºC:	100
Flammability limits % lower:	Not applicable
Flash pointºC:	Not applicable
AutoflammabiltyºC:	Not applicable
Relative density:	1.000
Melting point/rangeºc:	No data available
Upper:	Not applicable
Part.coeff.n-octanol/water:	No data available
Vapour pressure:	Not applicable
VOC g/l:	Not applicable

10. STABILITY AND REACTIVITY

Reactivity:
Stable under recommended transport or storage conditions

Chemical stability:
Stable under normal conditions

Possibility of hazardous reactions
Hazardous reactions will not occur under normal transport or storage conditions

Conditions to avoid
Heat. Hot surfaces

Materials to avoid
Strong oxidising agents

Hazardous decomposition products:
In combustion emits toxic fumes

11. TOXICOLOGICAL INFORMATION

Toxicity values
No data available

Skin contact:
Skin irritation is unlikely if used as recommended

Eye contact:
May cause temporary irritation

Ingestion:
Nausea and stomach pain may occur

Inhalation:
No known health hazards

12. ECOLOGICAL INFORMATION

Ecotoxicity values
No data available

Persistence and degradability
Biodegradable

Bio accumulative potential
No bioaccumulation potential

Mobility in soil
Soluble in water. Readily absorbed into soil

Results of PBT and vPvB assessment
This product is not identified as a PBT/vPvB substance

Other adverse effects:
Negligible ecotoxicity

13. DISPOSAL RECOMMENDATIONS

Waste treatment methods
The user's attention is drawn to the possible existence of regional or national regulations regarding disposal

14. TRANSPORT INFORMATION

This product does not require a classification for transport

15. REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture

Specific regulations: Regulated by EU Directive 76/768/EEC (as amended) and Regulation EC 1223/2009 (as amended), therefore, as a cosmetic product is exempt from the requirements of Regulation (EU) No. 2015/830 and regulation (EC) No. 1272/2008

16. OTHER INFORMATION

Other information:
This safety data sheet is prepared in accordance with Commission regulation (EU) No 2015/830
*indicates text in the SDS which has changed since the last revision

Legal disclaimer:
The above information is believed to be correct but does not purport to be all inclusive and shall be used only as guide. This company shall not be held liable for any damage resulting from handling or from contact with the above product.

SAFETY DATA SHEET

SYNTHETIC INDUSTRIAL GREASE

Section 1. Identification

GHS product identifier : SYNTHETIC INDUSTRIAL GREASE

Other means of identification : Not available.

Product type : Solid.

Product code : GR232.

MSDS # : 1736

Relevant identified uses of the substance or mixture and uses advised against

Product use: For professional use only. : Industrial applications: Lubricants; grease

Supplier's details : The Timken Corporation
4500 Mt. Pleasant St. NW
North Canton, OH 44720 U.S.A.
234.262.3000

Emergency telephone number : INFOTRAC
U.S. and Canada - 800.535.5053
Outside the U.S. and Canada - +1 352.323.3500

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 SENSITIZATION - Category 1

Percentage of the mixture consisting of ingredient(s) of unknown toxicity: 5%

GHS label elements

Hazard pictograms :

Signal word : Warning

Hazard statements : May cause an allergic skin reaction.

Precautionary statements

Prevention : Wear protective gloves. Contaminated work clothing must not be allowed out of the workplace.

Response : IF ON SKIN: Wash with plenty of soap and water. Wash contaminated clothing before reuse. If skin irritation or rash occurs: Get medical attention.

Storage : Not applicable.

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

Section 2. Hazards identification

Hazards not otherwise classified : None known.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Other means of identification : Not available.

CAS number/other identifiers

Ingredient name	%	CAS number
Dec-1-ene, homopolymer, hydrogenated Dec-1-ene, oligomers, hydrogenated	60-100	68037-01-4
azelaic acid	1-5	123-99-9
calcium bis(dinonylnaphthalenesulphonate)	0.1-1	57855-77-3

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. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

Skin contact : Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion : Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : No known significant effects or critical hazards.

Inhalation : No known significant effects or critical hazards.

Section 4. First aid measures

Skin contact : May cause an allergic skin reaction.

Ingestion : No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact : No specific data.

Inhalation : No specific data.

Skin contact : Adverse symptoms may include the following:
irritation
redness

Ingestion : No specific data.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

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. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media : None known.

Specific hazards arising from the chemical : No specific fire or explosion hazard.

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

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Section 6. Accidental release measures

Methods and materials for containment and cleaning up

Small spill : Move containers from spill area. Avoid dust generation. Using a vacuum with HEPA filter will reduce dust dispersal. Place spilled material in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor.

Large spill : Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Avoid dust generation. Do not dry sweep. Vacuum dust with equipment fitted with a HEPA filter and place in a closed, labeled waste container. Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not ingest. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

None.

Appropriate engineering controls : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. 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.

Section 8. Exposure controls/personal protection

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Use a properly fitted, particulate filter 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 : Solid. [grease]

Color : Purple.

Odor : Characteristic.

Odor threshold : Not available.

pH : Not applicable.

Melting point : Not available.

Boiling point : Not available.

Flash point : Not available.

Evaporation rate : Not available.

Flammability (solid, gas) : Flammable in the presence of the following materials or conditions: open flames, sparks and static discharge and heat.

Lower and upper explosive (flammable) limits : Not available.

Vapor pressure : Not available.

Vapor density : Not available.

Relative density : 0.87 g/cm³

Solubility : Insoluble in the following materials: cold water.

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

Auto-ignition temperature : Not available.

Decomposition temperature : Not available.

Viscosity : Kinematic (40°C (104°F)): >0.21 cm^2/s (>21 cSt)

VOC : 0 g/L

VOC Method : ASTM E 1868

Section 10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid : No specific data.

Incompatible materials : No specific data.

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
azelaic acid calcium bis (dinonylnaphthalenesulphonate)	LD50 Oral LD50 Dermal LD50 Oral	Rat Rabbit Rat	>5 g/kg >20 g/kg >5000 mg/kg	- - -

Conclusion/Summary : No known significant effects or critical hazards.

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
azelaic acid calcium bis (dinonylnaphthalenesulphonate)	Eyes - Mild irritant Skin - Mild irritant Skin - Moderate irritant	Rabbit Rabbit Rabbit	- - -	3 milligrams 24 hours 500 milligrams 0.5 Mililiters	- - -

Conclusion/Summary

Skin : No known significant effects or critical hazards.

Eyes : No known significant effects or critical hazards.

Respiratory : No known significant effects or critical hazards.

Sensitization

Conclusion/Summary

Skin : May cause an allergic skin reaction.

Respiratory : Sensitization not suspected for humans.

Mutagenicity

Conclusion/Summary : There are no data available on the mixture itself. Mutagenicity not suspected for humans.

Carcinogenicity

Conclusion/Summary : There are no data available on the mixture itself. Carcinogenicity not suspected for humans.

Reproductive toxicity

Conclusion/Summary : There are no data available on the mixture itself. Not considered to be dangerous to humans, according to our database.

Teratogenicity

Conclusion/Summary : There are no data available on the mixture itself. Teratogenicity not suspected for humans.

Specific target organ toxicity (single exposure)

Not available.

Section 11. Toxicological information

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Name	Result
Dec-1-ene, homopolymer, hydrogenated Dec-1-ene, oligomers, hydrogenated	ASPIRATION HAZARD - Category 1

Information on the likely routes of exposure : Routes of entry anticipated: Oral, Dermal.

Potential acute health effects

Eye contact : No known significant effects or critical hazards.

Inhalation : No known significant effects or critical hazards.

Skin contact : May cause an allergic skin reaction.

Ingestion : No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : No specific data.

Inhalation : No specific data.

Skin contact : Adverse symptoms may include the following:
irritation
redness

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

Conclusion/Summary : No known significant effects or critical hazards.

General : Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

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

Conclusion/Summary : There are no data available on the mixture itself.

Persistence and degradability

Conclusion/Summary : This product has not been tested for biodegradation. Not expected to be rapidly degradable.

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
SYNTHETIC INDUSTRIAL GREASE	-	-	Not readily

Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
Dec-1-ene, homopolymer, hydrogenated Dec-1-ene, oligomers, hydrogenated	>6.5	-	high
azelaic acid	1.57	238 to 288	low

Mobility in soil

Soil/water partition coefficient (K_{OC}) : Not available.

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

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

Section 14. Transport information

Additional information	-	-	-	-	-	-

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

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) PAIR**: naphthalene

TSCA 8(a) CDR Exempt/Partial exemption: Not determined

TSCA 8(c) calls for record of SAR: trimethyl phosphate

United States inventory (TSCA 8b): All components are listed or exempted.

Clean Water Act (CWA) 307: naphthalene; zinc bis(dipentyldithiocarbamate)

Clean Water Act (CWA) 311: adipic acid; naphthalene

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 : Immediate (acute) health hazard

Composition/information on ingredients

Name	%	Fire hazard	Sudden release of pressure	Reactive	Immediate (acute) health hazard	Delayed (chronic) health hazard
azelaic acid calcium bis (dinonylnaphthalenesulphonate)	1-5 0.1-1	No. No.	No. No.	No. No.	Yes. Yes.	No. No.

SARA 313

Section 15. Regulatory information

	Product name	CAS number	%
Form R - Reporting requirements	No listed substance		
Supplier notification	No listed substance		

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

State regulations

Connecticut Carcinogen Reporting : None of the components are listed.
Connecticut Hazardous Material Survey : None of the components are listed.
Florida substances : None of the components are listed.
Illinois Chemical Safety Act : None of the components are listed.
Illinois Toxic Substances Disclosure to Employee Act : None of the components are listed.
Louisiana Reporting : None of the components are listed.
Louisiana Spill : None of the components are listed.
Massachusetts Spill : None of the components are listed.
Massachusetts Substances : None of the components are listed.
Michigan Critical Material : None of the components are listed.
Minnesota Hazardous Substances : None of the components are listed.
New Jersey Spill : None of the components are listed.
New Jersey Toxic Catastrophe Prevention Act : None of the components are listed.
New Jersey Hazardous Substances : None of the components are listed.
New York Acutely Hazardous Substances : None of the components are listed.
New York Toxic Chemical Release Reporting : None of the components are listed.
Pennsylvania RTK Hazardous Substances : None of the components are listed.
Rhode Island Hazardous Substances : None of the components are listed.

California Prop. 65

WARNING: This product contains less than 0.1% of a chemical known to the State of California to cause cancer.

Ingredient name	Cancer	Reproductive	No significant risk level	Maximum acceptable dosage level
trimethyl phosphate	Yes.	No.	Yes.	No.
naphthalene	Yes.	No.	Yes.	No.

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol (Annexes A, B, C, E)

Not listed.

International lists

National inventory

Australia : Not determined.
China : All components are listed or exempted.
Europe : All components are listed or exempted.
Japan : Not determined.

Section 15. Regulatory information

Malaysia : Not determined.

New Zealand : Not determined.

Philippines : Not determined.

Republic of Korea : Not determined.

Taiwan : Not determined.

Canada

WHMIS (Canada) : Not controlled under WHMIS (Canada).

Canadian lists

Canadian NPRI : None of the components are listed.

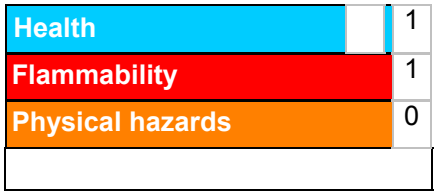
CEPA Toxic substances : None of the components are listed.

Canada inventory; DSL/NDSL : All components are listed or exempted.

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.

Section 16. Other information

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



Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks Although HMIS® ratings are not required on SDSs under 29 CFR 1910. 1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

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

Reprinted with permission from NFPA 704-2001, Identification of the Hazards of Materials for Emergency Response Copyright ©1997, National Fire Protection Association, Quincy, MA 02269. This reprinted material is not the complete and official position of the National Fire Protection Association, on the referenced subject which is represented only by the standard in its entirety.

Copyright ©2001, National Fire Protection Association, Quincy, MA 02269. This warning system is intended to be interpreted and applied only by properly trained individuals to identify fire, health and reactivity hazards of chemicals. The user is referred to certain limited number of chemicals with recommended classifications in NFPA 49 and NFPA 325, which would be used as a guideline only. Whether the chemicals are classified by NFPA or not, anyone using the 704 systems to classify chemicals does so at their own risk.

History

Date of issue/Date of revision : 7/13/2015

Date of previous issue : No previous validation

Version : 1

Validated on 7/13/2015. ***11/12***

Section 16. Other information

Regulatory Department, Chemtool Inc.

Key to abbreviations : ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL 73/78 = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
UN = United Nations

Notice to reader

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.

TACK

Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations
Revision Date: 04/05/2021 Date of issue: 04/19/2017 Version: 2.0

SECTION 1: IDENTIFICATION

1.1. Product Identifier

Product Form: Mixture

Product Name: TACK

Synonyms: Emulsion

1.2. Intended Use of the Product

Use of the Substance/Mixture: PA Tack Coat.

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

Company:

Russell Standard
285 Kappa Drive
Suite 300
Pittsburgh, PA 15238

Directory: (800) 323-3053
Main: (412) 449-0700
Fax: (412) 449-0704

www.russellstandard.com

1.4. Emergency Telephone Number

Emergency Number: (800) 255-3924 (24 hours)

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the Substance or Mixture

GHS-US Classification:

Skin Irrit. 2	H315
Eye Dam. 1	H318
Skin Sens. 1	H317
Carc. 2	H351
Repr. 1B	H360
Aquatic Acute 3	H402
Aquatic Chronic 3	H412

Full text of hazard classes and H-statements : see Section 16.

2.2. Label Elements

GHS-US Labeling

Hazard Pictograms (GHS-US):

GHS05 GHS07 GHS08

Signal Word (GHS-US): Danger

Hazard Statements (GHS-US):

H315 - Causes skin irritation.

H317 - May cause an allergic skin reaction.

H318 - Causes serious eye damage.

H351 - Suspected of causing cancer.

H360 - May damage fertility or the unborn child.

H402 - Harmful to aquatic life.

H412 - Harmful to aquatic life with long lasting effects.

Precautionary Statements (GHS-US):

P201 - Obtain special instructions before use.

P202 - Do not handle until all safety precautions have been read and understood.

P261 - Avoid breathing fume, gas, mist, spray, vapors.

P264 - Wash hands, forearms, and other exposed areas thoroughly after handling.

P272 - Contaminated work clothing must not be allowed out of the workplace.

P273 - Avoid release to the environment.

P280 - Wear protective gloves, protective clothing, and eye protection.

P302+P352 - If on skin: Wash with plenty of water.

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

P321 - Specific treatment (see Section 4 on this SDS).

P333+P313 - If skin irritation or rash occurs: Get medical advice/attention.

P362+P364 - Take off contaminated clothing and wash it before reuse.

P405 - Store locked up.

P501 - Dispose of contents/container in accordance with local, regional, national, and international regulations.

P308+310+313 - If exposed or concerned: Get medical advice/attention. Immediately call a poison center or doctor.

2.3. Other Hazards

Exposure may aggravate pre-existing eye, skin, or respiratory conditions. Asphalt may contain trace quantities of benzene (< 0.1%). Elevated temperature conditions may emit hydrogen sulfide, an asphalt decomposition product. This material contains trace levels of methanol, which, when ingested, may cause acidosis and ocular toxicity ranging from diminished visual capacity to complete blindness, and possible death.

2.4. Unknown Acute Toxicity (GHS-US)

No data available

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.2. Mixture

Name	Product Identifier	%	GHS-US classification
Asphalt	(CAS-No.) 8052-42-4	57 - 65	Carc. 2, H351
Water	(CAS-No.) 7732-18-5	35 - 43	Not classified

Name	Product Identifier	%	GHS-US classification
Indulin AA-83	(CAS-No.) Proprietary	< 0.6	Skin Corr. 1B, H314 Eye Dam. 1, H318 Skin Sens. 1, H317 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
Hydrochloric acid	(CAS-No.) 7647-01-0	0.2 - 0.5	Met. Corr. 1, H290 Skin Corr. 1A, H314 Eye Dam. 1, H318 STOT SE 3, H335 Aquatic Acute 2, H401
Amides, C18-unsaturated, N-[3-(dimethylamine) propyl]	(CAS-No.) 1379524-06-7	< 0.5	Skin Corr. 1B, H314 Eye Dam. 1, H318 Skin Sens. 1B, H317 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
Methyl alcohol	(CAS-No.) 67-56-1	< 0.1875	Flam. Liq. 2, H225 Acute Tox. 3 (Oral), H301 Acute Tox. 3 (Dermal), H311 Acute Tox. 3 (Inhalation:vapor), H331 STOT SE 1, H370
Scleroglucan	(CAS-No.) 39464-87-4	< 0.1	Comb. Dust

***The specific chemical identity and/or exact percentage of composition have been withheld as a trade secret [29 CFR 1910.1200]. 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 30 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Seek immediate medical advice/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: Causes skin irritation. Causes serious eye damage. Skin sensitization. Suspected of causing cancer. May damage fertility. May damage the unborn child. Risk of thermal burns on contact with molten product.

Symptoms/Injuries After Inhalation: Prolonged exposure may cause irritation.

Symptoms/Injuries After Skin Contact: Redness, pain, swelling, itching, burning, dryness, and dermatitis. May cause an allergic skin reaction.

Symptoms/Injuries After Eye Contact: Causes permanent damage to the cornea, iris, or conjunctiva.

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

Chronic Symptoms: Suspected of causing cancer. May damage fertility or the unborn child.

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: Water spray, dry chemical, foam, carbon dioxide.

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 considered flammable but may burn at high temperatures.

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 water spray or fog for cooling exposed containers.

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

Hazardous Combustion Products: Carbon dioxide, carbon monoxide, smoke, fumes, unburned hydrocarbons and oxides of sulfur and/or nitrogen. Hydrogen sulfide and other sulfur-containing gases can evolve from this product at elevated temperatures.

Other Information: Do not allow run-off from fire fighting to enter drains or water courses.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal Precautions, Protective Equipment and Emergency Procedures

General Measures: Do not breathe fume, gas, mist, spray, vapors. Do not get in eyes, on skin, or on clothing.

6.1.1. For Non-Emergency Personnel

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

Emergency Procedures: Evacuate unnecessary personnel.

6.1.2. For Emergency Personnel

Protective Equipment: Equip cleanup crew with proper protection.

Emergency Procedures: 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. Ventilate area.

6.2. Environmental Precautions

Prevent entry to sewers and public waters. Avoid release to the environment.

6.3. Methods and Materials for Containment and Cleaning Up

For Containment: Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams.

Methods for Cleaning Up: Clean up spills immediately and dispose of waste safely. Transfer spilled material to a suitable container for disposal. Contact competent authorities after a spill.

6.4. Reference to Other Sections

See Section 8 for exposure controls and personal protection and Section 13 for disposal considerations.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for Safe Handling

Additional Hazards When Processed: This product, if heated may release asphalt fumes. During processing, inhalation of fumes may cause dizziness and/or irritation to the eyes, nose, and throat. Hot molten product will cause thermal burns to the skin.

Precautions for Safe Handling: Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Do not get in eyes, on skin, or on clothing. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe fume/gas/mist/vapors/spray. Avoid contact with skin, eyes and clothing.

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 Materials: Strong acids, strong bases, strong oxidizers.

7.3. Specific End Use(s)

PA Tack Coat.

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).

Methyl alcohol (67-56-1)		
USA ACGIH	ACGIH TWA (ppm)	200 ppm
USA ACGIH	ACGIH STEL (ppm)	250 ppm
USA ACGIH	ACGIH chemical category	Skin - potential significant contribution to overall exposure by the cutaneous route
USA ACGIH	Biological Exposure Indices (BEI)	15 mg/l Parameter: Methanol - Medium: urine - Sampling time: end of shift (background, nonspecific)
USA NIOSH	NIOSH REL (TWA) (mg/m³)	260 mg/m³
USA NIOSH	NIOSH REL (TWA) (ppm)	200 ppm
USA NIOSH	NIOSH REL (STEL) (mg/m³)	325 mg/m³
USA NIOSH	NIOSH REL (STEL) (ppm)	250 ppm
USA IDLH	US IDLH (ppm)	6000 ppm
USA OSHA	OSHA PEL (TWA) (mg/m³)	260 mg/m³
USA OSHA	OSHA PEL (TWA) (ppm)	200 ppm

Asphalt (8052-42-4)		
USA ACGIH	ACGIH TWA (mg/m³)	0.5 mg/m³ (fume, inhalable particulate matter)
USA ACGIH	ACGIH chemical category	Not Classifiable as a Human Carcinogen fume, coal tar-free

USA ACGIH	Biological Exposure Indices (BEI)	Parameter: 1-Hydroxypyrene with hydrolysis - Medium: urine - Sampling time: end of shift at end of workweek (nonquantitative)
USA NIOSH	NIOSH REL (ceiling) (mg/m³)	5 mg/m³ (fume)

Hydrochloric acid (7647-01-0)		
USA ACGIH	ACGIH Ceiling (ppm)	2 ppm
USA ACGIH	ACGIH chemical category	Not Classifiable as a Human Carcinogen
USA NIOSH	NIOSH REL (ceiling) (mg/m³)	7 mg/m³
USA NIOSH	NIOSH REL (ceiling) (ppm)	5 ppm
USA IDLH	US IDLH (ppm)	50 ppm
USA OSHA	OSHA PEL (Ceiling) (mg/m³)	7 mg/m³
USA OSHA	OSHA PEL (Ceiling) (ppm)	5 ppm

8.2. Exposure Controls

Appropriate Engineering Controls: Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Ensure adequate ventilation, especially in confined areas. Ensure all national/local regulations are observed.

Personal Protective Equipment: Gloves. Protective clothing. Protective goggles. Insufficient ventilation: wear respiratory protection.

Materials for Protective Clothing: Chemically resistant materials and fabrics.

Hand Protection: Wear protective gloves.

Eye and Face Protection: Chemical safety goggles.

Skin and Body Protection: Wear suitable protective clothing.

Respiratory Protection: 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: Liquid

Appearance: Black / Brown

Odor: Asphalt

Odor Threshold: No data available

pH: 2 - 5

Evaporation Rate: No data available

Melting Point: No data available

Freezing Point: No data available

Boiling Point: 212 °F (100 °C)

Flash Point: No data available

Auto-ignition Temperature: No data available
Decomposition Temperature: No data available
Flammability (solid, gas): Not applicable
Vapor Pressure: No data available
Relative Vapor Density at 20°C: No data available
Relative Density: No data available
Specific Gravity: 0.9 - 1.1 (Water = 1)
Density: 7.5 - 9.2 lb/gal
Solubility: No data available
Partition Coefficient: N-Octanol/Water: No data available
Viscosity: 5 - 20 SFS

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.

10.6. Hazardous Decomposition Products

None expected under normal conditions of use.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on Toxicological Effects

Acute Toxicity: Not classified

Methyl alcohol (67-56-1)	
LD50 Dermal Rabbit	15840 mg/kg
LC50 Inhalation Rat	3 mg/l/4h
LC50 Inhalation Rat	22500 ppm (Exposure time: 8 h)
ATE (Oral)	100.00 mg/kg body weight
ATE (Dermal)	300.00 mg/kg body weight

Asphalt (8052-42-4)	
LD50 Oral Rat	> 5000 mg/kg
LD50 Dermal Rabbit	> 2000 mg/kg
LC50 Inhalation Rat	> 94.4 mg/m³

Hydrochloric acid (7647-01-0)	
LD50 Dermal Rabbit	> 5010 mg/kg

Skin Corrosion/Irritation: Causes skin irritation.

pH: 2 - 5

Serious Eye Damage/Irritation: Causes serious eye damage.

pH: 2 - 5

Respiratory or Skin Sensitization: May cause an allergic skin reaction.

Germ Cell Mutagenicity: Not classified

Carcinogenicity: Suspected of causing cancer.

Asphalt (8052-42-4)	
IARC group	2B
OSHA Hazard Communication Carcinogen List	In OSHA Hazard Communication Carcinogen list.

Hydrochloric acid (7647-01-0)	
IARC group	3

Reproductive Toxicity: May damage fertility or the unborn child.

Specific Target Organ Toxicity (Single Exposure): Not classified

Specific Target Organ Toxicity (Repeated Exposure): Not classified

Aspiration Hazard: Not classified

Symptoms/Injuries After Inhalation: Prolonged exposure may cause irritation.

Symptoms/Injuries After Skin Contact: Redness, pain, swelling, itching, burning, dryness, and dermatitis. May cause an allergic skin reaction.

Symptoms/Injuries After Eye Contact: Causes permanent damage to the cornea, iris, or conjunctiva.

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

Chronic Symptoms: Suspected of causing cancer. May damage fertility or the unborn child.

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Ecology - General: Harmful to aquatic life with long lasting effects. Harmful to aquatic life.

Methyl alcohol (67-56-1)	
LC50 Fish 1	28200 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
EC50 Daphnia 1	1340 mg/l
LC50 Fish 2	> 100 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])

Hydrochloric acid (7647-01-0)	
LC50 Fish 1	7.45 mg/l (Species: Oncorhynchus mykiss - Exposure time: 96h)

12.2. Persistence and Degradability

TACK	
Persistence and Degradability	May cause long-term adverse effects in the environment.

12.3. Bioaccumulative Potential

TACK	
Bioaccumulative Potential	Not established.

Methyl alcohol (67-56-1)	
BCF Fish 1	< 10
Log Pow	-0.77

Asphalt (8052-42-4)	
BCF Fish 1	(no bioaccumulation expected)
Log Pow	> 6

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.

Additional Information: Container may remain hazardous when empty. Continue to observe all precautions.

Ecology - Waste Materials: Avoid release to the environment. This material is hazardous to the aquatic environment. Keep out of sewers and waterways.

SECTION 14: TRANSPORT INFORMATION

The shipping description(s) stated herein were prepared in accordance with certain assumptions at the time the SDS was authored, and can vary based on a number of variables that may or may not have been known at the time the SDS was issued.

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

TACK	
SARA Section 311/312 Hazard Classes	Health hazard - Serious eye damage or eye irritation Health hazard - Respiratory or skin sensitization Health hazard - Skin corrosion or Irritation Health hazard - Carcinogenicity Health hazard - Reproductive toxicity

Methyl alcohol (67-56-1)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Subject to reporting requirements of United States SARA Section 313	
CERCLA RQ	5000 lb
SARA Section 313 - Emission Reporting	1 %

Asphalt (8052-42-4)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Hydrochloric acid (7647-01-0) Listed on the United States TSCA (Toxic Substances Control Act) inventory Listed on the United States SARA Section 302 Subject to reporting requirements of United States SARA Section 313	
CERCLA RQ	5000 lb
SARA Section 302 Threshold Planning Quantity (TPQ)	500 lb (gas only)
SARA Section 313 - Emission Reporting	1 % (acid aerosols including mists, vapors, gas, fog, and other airborne forms of any particle size)

Scleroglucan (39464-87-4)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
EPA TSCA Regulatory Flag	XU - XU - indicates a substance exempt from reporting under Chemical Data Reporting Rule (formerly the Inventory Update Reporting Rule), i.e., Partial Updating of the TSCA Inventory Data Base Production and Site Reports (40 CFR 711).

Water (7732-18-5)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

15.2. US State Regulations

Methyl alcohol (67-56-1)	
U.S. - California - Proposition 65 - Developmental Toxicity	WARNING: This product contains chemicals known to the State of California to cause birth defects.

Methyl alcohol (67-56-1)
U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List U.S. - Pennsylvania - RTK (Right to Know) List

Asphalt (8052-42-4)
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

Hydrochloric acid (7647-01-0)
U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List U.S. - Pennsylvania - RTK (Right to Know) List

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

Date of Preparation or Latest Revision: 05/02/2018

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	
Acute Tox. 3 (Dermal)	Acute toxicity (dermal) Category 3
Acute Tox. 3 (Inhalation:vapor)	Acute toxicity (inhalation:vapor) Category 3
Acute Tox. 3 (Oral)	Acute toxicity (oral) Category 3
Aquatic Acute 1	Hazardous to the aquatic environment - Acute Hazard Category 1
Aquatic Acute 2	Hazardous to the aquatic environment - Acute Hazard Category 2
Aquatic Acute 3	Hazardous to the aquatic environment - Acute Hazard Category 3
Aquatic Chronic 1	Hazardous to the aquatic environment - Chronic Hazard Category 1
Aquatic Chronic 3	Hazardous to the aquatic environment - Chronic Hazard Category 3
Carc. 2	Carcinogenicity Category 2
Comb. Dust	Combustible Dust
Eye Dam. 1	Serious eye damage/eye irritation Category 1
Flam. Liq. 2	Flammable liquids Category 2
Met. Corr. 1	Corrosive to metals Category 1
Repr. 1B	Reproductive toxicity Category 1B
Skin Corr. 1A	Skin corrosion/irritation Category 1A
Skin Corr. 1B	Skin corrosion/irritation Category 1B
Skin Irrit. 2	Skin corrosion/irritation Category 2
Skin Sens. 1	Skin sensitization, Category 1
Skin Sens. 1B	Skin sensitization, category 1B
STOT SE 1	Specific target organ toxicity (single exposure) Category 1
STOT SE 3	Specific target organ toxicity (single exposure) Category 3
H225	Highly flammable liquid and vapor
H290	May be corrosive to metals
H301	Toxic if swallowed
H311	Toxic in contact with skin
H314	Causes severe skin burns and eye damage
H315	Causes skin irritation
H317	May cause an allergic skin reaction
H318	Causes serious eye damage
H331	Toxic if inhaled
H335	May cause respiratory irritation
H351	Suspected of causing cancer
H360	May damage fertility or the unborn child
H370	Causes damage to organs
H400	Very toxic to aquatic life

GHS Full Text Phrases	
H401	Toxic to aquatic life
H402	Harmful to aquatic life
H410	Very toxic to aquatic life with long lasting effects
H412	Harmful to aquatic life with long lasting effects

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)

SAFETY DATA SHEET (SDS)

1. PRODUCT AND COMPANY IDENTIFICATION

PROUDCT IDENTIFICATION:

Product Name: TRAFFIC PAINT WHITE

Product Number: 6601

Product Use: Water-thinned Paint

MANUFACTURER:

O'Leary Paint Company

415 Baker Street

Lansing, Michigan 48910

www.olearypaint.com

Manufacturer's Phone: (517) 482-0473

Emergency (24-hour) Phone: (800) 424-9300

Date of preparation: July 29, 2016

2. HAZARDS IDENTIFICATION

Primary Routes of Exposure: Eye contact, Skin contact, Inhalation, Ingestion

Potential Acute Exposure Effects:

Eyes: May cause slight irritation

Skin: May cause mild irritation

Inhalation: May cause irritation of respiratory tract

Ingestion: May be harmful if swallowed

Overexposure signs/symptoms:

Eyes: Watering, redness or irritation

Skin: Irritation, dryness

Inhalation: Respiratory tract irritation, coughing

Ingestion: No specific data

3. COMPOSITION / INFORMATION ON INGREDIENTS

REPORTABLE COMPONENTS	CAS NUMBER	% by WEIGHT
Titanium Dioxide	13463-67-7	5-10
Limestone	1317-65-3	40-50
Methanol	67-56-1	0-2

4. FIRST AID MEASURES

Eyes: Flush eyes with large amounts of water for 15 minutes. Get medical attention.

Skin: Remove contaminated clothing. Wash thoroughly with soap and water.

Inhalation: Move to fresh air. Seek medical attention if symptoms continue.

Ingestion: Do not induce vomiting. Get medical attention immediately.

5. FIRE FIGHTING MEASURES

Flammable Properties: This product is not flammable

Extinguishing Media: Use foam, carbon dioxide, dry powder, water fog, or an extinguishing agent appropriate for the surrounding fire.

Unusual Fire and Explosion Hazards: Closed containers may rupture or explode when exposed to extreme heat (due to build-up of pressure). Closed containers may explode when exposed to extreme heat. During emergency conditions, overexposure to decomposition products may cause a health hazard. Symptoms may not be immediately apparent. Obtain medical attention.

Protective Equipment: Firefighters should wear self-contained breathing apparatus and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Ensure adequate ventilation. Avoid contact with skin, eyes and clothing. Prevent further leakage or spillage. Soak up with inert absorbent material and transfer to a suitable container for proper disposal.

7. HANDLING AND STORAGE

Handling: Avoid contact with eyes, skin and clothing. Avoid breathing vapors, spray mists or sanding dust. Provide adequate ventilation. Wear appropriate respiratory equipment if ventilation is inadequate. Wash thoroughly after handling.

Storage: Keep container closed when not in use. Transfer only to properly labeled containers. Keep out of reach of children.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

	OSHA TWA	ACGIH TWA	OSHA STEL
Titanium Dioxide (d)	15 mg/m3	10 mg/m3	not established
Limestone (d)	15 mg/m3	10 mg/m3	not established
Methanol	200 mg/m3	250 mg/m3	not established

(d): Hazardous as dust when product is sanded

Engineering Measures: Use only in well ventilated areas. Ensure adequate ventilation, especially in confined areas.

Personal Protective Equipment:

Eye / Face Protection: Wear safety glasses or goggles.

Skin Protection: Protective gloves and impervious clothing.

Respiratory Protection: If exposure cannot be controlled below acceptable limits by ventilation, use an appropriate NIOSH approved respirator such as an air purifying respirator with organic vapor cartridge and dust/mist filter. Consult the respirator manufacturer's literature to ensure that the respirator will provide adequate protection. Read and follow all manufacturers' instructions.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state: Liquid
Color: Various
Odor: Little or no odor
Vapor pressure: Not available
Odor threshold: Not available
Vapor density: Not available
pH: 8 to 10
Density: 13.01 (lbs / gal)
Viscosity: 80 – 85 KU
Melting/freezing point: Not available
Solubility (water): Not available
Boiling point / range: Not available
Flash point: Not available
Evaporation rate: < 1 (butyl acetate = 1.0)
Upper flammability limit: Not available
Lower flammability limit: Not available
Auto-ignition temperature: Not available
Decomposition temperature: Not available

10. STABILITY AND REACTIVITY

Stability: Stable under normal conditions.
Conditions to avoid: None known.
Materials to avoid: Strong oxidizing agents and strong acids.
Hazardous Decomposition Products: None under normal use.
Hazardous Polymerization: None under normal conditions.

11. TOXICOLOGICAL INFORMATION

Acute effects:

Titanium Dioxide: Oral LD50 (rat): >10,000 mg/kg
Dermal LD50 (rabbit): >10,000 mg/kg
Inhalation LC50 / 4 hour (rat): >6.8 mg/l

In February 2006, IARC concluded. "There is inadequate evidence in humans for the carcinogenicity of titanium dioxide." IARC's Monograph 93 reports there is sufficient evidence of carcinogenicity in rats exposed to titanium dioxide but inadequate evidence for carcinogenicity in humans. It is an IARC Group 2B listed material. In addition, the IARC summary concludes, "No significant exposure to titanium dioxide is thought to occur during the use of products in which titanium dioxide is bound to other materials, such as paint".

Information on toxicological effects

Acute Toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Methanol	LD50 Oral	Rat	> 5.63 mg/kg	-

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Titanium Dioxide	Skin - Mild irritant	Human	-	72 hours 300 Micrograms Intermittent	-

12. ECOLOGICAL INFORMATION

Toxicity

Product / ingredient name	Result	Species	Exposure
Titanium Dioxide	Acute LC50 >1000000 µg/l Marine water	Fish - Fundulus heteroclitus	96 hours

13. DISPOSAL CONSIDERATIONS

Disposal Instructions: Do not allow material to drain into sewers/water supplies. Dispose of in accordance with all federal, state and local regulations. Consider recycling.

14. TRANSPORT INFORMATION CONSIDERATIONS

Not regulated

15. REGULATORY INFORMATION

California Prop. 65

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

16. OTHER INFORMATION

Hazardous Material Identification System (USA)

Health:	**1**
Flammability:	**0**
Physical Hazard:	**0**

Prepared by: O'Leary Paint Technical & Compliance Department

The information contained herein is presented in good faith and is believed to be accurate as of the date prepared. This information is furnished without warranty of any kind. Employers should use this information only as a supplement to other information available to them.

MATERIAL SAFETY DATA SHEET

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

MANUFACTURER/SUPPLIER: **US Office:** **WD-40 Company** **1061 Cudahy Place** **San Diego, CA 92110** **Information Phone #: (619) 275-1400** **Emergency Phone # 24 hr:** **Chemtrec: (800) 424-9300** – Designated for use only in the event of chemical emergencies involving a spill, leak, fire exposure or accident involving chemicals.	**Canadian Office:** **WD-40 Products [Canada] Ltd.** **P.O. Box 220** **Toronto, Ontario M9C 4V3** **Information Phone #: (416) 622-9881** **Emergency Phone # 24 hr:** **Canutec: (613) 996-6666** – Designated for use only in the event of chemical emergencies involving a spill, leak, fire exposure or accident involving chemicals

PRODUCT NAME: WD-40 Aerosol
PRODUCT USE: Cleaner, lubricant.
MSDS DATE OF PREPARATION: March 27, 2014

SECTION 2 HAZARDS IDENTIFICATION

DANGER! Harmful or fatal if swallowed. Flammable aerosol. Contents under pressure. Avoid eye contact. Use with adequate ventilation. Keep away from heat, sparks and all other sources of ignition.

POTENTIAL HEALTH EFFECTS:
PRIMARY ROUTES OF ENTRY: Inhalation, skin and eye contact.
ACUTE EFFECTS:
INGESTION: This product has low oral toxicity. Swallowing of the liquid contents may cause irritation, nausea, vomiting and diarrhea. The liquid contents are an aspiration hazard. If swallowed, can enter the lungs and may cause chemical pneumonitis.
EYES: Contact may be mildly irritating to eyes. May cause redness and tearing.
SKIN: Prolonged and/or repeated contact may produce mild irritation and defatting with possible dermatitis.
INHALATION: High concentrations may cause nasal and respiratory irritation and central nervous system effects such as headache, dizziness and nausea. May aggravate existing respiratory conditions such as asthma. Intentional abuse may be harmful or fatal.
CHRONIC EFFECTS: None expected.

SECTION 3 COMPOSITION INFORMATION ON INGREDIENTS

Ingredient	CAS Number	Percent
Aliphatic Petroleum Distillates	64742-47-8 64742-88-7	50-70%
Petroleum Base Oil	64742-58-1 64742-53-6 64742-56-9 64742-65-0	30-35%
Non-Hazardous Ingredients	Proprietary	<10%
Carbon Dioxide	124-38-9	2-3%

SECTION 4 FIRST AID MEASURES

For Medical Emergencies Call 1-888-324-7596 (24 hours/day)
INGESTION: Aspiration Hazard. DO NOT induce vomiting. Call physician, poison control center or the WD-40 Safety Hotline at 1-888-324-7596 immediately.
EYE CONTACT: Flush thoroughly with water. Get medical attention if irritation persists.
SKIN CONTACT: Wash with soap and water. If irritation develops and persists, get medical attention.
INHALATION: If irritation is experienced, move to fresh air. Get medical attention if irritation or other symptoms develop and persist.

SECTION 5 FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA: Use water fog, dry chemical, carbon dioxide or foam. Do not use water jet or flooding amounts of water. Burning product will float on the surface and spread fire.
SPECIAL FIRE FIGHTING PROCEDURES: Firefighters should always wear positive pressure self-contained breathing apparatus and full protective clothing. Cool fire-exposed containers with water. Use shielding to protect against bursting containers.
UNUSUAL FIRE/EXPLOSION HAZARDS: Contents under pressure. Aerosol containers may burst under fire conditions. Vapors are heavier than air and may travel along surfaces to remote ignition sources and flash back.

SECTION 6 ACCIDENTAL RELEASE MEASURES

SPILL RESPONSE: Wear appropriate protective clothing (see Section 8). Eliminate all sources of ignition and ventilate area. Leaking cans should be placed in a plastic bag or open pail until the pressure has dissipated. Contain and collect liquid with an inert absorbent and place in a container for disposal. Clean spill area thoroughly. Report spills to authorities as required.

SECTION 7 HANDLING AND STORAGE

HANDLING: Avoid contact with eyes. Avoid prolonged contact with skin. Avoid breathing vapors or aerosols. Use with adequate ventilation. Keep away from heat, sparks and open flames. Wash thoroughly with soap and water after handling. Do not puncture or incinerate containers. Keep can away from electrical current or battery terminals. Electrical arcing can cause burn-through (puncture) which may result in flash fire, causing serious injury. Keep out of the reach of children.

STORAGE: Do not store above 120°F or in direct sunlight. U.F.C (NFPA 30B) Level 3 Aerosol.

SECTION 8 EXPOSURE CONTROLE/PERSONAL PROTECTION

OCCUPATIONAL EXPOSURE LIMITS:

Aliphatic Petroleum Distillates	1200 mg/m3 TWA Manufacturer Recommended
Petroleum Base Oil	5 mg/m3 TWA ACGIH TLV 10 mg/m3 STEL ACGIH TLV
Non-Hazardous Ingredients	None Established
Carbon Dioxide	5000 ppm TWA, 30,000 ppm STEL ACGIH TLV

The Following Controls are Recommended for Normal Consumer Use of this Product
Engineering Controls: Use in a well-ventilated area.
Personal Protection:
Eye Protection: Avoid eye contact. Safety glasses or goggles recommended.
Skin Protection: Avoid prolonged skin contact. Chemical resistant gloves recommended for operations where skin contact is likely.
Respiratory Protection: None needed for normal use with adequate ventilation.

For Bulk Processing or Workplace Use the Following Controls are Recommended

Engineering Controls: Use adequate general and local exhaust ventilation to maintain exposure levels below that occupational exposure limits.
Personal Protection:
Eye Protection: Safety goggles recommended where eye contact is possible.
Skin Protection: Wear chemical resistant gloves.
Respiratory Protection: None required if ventilation is adequate. If the occupational exposure limits are exceeded, wear a NIOSH approved respirator. Respirator selection and use should be based on contaminant type, form and concentration. Follow applicable regulations and good Industrial Hygiene practice.
Work/Hygiene Practices: Wash with soap and water after handling.

SECTION 9 PHYSICAL DATA

APPEARANCE AND ODOR: Light amber liquid with a mild odor.

Freezing Point:	Not Applicable	Odor Threshold:	Not Determined
Boiling Point:	361 - 369°F (183 - 187°C)	Specific Gravity:	0.78 – 0.82 @ 60°F
Solubility in Water:	Insoluble	pH:	Not Applicable
Vapor Pressure:	95-115 PSI @ 70°F	Vapor Density:	Greater than 1
Percent Volatile:	70-75%	VOC:	533 grams/liter (65%)
Coefficient of Water/Oil Distribution:	Not Determined	Kinematic Viscosity:	2.79-2.96cSt @ 100°F
Flash Point:	122°F (49°C) Tag Open Cup (concentrate)	Flammable Limits: (Solvent Portion)	LEL: 0.6% UEL: 8.0%
Pour Point:	-63°C (-81.4°F) ASTM D-97	Explosion Impact:	None

SECTION 10 STABILITY AND REACTIVITY

STABILITY: Stable
INCOMPATIBILITY: Strong oxidizing agents. Avoid heat and open flames. Do not puncture or incinerate containers.
HAZARDOUS DECOMPOSITION PRODUCTS: Carbon monoxide, carbon dioxide.

SECTION 11 TOXICOLOGICAL INFORMATION

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

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

SECTION 12 ECOLOGICAL INFORMATION

No data is currently available.

SECTION 13 DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD: If this product becomes a waste, it would be expected to meet the criteria of a hazardous waste based on flammability. However, it is the responsibility of the generator to determine at the time of disposal the proper classification and method of disposal. Dispose in accordance with federal, state, and local regulations.

SECTION 14 TRANSPORT INFORMATION

DOT Surface Shipping Description: Consumer Commodity, ORM-D
After 1/1/2014 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)

Canadian TDG Classification: Limited Quantity

IMDG Code Hazard Classification: UN1950, Aerosols, 2.1.

SECTION 15 REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS:

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

CANADIAN REGULATIONS:

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

Canadian WHMIS Classification: Class B-5 (Flammable Aerosol).
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.

SECTION 16 OTHER INFORMATION

HMIS Hazard Rating: Health – 1 (slight hazard), Fire Hazard – 4 (severe hazard), Physical Hazard – 0 (minimal hazard)

Revision Date: 03/27/14 Supersedes: 03/10/13

Prepared By: Industrial Health & Safety Consultants, Inc. 1-203-929-3473

This MSDS complies with OSHA guidelines set by 29 CFR 1910.1200 and the Canadian WHMIS regulations. The foregoing information has been compiled from sources believed to be accurate but is not warranted to be. Recipients are advised to confirm in advance of need that data is correct. Standards change without notice. It is the responsibility of the recipient to insure that their personnel have been notified of any changes which may affect them. The data provided on this MSDS are not meant to be used as specifications, only as guideline information as to the safe use of this product. User should refer to applicable laws before use.

N/D = Not Determined N/E = Not Established N/A = Not Applicable

1014100/No.0084102

WD-40

MATERIAL SAFETY DATA SHEET

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

MANUFACTURER/SUPPLIER: **WD-40 Products [Canada] Ltd.** **P.O. Box 220** **Toronto, Ontario M9C 4V3** **Information Phone #: (416) 622-9881** **Emergency Phone # 24 hr:** **Canutec: (613) 996-6666** Designated for use only in the event of chemical emergencies involving a spill, leak, fire exposure or accident involving chemicals	**US Office:** **WD-40 Company** **1061 Cudahy Place** **San Diego, CA 92110** **Information Phone #: (619) 275-1400** **Emergency Phone # 24 hr:** **Chemtrec: (800) 424-9300** Designated for use only in the event of chemical emergencies involving a spill, leak, fire exposure or accident involving chemicals.

PRODUCT NAME: WD-40 Bulk Liquid
PRODUCT USE: Cleaner, lubricant.
MSDS DATE OF PREPARATION: March 27, 2014

SECTION 2 HAZARDS IDENTIFICATION

DANGER! Harmful or fatal if swallowed. Combustible Liquid. Avoid eye contact. Use with adequate ventilation. Keep away from heat, sparks and all other sources of ignition.

POTENTIAL HEALTH EFFECTS:
PRIMARY ROUTES OF ENTRY: Inhalation, skin and eye contact.
ACUTE EFFECTS:
INGESTION: This product has low oral toxicity. Swallowing may cause irritation, nausea, vomiting and diarrhea. This product is an aspiration hazard. If swallowed, can enter the lungs and may cause chemical pneumonitis.
EYES: Contact may be mildly irritating to eyes. May cause redness and tearing.
SKIN: Prolonged and/or repeated contact may produce mild irritation and defatting with possible dermatitis.
INHALATION: High concentrations may cause nasal and respiratory irritation and central nervous system effects such as headache, dizziness and nausea. May aggravate existing respiratory conditions such as asthma. Intentional abuse may be harmful or fatal.
CHRONIC EFFECTS: None expected.

SECTION 3 COMPOSITION INFORMATION ON INGREDIENTS

Ingredient	CAS Number	Percent
Aliphatic Petroleum Distillates	64742-47-8 64742-88-7	50-70%
Petroleum Base Oil	64742-58-1 64742-53-6 64742-56-9 64742-65-0	30-35%
Non-Hazardous Ingredients	Proprietary	<10%

SECTION 4 FIRST AID MEASURES

For Medical Emergencies Call 1-888-324-7596 (24 hours/day)
INGESTION: Aspiration Hazard. DO NOT induce vomiting. Call physician, poison control center or the WD-40 Safety Hotline at 1-888-324-7596 immediately.
EYE CONTACT: Flush thoroughly with water. Get medical attention if irritation persists.
SKIN CONTACT: Wash with soap and water. If irritation develops and persists, get medical attention.
INHALATION: If irritation is experienced, move to fresh air. Get medical attention if irritation or other symptoms develop and persist.

SECTION 5 FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA: Use water fog, dry chemical, carbon dioxide or foam. Do not use water jet or flooding amounts of water. Burning product will float on the surface and spread fire.
SPECIAL FIRE FIGHTING PROCEDURES: Firefighters should always wear positive pressure self-contained breathing apparatus and full protective clothing. Cool fire-exposed containers with water.
UNUSUAL FIRE/EXPLOSION HAZARDS: Combustible liquid and vapor. Vapors are heavier than air and may travel along surfaces to remote ignition sources and flash back.

SECTION 6 ACCIDENTAL RELEASE MEASURES

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

SECTION 7 HANDLING AND STORAGE

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

STORAGE: Store away from heat, flames and incompatible materials.

SECTION 8 EXPOSURE CONTROLE/PERSONAL PROTECTION

OCCUPATIONAL EXPOSURE LIMITS:

Aliphatic Petroleum Distillates	1200 mg/m3 TWA Manufacturer Recommended
Petroleum Base Oil	5 mg/m3 TWA ACGIH TLV 10 mg/m3 STEL ACGIH TLV
Non-Hazardous Ingredients	None Established

The Following Controls are Recommended for Normal Consumer Use of this Product
Engineering Controls: Use in a well-ventilated area.
Personal Protection:
Eye Protection: Avoid eye contact. Safety glasses or goggles recommended.
Skin Protection: Avoid prolonged skin contact. Chemical resistant gloves recommended for operations where skin contact is likely.
Respiratory Protection: None needed for normal use with adequate ventilation.

For Bulk Processing or Workplace Use the Following Controls are Recommended
Engineering Controls: Use adequate general and local exhaust ventilation to maintain exposure levels below that occupational exposure limits.
Personal Protection:
Eye Protection: Safety goggles recommended where eye contact is possible.
Skin Protection: Wear chemical resistant gloves.

Respiratory Protection: None required if ventilation is adequate. If the occupational exposure limits are exceeded, wear a NIOSH approved respirator. Respirator selection and use should be based on contaminant type, form and concentration. Follow applicable regulations and good Industrial Hygiene practice.
Work/Hygiene Practices: Wash with soap and water after handling.

SECTION 9 PHYSICAL DATA

APPEARANCE AND ODOR: Light amber liquid with a mild odor.

Freezing Point:	Not Applicable	Odor Threshold:	Not Determined
Boiling Point:	361 - 369°F (183 - 187°C)	Specific Gravity:	0.78 – 0.82 @ 60°F
Solubility in Water:	Insoluble	pH:	Not Applicable
Vapor Pressure:	1 psi @38°C (100°F) ASTM D323	Vapor Density:	Greater than 1
Percent Volatile:	70-75%	VOC:	533 grams/liter (65%)
Coefficient of Water/Oil Distribution:	Not Determined	Kinematic Viscosity:	2.79-2.96cSt @ 100°F
Flash Point:	122°F (49°C) Tag Open Cup	Flammable Limits: (Solvent Portion)	LEL: 0.6% UEL: 8.0%
Pour Point:	-63°C (-81.4°F) ASTM D-97	Explosion Impact:	None

SECTION 10 STABILITY AND REACTIVITY

STABILITY: Stable
INCOMPATIBILITY: Strong oxidizing agents. Avoid heat and open flames.
HAZARDOUS DECOMPOSITION PRODUCTS: Carbon monoxide, carbon dioxide.

SECTION 11 TOXICOLOGICAL INFORMATION

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

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

SECTION 12 ECOLOGICAL INFORMATION

No data is currently available.

SECTION 13 DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD: If this product becomes a waste, it would be expected to meet the criteria of a hazardous waste based on flammability. However, it is the responsibility of the generator to determine at the time of disposal the proper classification and method of disposal. Dispose in accordance with federal, state, and local regulations.

SECTION 14 TRANSPORT INFORMATION

U.S. DOT Hazard Classification: Excepted from Hazmat (49CFR 173.150 (F)) in non-bulk packagings. Bulk Packagings: Combustible Liquid, n.o.s. (contains Petroleum Distillates), NA1993, PG III

Canadian TDG Classification: Not regulated as a dangerous good when packages in a small means of containment (See 1.33 Class 3, Flammable Liquids: General Exemption).

IMDG Code Hazard Classification: UN1268, Petroleum Distillates, n.o.s. 3, PG III.

SECTION 15 REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS:

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

SARA TITLE III:
Hazard Category For Section 311/312**:** Acute Health, Fire Hazard
Section 313 Toxic Chemicals: This product contains the following chemicals subject to SARA Title III Section 313 Reporting requirements: None
Section 302 Extremely Hazardous Substances (TPQ): None

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

CANADIAN REGULATIONS:

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

Canadian WHMIS Classification: Class B-3 (Combustible Liquid).
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.

SECTION 16 OTHER INFORMATION

HMIS Hazard Rating: Health – 1 (slight hazard), Fire Hazard – 2 (moderate hazard), Physical Hazard – 0 (minimal hazard)

Revision Date: 03/27/14 Supersedes: 03/10/13

Prepared By: Industrial Health & Safety Consultants, Inc. 1-203-929-3473

This MSDS complies with OSHA guidelines set by 29 CFR 1910.1200 and the Canadian WHMIS regulations. The foregoing information has been compiled from sources believed to be accurate but is not warranted to be. Recipients are advised to confirm in advance of need that data is correct. Standards change without notice. It is the responsibility of the recipient to insure that their personnel have been notified of any changes which may affect them. The data provided on this MSDS are not meant to be used as specifications, only as guideline information as to the safe use of this product. User should refer to applicable laws before use.

N/D = Not Determined N/E = Not Established N/A = Not Applicable

1071200/ No.0084302

WINDEX® OUTDOOR CONCENTRATED CLEANER

Version *0*.0 Print Date 09/06/2016

Revision Date 00/00/0000 SDS Number 350000004965

1. PRODUCT AND COMPANY IDENTIFICATION

Product information

Product name : **WINDEX® OUTDOOR CONCENTRATED CLEANER**

Recommended use : Speciality Cleaner

Manufacturer, importer, supplier : S.C. Johnson & Son, Inc.
1525 Howe Street
Racine WI 53403-2236

Telephone : +18005585252

Emergency telephone number : 24 Hour Medical Emergency Phone: (866)231-5406
24 Hour International Emergency Phone: (703)527-3887
24 Hour Transport Emergency Phone: (800)424-9300

2. HAZARDS IDENTIFICATION

Classification of the substance or mixture

Globally Harmonized System (GHS) Classification

Hazard classification	Hazard category	Hazards identification
Eye irritation	Category 2A	Causes serious eye irritation.

Labelling

Hazard symbols
Exclamation mark

Signal word
Warning

Hazard statements
Causes serious eye irritation.

Precautionary statements
If medical advice is needed, have product container or label at hand.
Keep out of reach of children.
Read label before use.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists: Get medical advice/ attention.

Wear protective gloves/ protective clothing/ eye protection/ face protection.
Wash hands thoroughly after handling.

Other hazards : None identified

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS-No.	Weight percent
Ethoxylated iso-decanol	61827-42-7	1.00 - 5.00
Sodium xylene sulfonate	1300-72-7	1.00 - 5.00
Sodium carbonate	497-19-8	1.00 - 5.00

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

For additional information on product ingredients, see www.whatsinsidescjohnson.com.

4. FIRST AID MEASURES

Eye contact : IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/ attention.

Skin contact : No special requirements

Inhalation : No special requirements.

Ingestion : No special requirements

5. FIREFIGHTING MEASURES

Suitable extinguishing media : Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Specific hazards during firefighting : Container may melt and leak in heat of fire.

Further information : Fight fire with normal precautions from a reasonable distance.

WINDEX® OUTDOOR CONCENTRATED CLEANER

Version *0*.0 Print Date 09/06/2016

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Standard procedure for chemical fires. Wear full protective clothing and positive pressure self-contained breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions	:	Wash thoroughly after handling.
Environmental precautions	:	Outside of normal use, avoid release to the environment.
Methods and materials for containment and cleaning up	:	Dike large spills. Clean residue from spill site.

7. HANDLING AND STORAGE

Handling

Precautions for safe handling	:	Avoid contact with skin, eyes and clothing. For personal protection see section 8. Use only as directed. KEEP OUT OF REACH OF CHILDREN AND PETS. Wash thoroughly after handling.
Advice on protection against fire and explosion	:	Normal measures for preventive fire protection.

Storage

Requirements for storage areas and containers	:	Keep container closed when not in use.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational Exposure Limits

Components	CAS-No.	mg/m3	ppm	Non-standard units	Basis
Sodium carbonate	497-19-8	10 mg/m3	-	-	SUPPLIER

Personal protective equipment

Respiratory protection : No special requirements.

Hand protection : No special requirements.

Eye protection : Safety glasses with side-shields

Skin and body protection : No special requirements.

Hygiene measures : Handle in accordance with good industrial hygiene and safety practice. Wash thoroughly after handling.

9. PHYSICAL AND CHEMICAL PROPERTIES

Form : liquid

Color : clear

Odor : characteristic

Odour Threshold : No data available

pH : 10 - 11

Melting point/freezing point : No data available

Initial boiling point and : No data available

boiling range		
Flash point	:	does not flash
Evaporation rate	:	No data available
Flammability (solid, gas)	:	The product is not flammable.
Upper/lower flammability or explosive limits	:	No data available
Vapour pressure	:	No data available
Vapour density	:	No data available
Relative density	:	1.04 g/cm3
Solubility(ies)	:	completely soluble
Partition coefficient: n-octanol/water	:	No data available
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
Viscosity, dynamic	:	No data available
Viscosity, kinematic	:	No data available

Oxidizing properties	:	No data available
Volatile Organic Compounds Total VOC (wt. %)*	:	0 % - additional exemptions may apply *as defined by US Federal and State Consumer Product Regulations
Other information	:	None identified :

10. STABILITY AND REACTIVITY

Possibility of hazardous reactions	:	If accidental mixing occurs and toxic gas is formed, exit area immediately. Do not return until well ventilated.
Conditions to avoid	:	Direct sources of heat.
Incompatible materials	:	Do not mix with bleach or any other household cleaners. Strong bases
Hazardous decomposition products	:	Thermal decomposition can lead to release of irritating gases and vapours.

11. TOXICOLOGICAL INFORMATION

Emergency Overview	:	Warning
Acute oral toxicity	:	LD50 Calculated > 7,000 mg/kg
Acute inhalation toxicity	:	No data available
Acute dermal toxicity	:	No data available

GHS Properties	Classification	Routes of entry
Acute toxicity	No classification proposed	-
Skin corrosion/irritation	No classification proposed	-

Eye irritation	Category 2A	-
Skin sensitisation	No classification proposed	-
Respiratory sensitisation	No classification proposed	-
Germ cell mutagenicity	No classification proposed	-
Carcinogenicity	No classification proposed	-
Reproductive toxicity	No classification proposed	-
Specific target organ toxicity - single exposure	No classification proposed	-
Specific target organ toxicity - repeated exposure	No classification proposed	-
Aspiration hazard	No classification proposed	-

Aggravated Medical Condition : None known.

12. ECOLOGICAL INFORMATION

Product : The product itself has not been tested.

Toxicity
The ingredients in this formula have been reviewed and no adverse impact to the environment is expected when used according to label directions.

Toxicity to fish

Components	End point	Species	Value	Exposure time
Ethoxylated iso-decanol	No data available			
Sodium xylene sulfonate	LC50 Read-	Oncorhynchus mykiss (rainbow trout)	> 1,000 mg/l	96 h

	across (Analogy)			
Sodium carbonate	static test LC50	Lepomis macrochirus	300 mg/l	96 h

Toxicity to aquatic invertebrates

Components	End point	Species	Value	Exposure time
Ethoxylated iso-decanol	No data available			
Sodium xylene sulfonate	EC50	Daphnia magna (Water flea)	> 1,020 mg/l	48 h
Sodium carbonate	semi-static test EC50	Ceriodaphnia sp.	200 - 227 mg/l	248 h

Toxicity to aquatic plants

Components	End point	Species	Value	Exposure time
Ethoxylated iso-decanol	No data available			
Sodium xylene sulfonate	EC50	Selenastrum capricornutum, Skeletonema costatum	> 230 mg/l	96 h
Sodium carbonate	No data available			

Persistence and degradability

Component	Biodegradation	Exposure time	Summary
Ethoxylated iso-decanol	No data available		
Sodium xylene sulfonate	100 %	28 d	Readily biodegradable
Sodium carbonate	No data available		

Bioaccumulative potential

Component	Bioconcentration factor (BCF)	Partition Coefficient n-Octanol/water (log)
Ethoxylated iso-decanol	No data available	No data available
Sodium xylene sulfonate	No data available	No data available
Sodium carbonate	No data available	No data available

Mobility

Component	End point	Value
Ethoxylated iso-decanol	No data available	
Sodium xylene sulfonate	No data available	
Sodium carbonate	No data available	

PBT and vPvB assessment

Component	Results
Ethoxylated iso-decanol	Not fulfilling PBT and vPvB criteria
Sodium xylene sulfonate	Not fulfilling PBT and vPvB criteria
Sodium carbonate	Not fulfilling PBT and vPvB criteria

Other adverse effects : None known.

13. DISPOSAL CONSIDERATIONS

Consumer may discard empty container in trash, or recycle

where facilities exist.

14. TRANSPORT INFORMATION

Please refer to the Bill of Lading/receiving documents for up-to-date shipping information.

Land transport
Not classified as dangerous in the meaning of transport regulations.

Sea transport
Not classified as dangerous in the meaning of transport regulations.

Air transport
Not classified as dangerous in the meaning of transport regulations.

15. REGULATORY INFORMATION

Notification status	:	All ingredients of this product are listed or are excluded from listing on the U.S. Toxic Substances Control Act (TSCA) Chemical Substance Inventory.
Notification status	:	All ingredients of this product comply with the New Substances Notification requirements under the Canadian Environmental Protection Act (CEPA).
California Prop. 65	:	This product is not subject to the reporting requirements under California's Proposition 65.

WINDEX® OUTDOOR CONCENTRATED CLEANER

Version *0*.0 Print Date 09/06/2016

Revision Date 00/00/0000 SDS Number 350000004965

16. OTHER INFORMATION

HMIS Ratings

Health	2
Flammability	0
Reactivity	0

NFPA Ratings

Health	2
Fire	0
Reactivity	0
Special	-

This information is being provided in accordance with the Occupational Safety and Health Administration (OSHA) regulation (29 CFR 1910.1200). The information supplied is designed for workplaces where product use and frequency of exposure exceeds that established for the labeled consumer use.

Further information

This document has been prepared using data from sources considered to be technically reliable. It does not constitute a warranty, expressed or implied, as to the accuracy of the information contained herein. Actual conditions of use are beyond the seller's control. User is responsible to evaluate all available information when using product for any particular use and to comply with all Federal, State, Provincial and Local laws and regulations.

Prepared by	SC Johnson Global Safety Assessment & Regulatory Affairs (GSARA)