THE CLOROX COMPANY

SAFETY DATA SHEET

Issuing Date January 5, 2015 **Revision Date** February 13, 2019 **Revision Number** 2

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

Product identifier

Product Name **Clorox® Regular-Bleach$_1$**

Other means of identification

EPA Registration Number 5813-100

Recommended use of the chemical and restrictions on use

Recommended use Household disinfecting, sanitizing, and laundry bleach

Uses advised against No information available

Details of the supplier of the safety data sheet

Supplier Address
The Clorox Company
1221 Broadway
Oakland, CA 94612

Phone: 1-510-271-7000

Emergency telephone number

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

2. HAZARDS IDENTIFICATION

Classification

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

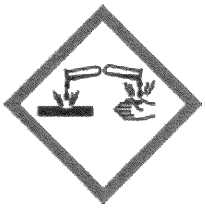
Skin corrosion/irritation	Category 1
Serious eye damage/eye irritation	Category 1

GHS Label elements, including precautionary statements

Emergency Overview

Signal word **Danger**

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



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

Precautionary Statements - Prevention

Wash face, hands and any exposed skin thoroughly after handling.
Wear protective gloves, protective clothing, face protection, and eye protection such as safety glasses.

Precautionary Statements - Response

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

Precautionary Statements - Storage

Store locked up.

Precautionary Statements - Disposal

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

Hazards not otherwise classified (HNOC)

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

Product contains a strong oxidizer. Always flush drains before and after use.

Unknown Toxicity
Not applicable.

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

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

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS-No	Weight %	Trade Secret
Sodium hypochlorite	7681-52-9	5 - 10	*

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

4. FIRST AID MEASURES

First aid measures

General Advice Call a poison control center or doctor immediately for treatment advice. Show this safety data sheet to the doctor in attendance.

Eye Contact Hold eye open and rinse slowly and gently with water for 15 - 20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.

Skin Contact Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

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

Ingestion Have person sip a glassful of water if able to swallow. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not give anything by mouth to an unconscious person. Call a poison control center or doctor immediately for treatment advice.

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

Most important symptoms and effects, both acute and delayed

Most Important Symptoms and Effects Burning of eyes and skin.

Indication of any immediate medical attention and special treatment needed

Notes to Physician Treat symptomatically. Probable mucosal damage may contraindicate the use of gastric lavage.

5. FIRE-FIGHTING MEASURES

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

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

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

Explosion Data

Sensitivity to Mechanical Impact None.

Sensitivity to Static Discharge None.

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

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

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

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

Environmental precautions

Environmental Precautions This product is toxic to fish, aquatic invertebrates, oysters, and shrimp. Do not allow product to enter storm drains, lakes, or streams. See Section 12 for ecological Information.

Methods and material for containment and cleaning up

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

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

7. HANDLING AND STORAGE

Precautions for safe handling

Handling

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

Conditions for safe storage, including any incompatibilities

Storage

Store away from children. Reclose cap tightly after each use. Store this product upright in a cool, dry area, away from direct sunlight and heat to avoid deterioration. Do not contaminate food or feed by storage of this product.

Incompatible Products

Toilet bowl cleaners, rust removers, acids, and products containing ammonia.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Sodium hypochlorite 7681-52-9	None	None	None

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

Appropriate engineering controls

Engineering Measures

Showers
Eyewash stations
Ventilation systems

Individual protection measures, such as personal protective equipment

Eye/Face Protection

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

Skin and Body Protection

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

Respiratory Protection

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

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice. Wash hands after direct contact. Do not wear product-contaminated clothing for prolonged periods. Remove and wash contaminated clothing before re-use. Do not eat, drink, or smoke when using this product.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical and Chemical Properties

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

Property	**Values**	**Remarks/ Method**
pH	~12	None known
Melting/freezing point	No data available	None known
Boiling point / boiling range	No data available	None known
Flash Point	Not flammable	None known
Evaporation rate	No data available	None known
Flammability (solid, gas)	No data available	None known
Flammability Limits in Air		
Upper flammability limit	No data available	None known
Lower flammability limit	No data available	None known
Vapor pressure	No data available	None known
Vapor density	No data available	None known
Specific Gravity	~1.1	None known
Water Solubility	Soluble	None known
Solubility in other solvents	No data available	None known
Partition coefficient: n-octanol/water	No data available	None known
Autoignition temperature	No data available	None known
Decomposition temperature	No data available	None known
Kinematic viscosity	No data available	None known
Dynamic viscosity	No data available	None known
Explosive Properties	Not explosive	
Oxidizing Properties	No data available	

Other Information

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

10. STABILITY AND REACTIVITY

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

Chemical stability
Stable under recommended storage conditions.

Possibility of Hazardous Reactions
None under normal processing.

Conditions to avoid
None known based on information supplied.

Incompatible materials
Toilet bowl cleaners, rust removers, acids, and products containing ammonia.

Hazardous Decomposition Products
None known based on information supplied.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

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

Eye Contact Corrosive. May cause severe damage to eyes.

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

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

Component Information

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

Information on toxicological effects

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

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

Sensitization No information available.

Mutagenic Effects No information available.

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

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

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

Reproductive Toxicity No information available.

STOT - single exposure No information available.

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

Aspiration Hazard No information available.

Numerical measures of toxicity - Product Information

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

ATEmix (oral)
54 g/kg
ATEmix (inhalation-dust/mist)
58 mg/L

12. ECOLOGICAL INFORMATION

Ecotoxicity
Very toxic to aquatic life with long lasting effects.

This product is toxic to fish, aquatic invertebrates, oysters, and shrimp. Do not allow product to enter storm drains, lakes, or streams.

Persistence and Degradability
No information available.

Bioaccumulation
No information available.

Other adverse effects
No information available.

13. DISPOSAL CONSIDERATIONS

Disposal methods
Dispose of in accordance with all applicable federal, state, and local regulations. Do not contaminate food or feed by disposal of this product.

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

14. TRANSPORT INFORMATION

DOT	Not restricted.
TDG	Not restricted for road or rail.
ICAO	Not restricted, as per Special Provision A197, Environmentally Hazardous Substance exception.
IATA	Not restricted, as per Special Provision A197, Environmentally Hazardous Substance exception.
IMDG/IMO	Not restricted, as per IMDG Code 2.10.2.7, Marine Pollutant exception.

15. REGULATORY INFORMATION

Chemical Inventories

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

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

U.S. Federal Regulations

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

SARA 311/312 Hazard Categories

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

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

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Sodium hypochlorite 7681-52-9	100 lb			X

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

Chemical Name	Hazardous Substances RQs	Extremely Hazardous Substances RQs	RQ
Sodium hypochlorite 7681-52-9	100 lb	–	RQ 100 lb final RQ RQ 45.4 kg final RQ

EPA Statement
This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

> **DANGER: CORROSIVE.** Causes irreversible eye damage and skin burns. Harmful if swallowed. Do not get in eyes, on skin, or on clothing. Wear protective eyewear and rubber gloves when handling this product. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the restroom. Avoid breathing vapors and use only in a well-ventilated area.

US State Regulations

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

U.S. State Right-to-Know Regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania	Rhode Island	Illinois
Sodium hypochlorite 7681-52-9	X	X	X	X	
Sodium chlorate 7775-09-9	X	X	X		

International Regulations

Canada
WHMIS Hazard Class
E - Corrosive material

16. OTHER INFORMATION

NFPA	**Health Hazard**	3	**Flammability** 0	**Instability** 0	**Physical and Chemical Hazards** -
HMIS	**Health Hazard**	3	**Flammability** 0	**Physical Hazard** 0	**Personal Protection** B

Prepared By
Product Stewardship
23 British American Blvd.
Latham, NY 12110
1-800-572-6501

Revision Date February 13, 2019

Revision Note Updated date.

Reference 1096036/164964.159

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

Procter&Gamble Professional®

MATERIAL SAFETY DATA SHEET

1. Product and Company Identification

Material name	**PGP Comet Deoderizing Cleanser with Chlorinol**
Product Code	95408362
Version #	02
Revision date	10-15-2013
Manufacturer	Procter & Gamble Professional
Address	2 P&G Plaza Cincinnati Ohio 45202 US
P&G Telephone Number:	1-800-332-7787
Emergency 24-hr Telephone #:	CHEMTREC 1-800-424-9300

2. Hazards Identification

Potential health effects

Routes of exposure	Inhalation. Ingestion. Skin contact. Eye contact.
Eyes	Accidental exposure will cause a mild but transient irritation.
Skin	May cause transient irritation. Prolonged or repeated contact may be drying to skin.
Inhalation	May be irritating.
Ingestion	Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.
Potential environmental effects	Considering the limited amount applied during use and the size of the container, the risk of adverse effects is considered minimal.

3. Composition / Information on Ingredients

Components	CAS #	Percent
CALCIUM CARBONATE	471-34-1	60-100
SODIUM CARBONATE	497-19-8	7-13
CALCIUM HYDROXIDE	1305-62-0	1-5
Sodium Dicholor-s Triazinetrione Dihydrate	51580-86-0	1-5

4. First Aid Measures

First aid procedures

Eye contact	After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Get medical attention if symptoms persist.
Skin contact	Wash affected area with mild soap and water. Rinse with plenty of water. Get medical attention if irritation develops and persists.
Inhalation	Move to fresh air. Call a physician if symptoms develop or persist.
Ingestion	Drink 1 or 2 glasses of water. Do not induce vomiting without advice from poison control center or doctor. Get medical attention if any discomfort continues.

5. Fire Fighting Measures

Environmental precautions	Prevent further leakage or spillage if safe to do so. Do not contaminate water.

Extinguishing media

Suitable extinguishing media	Water. Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).

Protection of firefighters

Protective equipment and precautions for firefighters	Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask.

6. Accidental Release Measures

Personal precautions	Keep unnecessary personnel away. Wear suitable protective clothing.
Environmental precautions	Prevent further leakage or spillage if safe to do so. Do not contaminate water.
Clean-up methods and materials and containment measures	In case of spills, beware of slippery floors and surfaces. Sweep or scoop up and remove. Following product recovery, flush area with water. Minimize dust generation.

7. Handling and Storage

Handling	Use personal protective equipment as required. Avoid contact with skin. Keep container closed when not in use. Never return spills in original containers for re-use. Keep out of reach of children.
Storage	Store in a cool and well-ventilated place. Keep away from moisture.

8. Exposure Controls / Personal Protection

Occupational exposure limits

US. ACGIH Threshold Limit Values

Components	Type	Value
CALCIUM HYDROXIDE (1305-62-0)	TWA	5 mg/m3

Engineering controls	Provide adequate ventilation.

Personal protective equipment

Eye / face protection	Not normally needed. If contact is likely, safety glasses with side shields are recommended.
Skin protection	Not normally needed. If prolonged or repeated contact is likely, protective gloves are recommended. Neoprene gloves. Rubber gloves.
Respiratory protection	Not normally needed.
General hygiene considerations	Handle in accordance with good industrial hygiene and safety practice.

9. Physical & Chemical Properties

Color	Green.
Form	Powder.
Odor	Pine
pH	12.3 (1% solution)
Melting point	1500.5 °F (815.83781279 °C) estimated
Freezing point	1500.5 °F (815.83781279 °C) estimated
Boiling point	212 °F (100 °C) estimated
Flash point	220.00 °F (104.44 °C) estimated
Evaporation rate	Not available.
Vapor pressure	0.357930687 hPa estimated
Specific gravity	2.492334776 estimated
Solubility (water)	Moderate
Partition coefficient (n-octanol/water)	Not available
VOC	Not available.
Percent volatile	0 % estimated estimated
Density	2.49 g/cm3 estimated

10. Chemical Stability & Reactivity Information

Chemical stability	This is a stable material.
Conditions to avoid	Avoid contact with acids. and Ammonia.
Hazardous decomposition products	Chlorine gas
Hazardous polymerization	Will not occur.

11. Toxicological Information

Toxicological data

Components	Test Results
CALCIUM HYDROXIDE (1305-62-0)	Acute Oral LD50 Rat: 7340 mg/kg
CALCIUM CARBONATE (471-34-1)	Acute Oral LD50 Mouse: 6450 mg/kg
	Acute Oral LD50 Rat: 6450 mg/kg
SODIUM CARBONATE (497-19-8)	Acute Inhalation LC50 Guinea pig: 0.8 mg/l 2 Hours
	Acute Inhalation LC50 Mouse: 1.2 mg/l 2 Hours
	Acute Inhalation LC50 Rat: 2.3 mg/l 2 Hours
	Acute Oral LD50 Rat: 4090 mg/kg
	Acute Other LD50 Mouse: 116.6 mg/kg 30 Days
Sodium Dicholor-s Triazinetrione Dihydrate (51580-86-0)	Acute Oral LD50 500 mg/kg

Sensitization	Not available.
Local effects	Irritating to skin. Contact may irritate or burn eyes.
Chronic effects	Hazardous by OSHA criteria.
Skin corrosion/irritation	Not available.

12. Ecological Information

Environmental effects Based on ecotoxicity and fate data for the individual ingredients in this specific formulation, and for related consumer household cleaning products formulations, this product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment at relevant environmental concentrations. This product is intended for dispersive use and should not be disposed of directly into the environment.

13. Disposal Considerations

Disposal instructions This product, in its present state, when discarded or disposed of, is not a hazardous waste according to Federal regulations (40 CFR 261.4 (b)(4)). Under RCRA, it is the responsibility of the user of the product to determine, at the time of disposal, whether the product meets RCRA criteria for hazardous waste. Dispose in accordance with all applicable regulations.

14. Transport Information

DOT

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

15. Regulatory Information

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

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

Section 302 extremely hazardous substance	No
Section 311 hazardous chemical	No

State regulations

ILLRTK

Contains no Illinois Right To Know toxic substances.

US - Connecticut Hazardous Material Survey: Listed substance

Sodium Dicholor-s Triazinetrione Dihydrate (CAS 51580-86-0)	LISTED

US - Illinois Chemical Safety Act: Listed substance

US - Massachusetts RTK - Substance: Listed substance

CALCIUM CARBONATE (CAS 471-34-1)	LISTED
CALCIUM HYDROXIDE (CAS 1305-62-0)	LISTED
Sodium Dicholor-s Triazinetrione Dihydrate (CAS 51580-86-0)	LISTED

US - New Jersey Community RTK (EHS Survey): Listed substance

US - New Jersey RTK - Hazardous substance

CALCIUM CARBONATE (CAS 471-34-1)	CALCIUM CARBONATE
CALCIUM HYDROXIDE (CAS 1305-62-0)	CALCIUM HYDROXIDE

US - New Jersey RTK - Special Hazard: Listed substance

Sodium Dicholor-s Triazinetrione Dihydrate (CAS 51580-86-0)	SODIUM DICHLOROISOCYANURATE SPEC_HAZAROUS

US - New Jersey RTK - Substances: Listed substance

CALCIUM CARBONATE (CAS 471-34-1)	CALCIUM CARBONATE LISTED
CALCIUM HYDROXIDE (CAS 1305-62-0)	CALCIUM HYDROXIDE LISTED
Sodium Dicholor-s Triazinetrione Dihydrate (CAS 51580-86-0)	SODIUM DICHLOROISOCYANURATE LISTED

US - Pennsylvania RTK - Hazardous Substances: Listed substance

CALCIUM CARBONATE (CAS 471-34-1)	LISTED
CALCIUM HYDROXIDE (CAS 1305-62-0)	LISTED
Sodium Dicholor-s Triazinetrione Dihydrate (CAS 51580-86-0)	LISTED

US - Rhode Island RTK - Hazardous Substances: Listed substance

Contains no Rhode Island Right To Know hazardous substances.

Canadian regulations

All ingredients are CEPA approved for import to Canada by Procter & Gamble. This product has been classified in accordance with hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

Inventory Status

Country(s) or region	Inventory name	On inventory (yes/no)*
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

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

16. Other Information

HMIS® ratings

Health: 2
Flammability: 1
Physical hazard: 0

NFPA ratings

Health: 2
Flammability: 1
Instability: 0
Special hazards:

Disclaimer

This MSDS is intended to provide a brief summary of our knowledge and guidance regarding the use of this material. The information contained here has been compiled from sources considered by Procter & Gamble to be dependable and is accurate to the best of the Company's knowledge. It is not meant to be an all-inclusive document on worldwide hazard communication regulations.

This information is offered in good faith. Each user of this material needs to evaluate the conditions of use and design the appropriate protective mechanisms to prevent employee exposures, property damage or release to the environment. Procter & Gamble assumes no responsibility for injury to the recipient or third persons, or for any damage to any property resulting from misuse of the product.

Procter&Gamble Professional®

MATERIAL SAFETY DATA SHEET

1. Product and Company Identification

Material name	**PGP Comet Deoderizing Cleanser with Chlorinol**
Product Code	95408362
Version #	02
Revision date	10-15-2013
Manufacturer	Procter & Gamble Professional
Address	2 P&G Plaza Cincinnati Ohio 45202 US
P&G Telephone Number:	1-800-332-7787
Emergency 24-hr Telephone #:	CHEMTREC 1-800-424-9300

2. Hazards Identification

Potential health effects

Routes of exposure	Inhalation. Ingestion. Skin contact. Eye contact.
Eyes	Accidental exposure will cause a mild but transient irritation.
Skin	May cause transient irritation. Prolonged or repeated contact may be drying to skin.
Inhalation	May be irritating.
Ingestion	Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.
Potential environmental effects	Considering the limited amount applied during use and the size of the container, the risk of adverse effects is considered minimal.

3. Composition / Information on Ingredients

Components	CAS #	Percent
CALCIUM CARBONATE	471-34-1	60-100
SODIUM CARBONATE	497-19-8	7-13
CALCIUM HYDROXIDE	1305-62-0	1-5
Sodium Dicholor-s Triazinetrione Dihydrate	51580-86-0	1-5

4. First Aid Measures

First aid procedures

Eye contact	After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Get medical attention if symptoms persist.
Skin contact	Wash affected area with mild soap and water. Rinse with plenty of water. Get medical attention if irritation develops and persists.
Inhalation	Move to fresh air. Call a physician if symptoms develop or persist.
Ingestion	Drink 1 or 2 glasses of water. Do not induce vomiting without advice from poison control center or doctor. Get medical attention if any discomfort continues.

5. Fire Fighting Measures

Environmental precautions	Prevent further leakage or spillage if safe to do so. Do not contaminate water.

Extinguishing media

Suitable extinguishing media	Water. Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).

Protection of firefighters

Protective equipment and precautions for firefighters	Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask.

6. Accidental Release Measures

Personal precautions	Keep unnecessary personnel away. Wear suitable protective clothing.
Environmental precautions	Prevent further leakage or spillage if safe to do so. Do not contaminate water.
Clean-up methods and materials and containment measures	In case of spills, beware of slippery floors and surfaces. Sweep or scoop up and remove. Following product recovery, flush area with water. Minimize dust generation.

7. Handling and Storage

Handling	Use personal protective equipment as required. Avoid contact with skin. Keep container closed when not in use. Never return spills in original containers for re-use. Keep out of reach of children.
Storage	Store in a cool and well-ventilated place. Keep away from moisture.

8. Exposure Controls / Personal Protection

Occupational exposure limits

US. ACGIH Threshold Limit Values

Components	Type	Value
CALCIUM HYDROXIDE (1305-62-0)	TWA	5 mg/m3

Engineering controls	Provide adequate ventilation.

Personal protective equipment

Eye / face protection	Not normally needed. If contact is likely, safety glasses with side shields are recommended.
Skin protection	Not normally needed. If prolonged or repeated contact is likely, protective gloves are recommended. Neoprene gloves. Rubber gloves.
Respiratory protection	Not normally needed.
General hygiene considerations	Handle in accordance with good industrial hygiene and safety practice.

9. Physical & Chemical Properties

Color	Green.
Form	Powder.
Odor	Pine
pH	12.3 (1% solution)
Melting point	1500.5 °F (815.83781279 °C) estimated
Freezing point	1500.5 °F (815.83781279 °C) estimated
Boiling point	212 °F (100 °C) estimated
Flash point	220.00 °F (104.44 °C) estimated
Evaporation rate	Not available.
Vapor pressure	0.357930687 hPa estimated
Specific gravity	2.492334776 estimated
Solubility (water)	Moderate
Partition coefficient (n-octanol/water)	Not available
VOC	Not available.
Percent volatile	0 % estimated estimated
Density	2.49 g/cm3 estimated

10. Chemical Stability & Reactivity Information

Chemical stability	This is a stable material.
Conditions to avoid	Avoid contact with acids. and Ammonia.
Hazardous decomposition products	Chlorine gas
Hazardous polymerization	Will not occur.

11. Toxicological Information

Toxicological data

Components	Test Results
CALCIUM HYDROXIDE (1305-62-0)	Acute Oral LD50 Rat: 7340 mg/kg
CALCIUM CARBONATE (471-34-1)	Acute Oral LD50 Mouse: 6450 mg/kg
	Acute Oral LD50 Rat: 6450 mg/kg
SODIUM CARBONATE (497-19-8)	Acute Inhalation LC50 Guinea pig: 0.8 mg/l 2 Hours
	Acute Inhalation LC50 Mouse: 1.2 mg/l 2 Hours
	Acute Inhalation LC50 Rat: 2.3 mg/l 2 Hours
	Acute Oral LD50 Rat: 4090 mg/kg
	Acute Other LD50 Mouse: 116.6 mg/kg 30 Days
Sodium Dicholor-s Triazinetrione Dihydrate (51580-86-0)	Acute Oral LD50 500 mg/kg

Sensitization	Not available.
Local effects	Irritating to skin. Contact may irritate or burn eyes.
Chronic effects	Hazardous by OSHA criteria.
Skin corrosion/irritation	Not available.

12. Ecological Information

Environmental effects Based on ecotoxicity and fate data for the individual ingredients in this specific formulation, and for related consumer household cleaning products formulations, this product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment at relevant environmental concentrations. This product is intended for dispersive use and should not be disposed of directly into the environment.

13. Disposal Considerations

Disposal instructions This product, in its present state, when discarded or disposed of, is not a hazardous waste according to Federal regulations (40 CFR 261.4 (b)(4)). Under RCRA, it is the responsibility of the user of the product to determine, at the time of disposal, whether the product meets RCRA criteria for hazardous waste. Dispose in accordance with all applicable regulations.

14. Transport Information

DOT

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

15. Regulatory Information

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

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

Section 302 extremely hazardous substance	No
Section 311 hazardous chemical	No

State regulations

ILLRTK

Contains no Illinois Right To Know toxic substances.

US - Connecticut Hazardous Material Survey: Listed substance

Sodium Dicholor-s Triazinetrione Dihydrate (CAS 51580-86-0)	LISTED

US - Illinois Chemical Safety Act: Listed substance

US - Massachusetts RTK - Substance: Listed substance

CALCIUM CARBONATE (CAS 471-34-1)	LISTED
CALCIUM HYDROXIDE (CAS 1305-62-0)	LISTED
Sodium Dicholor-s Triazinetrione Dihydrate (CAS 51580-86-0)	LISTED

US - New Jersey Community RTK (EHS Survey): Listed substance

US - New Jersey RTK - Hazardous substance

CALCIUM CARBONATE (CAS 471-34-1)	CALCIUM CARBONATE
CALCIUM HYDROXIDE (CAS 1305-62-0)	CALCIUM HYDROXIDE

US - New Jersey RTK - Special Hazard: Listed substance

Sodium Dicholor-s Triazinetrione Dihydrate (CAS 51580-86-0)	SODIUM DICHLOROISOCYANURATE SPEC_HAZAROUS

US - New Jersey RTK - Substances: Listed substance

CALCIUM CARBONATE (CAS 471-34-1)	CALCIUM CARBONATE LISTED
CALCIUM HYDROXIDE (CAS 1305-62-0)	CALCIUM HYDROXIDE LISTED
Sodium Dicholor-s Triazinetrione Dihydrate (CAS 51580-86-0)	SODIUM DICHLOROISOCYANURATE LISTED

US - Pennsylvania RTK - Hazardous Substances: Listed substance

CALCIUM CARBONATE (CAS 471-34-1)	LISTED
CALCIUM HYDROXIDE (CAS 1305-62-0)	LISTED
Sodium Dicholor-s Triazinetrione Dihydrate (CAS 51580-86-0)	LISTED

US - Rhode Island RTK - Hazardous Substances: Listed substance

Contains no Rhode Island Right To Know hazardous substances.

Canadian regulations

All ingredients are CEPA approved for import to Canada by Procter & Gamble. This product has been classified in accordance with hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

Inventory Status

Country(s) or region	Inventory name	On inventory (yes/no)*
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

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

16. Other Information

HMIS® ratings

Health: 2
Flammability: 1
Physical hazard: 0

NFPA ratings

Health: 2
Flammability: 1
Instability: 0
Special hazards:

Disclaimer

This MSDS is intended to provide a brief summary of our knowledge and guidance regarding the use of this material. The information contained here has been compiled from sources considered by Procter & Gamble to be dependable and is accurate to the best of the Company's knowledge. It is not meant to be an all-inclusive document on worldwide hazard communication regulations.

This information is offered in good faith. Each user of this material needs to evaluate the conditions of use and design the appropriate protective mechanisms to prevent employee exposures, property damage or release to the environment. Procter & Gamble assumes no responsibility for injury to the recipient or third persons, or for any damage to any property resulting from misuse of the product.

SAFETY DATA SHEET

Revision Date 19-Oct-2016 **Version** 4

1. IDENTIFICATION

Product identifier
Product Name PC 67VR DIELECTRIC TUNE-UP GREASE 28 G

Other means of identification
Product Code 22066
Synonyms None

Recommended use of the chemical and restrictions on use
Recommended Use Lubricant
Uses advised against No information available

Details of the supplier of the safety data sheet

Manufactured and Distributed by:
ITW Permatex
6875 Parkland Blvd.
Solon, OH 44139 USA

May Also Be Distributed by:
ITW Permatex Canada
35 Brownridge Road, Unit 1
Halton Hills, ON Canada L7G 0C6
Telephone: (800) 924-6994

Company Phone Number 1-87-Permatex
(877) 376-2839

24 Hour Emergency Phone Number Chem-Tel: 800-255-3924
International Emergency:
00+1+ 813-248-0585
Contract Number: MIS0003453

E-mail address mail@permatex.com

2. HAZARDS IDENTIFICATION

Classification

OSHA Regulatory Status
This chemical is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Label elements

Emergency Overview

The product contains no substances which at their given concentration, are considered to be hazardous to health

Appearance White **Physical state** Grease **Odor** Mild

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

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)
Not applicable

Other Information
- Not applicable

Unknown acute toxicity	6.52 % of the mixture consists of ingredient(s) of unknown toxicity

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance(s)

The product contains no substances which at their given concentration, are considered to be hazardous to health.

4. FIRST AID MEASURES

Description of first aid measures

General advice	Get medical advice/attention if you feel unwell.
Eye contact	Wash with plenty of water.
Skin contact	Wash skin with soap and water.
Inhalation	Move victim to fresh air.
Ingestion	Clean mouth with water. Do not induce vomiting without medical advice.
Self-protection of the first aider	Use personal protective equipment as required. Avoid contact with skin, eyes or clothing.

Most important symptoms and effects, both acute and delayed

Symptoms	See section 2 for more information.

Indication of any immediate medical attention and special treatment needed

Note to physicians	Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media
Carbon dioxide (CO2), Dry chemical, Foam

Unsuitable extinguishing media
None.

Specific hazards arising from the chemical
None in particular.

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 and skin.

Environmental precautions

Environmental precautions	Do not flush into surface water or sanitary sewer system. See Section 12 for additional ecological Information.

Methods and material for containment and cleaning up

Methods for containment	Prevent further leakage or spillage if safe to do so.
Methods for cleaning up	Ensure adequate ventilation. Soak up with inert absorbent material. Sweep up and shovel into suitable containers for disposal.
Prevention of secondary hazards	Clean contaminated objects and areas thoroughly observing environmental regulations.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling	Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities

Storage Conditions	Keep containers tightly closed in a dry, cool and well-ventilated place.
Incompatible materials	Strong oxidizing agents, Acids, Reducing agents

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines

Appropriate engineering controls

Engineering Controls	Eyewash stations

Individual protection measures, such as personal protective equipment

Eye/face protection	Wear safety glasses with side shields (or goggles).
Skin and body protection	Wear protective natural rubber, nitrile rubber, Neoprene™ or PVC gloves.
Respiratory protection	None under normal use conditions.
General Hygiene Considerations	Handle in accordance with good industrial hygiene and safety practice. Regular cleaning of equipment, work area and clothing is recommended.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	Grease
Appearance	White
Odor	Mild
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	> 93 °C / > 200 °F	Tag Closed Cup
Evaporation rate	< 1	Butyl acetate = 1
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	>1	Air = 1
Relative density	1.0	
Water solubility	Negligible	
Solubility in other solvents	No information available	
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	

Other Information

Softening point	No information available
Molecular weight	No information available
VOC Content (%)	0
Density	No information available
Bulk density	No information available

10. STABILITY AND REACTIVITY

Reactivity
No data available

Chemical stability
Stable under recommended storage conditions

Possibility of Hazardous Reactions
None under normal processing.

Conditions to avoid
Excessive heat.

Incompatible materials
Strong oxidizing agents, Acids, Reducing agents

Hazardous Decomposition Products
Carbon oxides
Formaldehyde

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Inhalation	May cause irritation of respiratory tract.
Eye contact	Contact with eyes may cause irritation. May cause redness and tearing of the eyes.
Skin contact	May cause skin irritation and/or dermatitis.

Ingestion Ingestion may cause irritation to mucous membranes.

Information on toxicological effects

Symptoms No information available.

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

Sensitization No information available.
Germ cell mutagenicity No information available.
Carcinogenicity This product contains one or more substances which are classified by IARC as carcinogenic to humans (Group I), probably carcinogenic to humans (Group 2A) or possibly carcinogenic to humans (Group 2B).

IARC (International Agency for Research on Cancer)
Group 2A - Probably Carcinogenic to Humans
OSHA (Occupational Safety and Health Administration of the US Department of Labor)
X - Present

The following values are calculated based on chapter 3.1 of the GHS document .
ATEmix (oral) 18219 mg/kg
ATEmix (dermal) 2143 mg/kg

12. ECOLOGICAL INFORMATION

Ecotoxicity

99.92 % of the mixture consists of components(s) of unknown hazards to the aquatic environment

Persistence and degradability
No information available.

Bioaccumulation
No information available.

Mobility
No information available.

Other adverse effects
No information available

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal of wastes Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated packaging Do not reuse container.

US EPA Waste Number Not applicable

14. TRANSPORT INFORMATION

DOT

Proper shipping name: Not regulated

IATA

Proper shipping name: Not regulated

IMDG

Proper shipping name: Not regulated

15. REGULATORY INFORMATION

International Inventories

TSCA	Complies
DSL/NDSL	Complies
EINECS/ELINCS	Not determined
ENCS	Complies
IECSC	Complies
KECL	Complies
PICCS	Complies
AICS	Complies

Legend:

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

US 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

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

US State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals

U.S. State Right-to-Know Regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania

BORIC ACID 10043-35-3	X	-	-

U.S. EPA Label Information

EPA Pesticide Registration Number Not applicable

WHMIS Hazard Class

Non-controlled

16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OF THE LAST REVISION

NFPA	**Health hazards** 1	**Flammability** 1	**Instability** 0	-
HMIS	**Health hazards** 1	**Flammability** 1	**Physical hazards** 0	**Personal protection** B

NFPA (National Fire Protection Association)
HMIS (Hazardous Material Information System)

Revision Date 19-Oct-2016

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

Material Safety Data Sheet

according to ANSI Z400.1- 2004 and 29 CFR 1910.1200

SC Johnson
A FAMILY COMPANY

DRANO® CLOG REMOVER

Version *1.*

Revision Date 11/30/2009

Print Date 12/01/2009

MSDS Number 350000004298
SITE_FORM Number
30000000000000003622.001

1. PRODUCT AND COMPANY IDENTIFICATION

Product information

Trade name	:	DRANO® CLOG REMOVER
Use of the Substance/Mixture	:	Drain Cleaner
Company	:	S.C. Johnson & Son, Inc. 1525 Howe Street Racine WI 53403-2236
Emergency telephone	:	24 Hour Transport & Medical Emergency Phone (866) 231-5406 24 Hour International Emergency Phone (952) 852-4647

2. HAZARDS IDENTIFICATION

Emergency Overview

Appearance / Odor	:	natural colour / liquid / Bleach
Immediate Concerns	:	Danger Corrosive CAUSES EYE AND SKIN BURNS May be harmful if swallowed. Avoid contact with skin, eyes and clothing. Avoid breathing vapors, mist or gas.

Potential Health Effects

Exposure routes	:	Eye, Skin, Inhalation, Ingestion.
Eyes	:	Corrosive - causes irreversible eye damage. May cause blindness.
Skin	:	Corrosive to skin Causes skin burns.
Inhalation	:	May cause nose, throat, and lung irritation.
Ingestion	:	May be harmful if swallowed. Causes digestive tract burns.
Aggravated Medical Condition	:	Individuals with chronic respiratory disorders such as asthma, chronic bronchitis, emphysema, etc. may be more susceptible to irritating effects

SC Johnson
A FAMILY COMPANY

DRANO® CLOG REMOVER

Version *1.*
Revision Date 11/30/2009

Print Date 12/01/2009
MSDS Number 350000004298
SITE_FORM Number
30000000000000003622.001

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS-No.	Weight percent
Water	7732-18-5	60.00 - 100.00
Sodium hypochlorite	7681-52-9	3.00 - 7.00
Sodium hydroxide	1310-73-2	1.00 - 5.00
Sodium silicate	1344-09-8	1.00 - 5.00

4. FIRST AID MEASURES

Eye contact : Flush immediately with plenty of water for at least 15 to 20 minutes. Get medical attention immediately.

Skin contact : Flush immediately with plenty of water for at least 15 to 20 minutes. Get medical attention if irritation develops and persists.

Inhalation : Remove to fresh air. If breathing is affected, get medical attention.

Ingestion : Do NOT induce vomiting. Drink 1 or 2 glasses of water. Never give anything by mouth to an unconscious person. Get medical attention immediately.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media : Alcohol foam, carbon dioxide, dry chemical, water fog

Specific hazards during fire fighting : Container may melt and leak in heat of fire.

Special protective equipment for fire-fighters : Wear suitable protective clothing and gloves.

Further information : Wear full protective clothing and positive pressure self-contained breathing apparatus.

Flash point : Note: not applicable

Lower explosion limit : Note: not applicable

Upper explosion limit : Note: not applicable

6. ACCIDENTAL RELEASE MEASURES

Personal precautions : Use personal protective equipment.

Methods for cleaning up : Soak up with inert absorbent material.
Dike large spills.
Sweep up and shovel into suitable containers for disposal.

7. HANDLING AND STORAGE

Handling

Advice on safe handling : Use only as directed.
KEEP OUT OF REACH OF CHILDREN AND PETS.
Avoid contact with skin, eyes and clothing.
Avoid breathing vapors, mist or gas.

Storage

Requirements for storage areas and containers : Keep in a dry, cool and well-ventilated place.
Keep container closed when not in use.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational Exposure Limits

Components	CAS-No.	mg/m3	ppm	Basis
Sodium hydroxide	1310-73-2	2 mg/m3	-	ACGIH Ceiling
Sodium hydroxide	1310-73-2	2 mg/m3	-	OSHA TWA

Personal protective equipment

Respiratory protection

Industrial setting : Substantial amounts of mist/vapors can be controlled with local exhaust ventilation or respiratory protection.

Household setting : Substantial amounts of mist/vapors can be controlled with local exhaust ventilation or respiratory protection.

Hand protection

Industrial setting : Wear suitable gloves.

Household setting	:	Wear suitable gloves.

Eye protection

Industrial setting	:	Wear splash-resistant Chemical goggles.
Household setting	:	not applicable

Skin and body protection

Industrial setting	:	Protective footwear.
Household setting	:	Protective footwear.
Hygiene measures	:	Use only with adequate ventilation. Wash thoroughly after handling. Remove and wash contaminated clothing and gloves, including the inside, before re-use.

9. PHYSICAL AND CHEMICAL PROPERTIES

Form	:	liquid
Color	:	natural colour
Odor	:	Bleach
pH	:	11.5 - 13.4
Boiling point	:	> 93 °C
Freezing point	:	no data available
Flash point	:	not applicable
Evaporation rate	:	no data available
Autoignition temperature	:	not applicable
Lower explosion limit	:	not applicable
Upper explosion limit	:	not applicable
Vapour pressure	:	similar to water
Density	:	9.1 g/cm3 at 25 °C

Water solubility	:	completely soluble
Partition coefficient: n-octanol/water	:	not applicable

10. STABILITY AND REACTIVITY

Conditions to avoid	:	None known.
Materials to avoid	:	Do not mix with acids or any other household products. May release dangerous gases (chlorine). Avoid contact with: Ammonia Acids Rust remover.
Hazardous decomposition products	:	Thermal decomposition can lead to release of irritating gases and vapours.
Hazardous reactions	:	Stable

11. TOXICOLOGICAL INFORMATION

Acute oral toxicity	:	LD50 estimated > 5,000 mg/kg
Acute inhalation toxicity	:	no data available
Acute dermal toxicity	:	LD50 estimated > 5,000 mg/kg

Chronic effects

Carcinogenicity	:	no data available
Mutagenicity	:	no data available
Reproductive effects	:	no data available
Teratogenicity	:	no data available

Sensitisation : no data available

12. ECOLOGICAL INFORMATION

Ecotoxicity effects : no data available

13. DISPOSAL CONSIDERATIONS

Industrial setting : Observe all applicable Federal, Provincial and State regulations and Local/Municipal ordinances regarding disposal.

Household setting : Dispose of in accordance with local regulations.

14. TRANSPORT INFORMATION

Land transport

U.S. DOT and Canadian TDG Surface Transportation:

UN-Number	1760
Proper shipping name	Corrosive Liquid, N.O.S.
Class:	8
Packaging group:	III
Note:	SC Johnson ships this product as Consumer Commodity ORM-D (non-bulk packages)

Sea transport

IMDG:

Class:	8
Packaging group:	III
Proper shipping name	Corrosive Liquid, N.O.S.
UN-Number:	1760
Note:	SC Johnson ships this product as "Limited Quantity" when the container quantity value is 1 Liter or less.

Air transport

ICAO/IATA:

Class:	8
Packaging group:	III

Proper shipping name	Corrosive Liquid, N.O.S.
UN/ID No.:	UN 1760
Note:	SC Johnson typically does not ship products via air, therefore it has not been determined if the product container meets current IATA/ICAO package criteria. Refer to IATA/ICAO Dangerous Goods Regulations for detailed instructions when shipping this item by air.

15. REGULATORY INFORMATION

Notification status	:	All ingredients of this product comply with the New Substances Notification requirements under the Canadian Environmental Protection Act (CEPA).
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.
California Prop. 65	:	This product is not subject to the reporting requirements under California's Proposition 65.
Canada Regulations	:	This product has been classified in accordance with hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

16. OTHER INFORMATION

HMIS Ratings

Health	3
Flammability	0
Reactivity	0

NFPA Ratings

Health	3
Fire	0
Reactivity	0
Special	

Further information

SC Johnson
A FAMILY COMPANY

DRANO® CLOG REMOVER

Version *1.*

Revision Date 11/30/2009

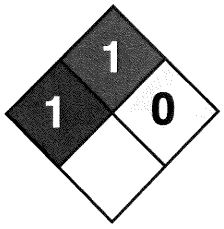
Print Date 12/01/2009

MSDS Number 350000004298
SITE_FORM Number
30000000000000003622.001

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)

ScienceLab.com
Chemicals & Laboratory Equipment



Health	1
Fire	1
Reactivity	0
Personal Protection	C

Material Safety Data Sheet
Ethylene glycol MSDS

Section 1: Chemical Product and Company Identification

Product Name: Ethylene glycol

Catalog Codes: SLE1072

CAS#: 107-21-1

RTECS: KW2975000

TSCA: TSCA 8(b) inventory: Ethylene glycol

CI#: Not available.

Synonym: 1,2-Dihydroxyethane; 1,2-Ethanediol; 1,2-Ethandiol; Ethylene dihydrate; Glycol alcohol; Monoethylene glycol; Tescol

Chemical Name: Ethylene Glycol

Chemical Formula: HOCH2CH2OH

Contact Information:

Sciencelab.com, Inc.
14025 Smith Rd.
Houston, Texas 77396

US Sales: **1-800-901-7247**
International Sales: **1-281-441-4400**

Order Online: ScienceLab.com

CHEMTREC (24HR Emergency Telephone), call: 1-800-424-9300

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

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

Section 2: Composition and Information on Ingredients

Composition:

Name	CAS #	% by Weight
Ethylene glycol	107-21-1	100

Toxicological Data on Ingredients: Ethylene glycol: ORAL (LD50): Acute: 4700 mg/kg [Rat]. 5500 mg/kg [Mouse]. 6610 mg/kg [Guinea pig]. VAPOR (LC50): Acute: >200 mg/m 4 hours [Rat].

Section 3: Hazards Identification

Potential Acute Health Effects:
Hazardous in case of ingestion. Slightly hazardous in case of skin contact (irritant, permeator), of eye contact (irritant), of inhalation. Severe over-exposure can result in death.

Potential Chronic Health Effects:
CARCINOGENIC EFFECTS: A4 (Not classifiable for human or animal.) by ACGIH. MUTAGENIC EFFECTS: Mutagenic for mammalian somatic cells. Non-mutagenic for bacteria and/or yeast. TERATOGENIC EFFECTS: Not available. DEVELOPMENTAL TOXICITY: Not available. The substance may be toxic to kidneys, liver, central nervous system (CNS). Repeated or prolonged exposure to the substance can produce target organs damage. Repeated exposure to a highly toxic material may produce general deterioration of health by an accumulation in one or many human organs.

Section 4: First Aid Measures

Eye Contact:
Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. Get medical attention if irritation occurs.

Skin Contact:
Wash with soap and water. Cover the irritated skin with an emollient. Get medical attention if irritation develops. Cold water may be used.

Serious Skin Contact: Not available.

Inhalation:
If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.

Serious Inhalation: Not available.

Ingestion:
Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately. Loosen tight clothing such as a collar, tie, belt or waistband.

Serious Ingestion:
Medical Conditions Aggravated by Exposure: Persons with pre-existiing kidney, respiratory, eye, or neurological problems might be more sensitive to Ethylene Glycol. Notes to Physician: 1. Support vital functions, correct for dehydration and shock, and manage fluid balance. 2. The currently recommended medical management of Ethylene Glycol poisoning includes elimination of Ethylene Glycol and metabolites. Elimination of Ethylene Glycol may be achieved by the following methods: a. Emptying the stomach by gastric lavage. It is useful if initiated within < 1 of ingestion. b. Correct metabolic acidosis with intravenous administration of sodium bicarbonate, adjusting the administration rate accoridng to repeated and frequent measurement of acid/base status. c. Administer ethanol (orally or by IV (intravenously)) or fomepizole (4-methylpyrazole or Antizol)) therapy by IV as an antidote to inhibit the ormation of toxic metabolites. d. If patients are diagnosed and treated early in the course with the above methods, hemodialysis may be avoided if fomepizole or ethanol therapy is effective and has corrected the metabolic acidosis, and no renal failure is present. However, once severe acidosis and renal failure occured, however, hemodialysis is necessary. It is effective in removing Ethylene Glycol and toxic metabolites, and correcting metabolic acidosis.

Section 5: Fire and Explosion Data

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

Auto-Ignition Temperature: 398°C (748.4°F)

Flash Points: CLOSED CUP: 111°C (231.8°F). (Tagliabue.)

Flammable Limits: LOWER: 3.2%

Products of Combustion: These products are carbon oxides (CO, CO2).

Fire Hazards in Presence of Various Substances:
Slightly flammable to flammable in presence of open flames and sparks, of heat. Non-flammable in presence of shocks.

Explosion Hazards in Presence of Various Substances:
Risks of explosion of the product in presence of mechanical impact: Not available. Risks of explosion of the product in presence of static discharge: Not available.

Fire Fighting Media and Instructions:
SMALL FIRE: Use DRY chemical powder. LARGE FIRE: Use water spray, fog or foam. Do not use water jet.

Special Remarks on Fire Hazards: Not available.

Special Remarks on Explosion Hazards:
Explosive decomposition may occur if combined with strong acids or strong bases and subjected to elevated temperatures.

Section 6: Accidental Release Measures

Small Spill:
Dilute with water and mop up, or absorb with an inert dry material and place in an appropriate waste disposal container. Finish cleaning by spreading water on the contaminated surface and dispose of according to local and regional authority requirements.

Large Spill:
Stop leak if without risk. Do not get water inside container. Do not touch spilled material. Use water spray to reduce vapors. Prevent entry into sewers, basements or confined areas; dike if needed. Eliminate all ignition sources. Call for assistance on disposal. Finish cleaning by spreading water on the contaminated surface and allow to evacuate through the sanitary system. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

Section 7: Handling and Storage

Precautions:
Keep away from heat. Keep away from sources of ignition. Empty containers pose a fire risk, evaporate the residue under a fume hood. Ground all equipment containing material. Do not ingest. Do not breathe gas/fumes/ vapor/spray. Wear suitable protective clothing. If ingested, seek medical advice immediately and show the container or the label. Keep away from incompatibles such as oxidizing agents, acids, alkalis.

Storage: Keep container tightly closed. Keep container in a cool, well-ventilated area. Hygroscopic

Section 8: Exposure Controls/Personal Protection

Engineering Controls:
Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value. Ensure that eyewash stations and safety showers are proximal to the work-station location.

Personal Protection:
Safety glasses. Synthetic apron. Gloves (impervious). For most conditions, no respiratory protection should be needed. However, if material is heated or sprayed and if atmospheric levels exceed exposure guidelines, use an approved vapor (air purifying) respirator.

Personal Protection in Case of a Large Spill:
Splash goggles. Full suit. Boots. Gloves. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

Exposure Limits:
STEL: 120 (mg/m3) [Australia] TWA: 100 (mg/m3) from ACGIH (TLV) [United States] CEIL: 125 (mg/m3) from OSHA (PEL) [United States] CEIL: 50 (ppm) from OSHA (PEL) [United States] TWA: 52 STEL: 104 (mg/m3) [United Kingdom (UK)] Inhalation TWA: 10 (mg/m3) [United Kingdom (UK)] SKIN3 Consult local authorities for acceptable exposure limits.

Section 9: Physical and Chemical Properties

Physical state and appearance: Liquid. (syrupy)

Odor: Odorless.

Taste: Mild sweet

Molecular Weight: 62.07 g/mole

Color: Clear Colorless.

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

Boiling Point: 197.6°C (387.7°F)

Melting Point: -13°C (8.6°F)

Critical Temperature: Not available.

Specific Gravity: 1.1088 (Water = 1)

Vapor Pressure: .06 mmHg @ 20 C; .092 mmHg at 25 C

Vapor Density: 2.14 (Air = 1)

Volatility: Not available.

Odor Threshold: Not available.

Water/Oil Dist. Coeff.: The product is more soluble in water; log(oil/water) = -1.4

Ionicity (in Water): Not available.

Dispersion Properties: See solubility in water, acetone.

Solubility:
Soluble in cold water, hot water, acetone. Slightly soluble in diethyl ether. Miscible with lower aliphatic alcohols, glycerol, acetic acid, acetone and similar ketones, aldehydes, pyridine, similar coal tar bases. Practically insoluble in benzene and its homologs, chlorinated hydrocarbons, petroleum ether.

Section 10: Stability and Reactivity Data

Stability: The product is stable.

Instability Temperature: Not available.

Conditions of Instability: Excess heat, incompatible materials.

Incompatibility with various substances: Reactive with oxidizing agents, acids, alkalis.

Corrosivity: Non-corrosive in presence of glass.

Special Remarks on Reactivity:
Hygroscopic. Absorbs moisture from the air. Avoid contamination with materials with hydroxyl compounds. Also incompatible with aliphatic amines, isocyanates, chlorosulfonic acid, and oleum

Special Remarks on Corrosivity: Not available.

Polymerization: Will not occur.

Section 11: Toxicological Information

Routes of Entry: Absorbed through skin. Ingestion.

Toxicity to Animals:
Acute oral toxicity (LD50): 4700 mg/kg [Rat]. Acute toxicity of the vapor (LC50): >200 mg/m3 4 hours [Rat].

Chronic Effects on Humans:
CARCINOGENIC EFFECTS: A4 (Not classifiable for human or animal.) by ACGIH. MUTAGENIC EFFECTS: Mutagenic for mammalian somatic cells. Non-mutagenic for bacteria and/or yeast. May cause damage to the following organs: kidneys, liver, central nervous system (CNS).

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

Special Remarks on Toxicity to Animals:
Lowest Published Toxic Dose/Conc: TDL [Man] - Route: oral; Dose: 15gm/kg Lethal Dose/Conc 50% Kill LD50 [Rabbit] - Route: dermal; Dose: 9530 ul/kg

Special Remarks on Chronic Effects on Humans:
May cause adverse reproductive effects and birth defects (teratogenic) based on animal test data. No human data has been reported at this time. May affect genetic material (mutagenic)

Special Remarks on other Toxic Effects on Humans:
Acute Potential Health Effects: Skin: May cause skin irritation. May cause more severe response if skin is abraded. A single prolonged exposure is not likely to result in material being absorbed through skin in harmful amounts. Massive contact with damaged skin may result in absorption of potentially harmful amounts Eyes: Vapors or mist may cause temporary eye irritation (mild temporary conjunctival inflammation) and lacrimation. Corneal injury is unlikely or insignificant.. Ingestion: It is rapidly absorbed from the gastrointestinal tract. Oral toxicity is expected to be moderate in humans due to Ethylene Glycol even though tests with animals show a lower degree of toxicity. Excessive exposure (swallowing large amounts) may cause gastrointestinal tract irritation with nausea, vomiting, abdominal discomfort, diarrhea. It can affect behavior/central nervous system within 0.5 to 12 hours after ingestion. A transient inebriation with excitement, stupor, headache, slurred speech, ataxia, somnolence, and euphoria, similar to ethanol intoxication, can occur within the first several hours. As sthe Ethylene Glycol is metabolized, metabolic acidosis and further central nervous system depression (convulsions, muscle weakness) develop. Serious intoxication may develop to coma associated with hypotonia, hyporeflexia, and less commonly seizures, and meningismus. 12 to 24 hours

Section 12: Ecological Information

Ecotoxicity:
Ecotoxicity in water (LC50): 41000 mg/l 96 hours [Fish (Trout)]. 46300 mg/l 48 hours [water flea]. 34250 mg/l 96 hours [Fish (bluegill fish)]. 34250 mg/l 72 hours [Fish (Goldfish)].

BOD5 and COD: Not available.

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

Toxicity of the Products of Biodegradation: The products of degradation are less toxic than the product itself.

Special Remarks on the Products of Biodegradation: Not available.

Section 13: Disposal Considerations

Waste Disposal:
Waste must be disposed of in accordance with federal, state and local environmental control regulations.

Section 14: Transport Information

DOT Classification: Not a DOT controlled material (United States).

Identification: Not applicable.

Special Provisions for Transport: Not applicable.

Section 15: Other Regulatory Information

Federal and State Regulations:
Illinois toxic substances disclosure to employee act: Ethylene glycol Illinois chemical safety act: Ethylene glycol New York release reporting list: Ethylene glycol Rhode Island RTK hazardous substances: Ethylene glycol Pennsylvania RTK: Ethylene glycol Minnesota: Ethylene glycol Massachusetts RTK: Ethylene glycol Massachusetts spill list: Ethylene glycol New Jersey: Ethylene glycol Louisiana spill reporting: Ethylene glycol TSCA 8(b) inventory: Ethylene glycol TSCA 4(a) proposed test rules: Ethylene glycol SARA 313 toxic chemical notification and release reporting: Ethylene glycol CERCLA: Hazardous substances.: Ethylene glycol: 5000 lbs. (2268 kg)

Other Regulations:
OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200). EINECS: This product is on the European Inventory of Existing Commercial Chemical Substances.

Other Classifications:

WHMIS (Canada): CLASS D-2A: Material causing other toxic effects (VERY TOXIC).

DSCL (EEC):
R22- Harmful if swallowed. S46- If swallowed, seek medical advice immediately and show this container or label.

HMIS (U.S.A.):

Health Hazard: 1

Fire Hazard: 1

Reactivity: 0

Personal Protection: C

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

Health: 1

Flammability: 1

Reactivity: 0

Specific hazard:

Protective Equipment:
Gloves. Lab coat. Not applicable. Safety glasses.

Section 16: Other Information

References: Not available.

Other Special Considerations: Not available.

Created: 10/10/2005 08:18 PM

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

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall ScienceLab.com be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if ScienceLab.com has been advised of the possibility of such damages.

SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

COMPANY ADDRESS:
Farmery Estate Brewing Company Inc.
Neepawa, MB, Canada R0J 1H0
204-777-0909 ext. 0
Email: info@farmery.ca
Website: farmery.ca

EMERGENCY TELEPHONE NUMBERS:
204-777-0909 ext. 0

PRODUCT NAME : **Farmery Hand Sanitizer**
PRODUCT USE : Hand Sanitizer, Antiseptic
APPLICATION METHOD : Place appropriate amount of product on hands, rub together

SECTION 2 - HAZARDS IDENTIFICATION SUMMARY

(As defined by OSHA Hazard Communication Standard, 29 CFR 1910.1200)

2.1 Classification of the substance or mixture
Flam. Liq. 3;H226
Flammable liquid and vapour

2.2 Label elements

Using the Toxicity Data listed in section 11 and 12 the product is labeled as follows.

H226 Flammable liquid and vapour.

[Prevention]:

P210 Keep away from heat / sparks / open flames / hot surfaces - No smoking. P235 Keep cool.
P240 Ground / bond container and receiving equipment.
P241 Use explosion-proof electrical / ventilating / light / equipment.

P242 Use only non-sparking tools.
P243 Take precautionary measures against static discharge. P280 Wear protective gloves / eye protection / face protection. **[Response]:**

P303+361+353 IF ON SKIN (or hair): Remove / Take off immediately all contaminated clothing. Rinse skin with water / shower.

P370+378 In case of fire: Use extinguishing media listed in section 5 of SDS for extinction.

[Storage]:

P403+233 Store in a well ventilated place. Keep container tightly closed.

[Disposal]:

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

SECTION 3 - COMPOSITION, INFORMATION OF INGREDIENTS

COMPONENT	WEIGHT %	GHS Classification	Notes
Ethanol CAS Number: 0000064-17-5	70	**Flam. Liq. 2;H225**	[1][2]
Glycerine	2		[SEE SEC.16 FOR SDS INFO ON GLYCERINE]

[1] Substance classified with a health or environmental hazard. [2] Substance with a workplace exposure limit.

SECTION 4 - FIRST AID MEASURES

4.1. Description of first aid measures
General In all cases of doubt, or when symptoms persist, seek medical attention.

Never give anything by mouth to an unconscious person. **Inhalation** If breathing is difficult move to fresh air.

Eyes Skin Ingestion

Flush with water. Flush with water.

Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If potentially dangerous quantities of this material have been swallowed, call a physician immediately.

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

Overview

Health Hazards (Acute and Chronic): Used as a hand sanitizer. Vapor irritates eyes. High concentration of vapor can irritate respiratory tract, are anesthetic and may cause CNS depression.
Signs and Symptoms of Exposure: Confusion, headache, dizziness, and nausea.

Medical Conditions Generally Aggravated by Exposure: Pre existing eye and respiratory disorders may be aggravated by exposure.

Exposure to solvent vapor concentrations from the component solvents in excess of the stated occupational exposure limits may result in adverse health effects such as mucous membrane and respiratory system irritation and adverse effects on the kidneys, liver and central nervous system. Symptoms include headache, nausea, dizziness, fatigue, muscular weakness, drowsiness and in extreme cases, loss of consciousness.

Repeated or prolonged contact with the preparation may cause removal of natural fat from the skin resulting in dryness, irritation and possible non-allergic contact dermatitis. Solvents may also be absorbed through the skin. Splashes of liquid in the eyes may cause irritation and soreness with possible reversible damage. See section 2 for further details.

SECTION 5 - FIRE FIGHTING MEASURES

5.1. Extinguishing media

CO2, Dry Chemical, Foam, Sand.

5.2. Special hazards arising from the substance or mixture

Hazardous decomposition: High temperatures and fires may produce such toxic substances as carbon monoxide and carbon dioxide.

Keep away from heat / sparks / open flames / hot surfaces - No smoking. Keep cool.
Ground / bond container and receiving equipment.
Use explosion-proof electrical / ventilating / light / equipment.

Use only non-sparking tools.

Take precautionary measures against static discharge.

5.3. Advice for fire-fighters

Large quantities of gel hand sanitizer are flammable and vapors form explosive mixtures with air. Dangerous when exposed to heat, sparks, flame or oxidants.

Handle as a flammable liquid. Dilution of burning liquid with water will effect extinguishment. **ERG Guide No.** 127

SECTION 6 - ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Put on appropriate personal protective equipment (see section 8).

6.2. Environmental precautions

Use good personal hygiene practices. Wash hands before eating, drinking, smoking or using toilet. Promptly remove soiled clothing and wash thoroughly before reuse.

Collect in flammable waste container for disposal.

6.3. Methods and material for containment and cleaning up

Eliminate all sources of ignition, small spills should be flushed with large quantities of water, larger spills should be collected for disposal.

SECTION 7 - HANDLING AND STORAGE

7.1. Precautions for safe handling

Keep away from heat, sparks, and open flames. Store at normal room temperature away from reach of small children. Keep container closed. Avoid freezing conditions.

See section 2 for further details. - [Prevention]:

7.2. Conditions for safe storage, including any incompatibilities

Handle containers carefully to prevent damage and spillage.

Naked flames and smoking should not be permitted in storage areas. It is recommended that fork lift trucks and electrical equipment are protected to the appropriate standard.

Incompatible materials: Incompatible with strong oxidizing agents See section 2 for further details. - [Storage]:

7.3. Specific end use(s)

No data available.

SECTION 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION

Exposure

CAS No.	Ingredient	Source	Value
0000064-17-5	Ethanol	OSHA	TWA 1000 ppm (1900 mg/m3)
		ACGIH	STEL: 1000 ppm Revised 2009,
		NIOSH	TWA 1000 ppm (1900 mg/m3)
		Supplier	No Established Limit

Carcinogen Data

CAS No.	Ingredient	Source	Value
0000064-17-5	Ethanol	OSHA	Select Carcinogen: No
		NTP	Known: No; Suspected: No
		IARC	Group 1: Yes; Group 2a: No; Group 2b: No; Group 3: No; Group 4: No;

8.2. Exposure controls Respiratory

Eyes
Skin
Engineering Controls

Other Work Practices

If workers are exposed to concentrations above the exposure limit they must use the appropriate, certified respirators.

Safety Goggles
Wear overalls to keep skin contact to a minimum. Use neoprene or rubber gloves or PVC.

Provide adequate ventilation. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. If these are not sufficient to maintain concentrations of particulates and any vapor below occupational exposure limits suitable respiratory protection must be worn.

Eye bath and safety showers. Use good personal hygiene practices. Wash hands before eating, drinking, smoking or using toilet. Promptly remove soiled clothing and wash thoroughly before reuse.

See section 2 for further details. - [Prevention]:

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Appearance **: Clear Viscous Liquid**

Odor **: Alcohol/Hops, faint**

Odor threshold **: Not Measured**

pH : 7.8-8.6
Melting point / freezing point : Not Measured
Initial boiling point and boiling range : 82 deg. C (approx.)
Flash Point : 86 deg. F
Evaporation rate (Ether = 1) : N/A
Flammability (solid, gas) : Not Applicable
Upper/lower flammability or explosive limits **: Lower Explosive Limit:** Not Measured

: **Upper Explosive Limit:** Not Measured N/A
Vapor pressure (Pa) : N/A
Vapor Density : N/A
Specific Gravity : 0.860-0.889
Solubility in Water : Complete
Partition coefficient n-octanol/water (Log Kow) : Not Measured
Auto-ignition temperature : Not Measured
Decomposition temperature : Not Measured

Viscosity (cSt) : Not Measured

% Ethyl Alcohol (w/w) : 70%

9.2. Other information

No other relevant information.

SECTION 10 - STABILITY AND REACTIVITY

10.1. Reactivity

Hazardous Polymerization will not occur.

10.2. Chemical stability

Stable under normal circumstances.

10.3. Possibility of hazardous reactions

No data available.

10.4. Conditions to avoid

High temperatures and fires.

10.5. Incompatible materials

Incompatible with strong oxidizing agents

10.6. Hazardous decomposition products

High temperatures and fires may produce such toxic substances as carbon monoxide and carbon dioxide.

SECTION 11 - TOXICOLOGICAL INFORMATION

Acute toxicity

Safety Data Sheet Instant Hand Sanitizer

11. Toxicological information

04/29/2015

Exposure to solvent vapor concentrations from the component solvents in excess of the stated occupational exposure limits may result in adverse health effects such as mucous membrane and respiratory system irritation and adverse effects on the kidneys, liver and central nervous system. Symptoms include headache, nausea, dizziness, fatigue, muscular weakness, drowsiness and in extreme cases, loss of consciousness.

Repeated or prolonged contact with the preparation may cause removal of natural fat from the skin resulting in dryness, irritation and possible non-allergic contact dermatitis. Solvents may also be absorbed through the skin. Splashes of liquid in the eyes may cause irritation and soreness with possible reversible damage.

Ingredient	Oral LD50, mg/kg	Skin LD50, mg/kg	Inhalation Vapor LD50, mg/L/4hr	Inhalation Dust/Mist LD50, mg/L/4hr	Inhalation Gas LD50, ppm
Ethanol - (64-17-5)	7,060.00, Rat - Category: NA	20,000.00, Rabbit - Category: NA	124.70, Rat - Category: NA	No data available	No data available

Note: When no route specific LD50 data is available for an acute toxin, the converted acute toxicity point estimate was used in the calculation of the product's ATE (Acute Toxicity Estimate).

Classification	Category	Hazard Description
Acute toxicity (oral)	---	Not Applicable
Acute toxicity (dermal)	---	Not Applicable
Acute toxicity (inhalation)	---	Not Applicable

Skin corrosion/irritation	---	Not Applicable
Serious eye damage/irritation	---	Not Applicable
Respiratory sensitization	---	Not Applicable
Skin sensitization	---	Not Applicable
Germ cell mutagenicity	---	Not Applicable
Carcinogenicity	---	Not Applicable
Reproductive toxicity	---	Not Applicable
STOT-single exposure	---	Not Applicable
STOT-repeated exposure	---	Not Applicable
Aspiration hazard	---	

SECTION 12 - ECOLOGICAL INFORMATION

12.1. Toxicity

Toxic to aquatic life

Aquatic Ecotoxicity

Ingredient	96 hr LC50 fish, mg/l	48 hr EC50 crustacea, mg/l	ErC50 algae, mg/l
Ethanol - (64-17-5)	42.00, Oncorhynchus mykiss	2.00, Daphnia magna	17.921 (96 hr), Ulva pertusa

12.2. Persistence and degradability

There is no data available on the preparation itself.

12.3. Bioaccumulative potential

Not Measured

12.4. Mobility in soil

No data available.

12.5. Results of PBT and vPvB assessment

This product contains no PBT/vPvB chemicals.

12.6. Other adverse effects

No data available.

SECTION 13 – DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Destroy by liquid incineration. Use absorbent material and deposit in toxic landfill in accordance with local, state, and federal regulations.

SECTION 14 – TRANSPORT INFORMATION

This product contains between 60-80% ethyl alcohol:

UN 1170

This product is in containers of 355 mL, 1 L and 4 L:

Class II or III

SECTION 15 – REGULATORY INFORMATION

Regulatory Overview

The regulatory data in Section 15 is not intended to be all-inclusive, only selected regulations are represented.

SDS Revision Date: 04/29/2015

Toxic Substance Control Act (TSCA) : All components of this material are either listed or exempt from listing on the TSCA Inventory.

WHMIS Classification : B2

US EPA Tier II Hazards : **Fire:** Yes

: **Sudden Release of Pressure:** No

: **Reactive:** No

: **Immediate (Acute):** No

: **Delayed (Chronic):** No

EPCRA 311/312 Chemicals and RQs:

No chemicals at levels which require reporting under this statute.

EPCRA 302 Extremely Hazardous :

No chemicals at levels which require reporting under this statute.

EPCRA 313 Toxic Chemicals:

Isopropyl Alcohol

Proposition 65 - Carcinogens (>0.0%):

No chemicals at levels which require reporting under this statute.

Proposition 65 - Developmental Toxins (>0.0%):

No chemicals at levels which require reporting under this statute.

Proposition 65 - Female Repro Toxins (>0.0%):

No chemicals at levels which require reporting under this statute.

Proposition 65 - Male Repro Toxins (>0.0%):

No chemicals at levels which require reporting under this statute.

N.J. RTK Substances (>1%):

Ethanol

Penn RTK Substances (>1%):

Ethanol

SECTION 16 – REGULATORY INFORMATION

The information and recommendations contained herein are based upon data believed to be correct. However, no guarantee or warranty of any kind, expressed or implied, is made with respect to the information contained herein. We accept no responsibility and disclaim all liability for any harmful effects which may be caused by exposure to our products. Customers/users of this product must comply with all applicable health and safety laws, regulations, and orders.

The full text of the phrases appearing in section 3 is: H225 Highly flammable liquid and vapor.

SDS Revision Date: 05/31/2020

H319 Causes serious eye irritation.
H336 May cause drowsiness and dizziness.

This is the first version in the GHS SDS format. Listings of changes from previous versions in other formats are not applicable.

Disclaimer: The contents of this MSDS are believed to be correct but do not purport to be all-inclusive and should only be used as a guide. Farmery Estate Brewing Company Inc. disclaims any express or implied warranty as to the accuracy of the above information and shall not be held liable for any direct, incidental or consequential damages resulting from the reliance on the above information.

SECTION 17 – ADDENDUM INFORMATION

Natural Oleochemicals Sdn. Bhd. (150005-U)

GST No. 000243351552

SELF-DECLARATION STATEMENT

Manufacturer : NATURAL OLEOCHEMICALS SDN. BHD.

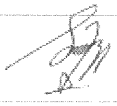
Product : REFINED GLYCERIN Ref. : EX/15/588A

Parameters	Detailed Information
i. General description	Colourless, odourless, viscous and hygroscopic liquid.
ii. List of Ingredients	Single component substance. Refined glycerin > 99.7% Moisture < 0.2% Ash < 0.1%
iii. Country of Origin	Malaysia
iv. Source of raw materials	Source : Plant - Oil palm Part of the tree : Fruit Botanical name : Elaeis Guineensis Origin : Malaysia & Indonesia

General	Yes	No	Comments
i. Non GMO (*genetically modified organism*)	☒	☐	The products are free from GMO (*genetically modified organism*) as defined in Directive 2001/18/EC.
o QA system in place to verify non GMO of all raw materials used in the products	☒	☐	As documented in our HACCP manual that no GMO and its derivatives is allowed in the premises. Thus, none of GM-materials or their derivatives is used during the manufacturing, handling and storage of the products.
o PCR (*polymerase chain reaction*) negative test	☒	☐	PCR is done on the base materials of our product, and the results consistently show negative.

Packing Related	Detailed Information
i. Label / Marking (on the packed product)	Standard Version : NATURAL OLEOCHEMICALS SDN. BHD. REFINED GLYCERIN NET WT. LOT NO. MADE IN MALAYSIA
ii. Lot Coding	An example of lot numbering on drum / IBC tank / HDPE containers is G151211-1N. Definition : G : Glycerin 11 : Produced on 11th 15 : Produced in year 2015 1 : first lot of the day 12 : Produced in month of December N : manufacturing site, at NatOleo

The information given above is to the best of our knowledge and based on the nature of the manufacture, handling and storage of the product.

Signature		Siti Noor I. M. Zin (Manager - R&D; Quality Division)	**Company Stamp** 
Date	11 December 2015		

Head Office / Treasury Office Address:-
PLO 338, Jalan Tembaga Dua
Kawasan Perindustrian Pasir Gudang
P.O. Box 80, 81707 Pasir Gudang
Johor, Malaysia
Tel : 607-2688222
Fax : 607-2514970 / 607-2782603 (Treasury)
Web : www.pgeogroup.com.my

Correspondence / Factory Address:-
PLO 428, Jalan Besi Satu
Kawasan Perindustrian Pasir Gudang
81700 Pasir Gudang
Johor, Malaysia
Tel : 607-2533888
Fax: 607-2511614 / 607-2528717 (Logistics)
Web : www.natoleo.com

Registered Address:-
Letter Box No. 115, 12th Floor, UBN Tower
No. 10, Jalan P. Ramlee
50250 Kuala Lumpur
Malaysia
Tel : 603-27260088
Fax: 603-27260099

End of Document

FIRE EXTINGUSHER

STRIKE FIRST CORPORATION

777 Tapscott Road
Scarborough, Ontario
M1X 1A2

MATERIAL SAFETY DATA SHEET

Prepared to US OSHA, CMA, ANSI and Canadian WHMIS Standards

PART I. What is the material and what do I need to know in an emergency?

1. PRODUCT IDENTIFICATION

TRADE NAME (AS LABELED):	**ABC SUPER 90 DRY CHEMICAL**	
SYNONYMS:	**Multi-purpose Dry Chemical**	
MANUFACTURER'S NAME:	**STRIKE FIRST CORPORATION**	
ADDRESS:	**c/o STEEL FIRE EQUIPMENT LTD.**	
	150 Superior Blvd.	
	Missisauga, Ontario	
	L5T 2L2	
BUSINESS PHONE:	**416.299.7767**	
EMERGENCY CONTACTS:	**Chemtrec**	**1.800.424.9300**
	In Canada – Canutec	**613.996.6666**
DATE OF REVISION:	**Feb. 6, 2015**	

2. COMPOSITION AND INFORMATION ON INGREDIENTS

CHEMICAL NAME	CAS #	% W/ W	EXPOSURE LIMITS IN AIR					
			ACGIH		OSHA			
			TLV mg/m3	STEL mg/mm3	PEL mg/m3	STEL mg/m3	IDLH mg/m3	OTHER
Mono Ammonium Phosphate Ammonium Sulfate	7722-76-1 7783-20-2	>94	> 94 ACGIH TLV for particulars, Not Otherwise Classified = 10; OSHA PEL for Particulars Not Otherwise Regulated, Total Dust = 15, Respirable Fraction 5.					
Mica	12001-26-2	<3	3 (Respirable Fraction)	NE	6 (Respirable Fraction)	NE	NE	NE
Attaclay	8031-18-3	<3	NE	NE	NE	NE	NE	NE
Silicone Oil	63148-57-2	<1	NE	NE	NE	NE	NE	NE
Calcium Carbonate	471-34-1	<1						
Silica	112926-00-8	<1	2	NE	6	NE	NE	NE
Yellow Pigment	5468-75-7	<1	NE	NE	NE	NE	NE	NE

NE = Not Established C = Ceiling Level See Section 16 for Definitions of Terms Used

Note: All WHMIS required information is included. It is located in appropriate sections on the ANSI 1400.1-1996 format

3. HAZARD IDENTIFICATION

EMERGENCY OVERVIEW: This mixture of dry chemicals poses little hazard. Mechanical irritation of the eyes is possible during the use and maintenance of the extinguishing units. Chronic inhalation of any particulate may damage the lungs.

SYMPTOMS OF OVER-EXPOSURE BY ROUTE OF EXPOSURE: Over-exposure to this product may cause mild skin irritation, moderate eye irritation, and possible gastric distress. The product is not known to cause chronic illness.

INHALATION: Inhalation of this product should be avoided, but if it occurs, may cause mild irritation of the nose, throat, and other tissues of the respiratory system.

CONTACT WITH SKIN OR EYES: Contact of dust from this product with the eyes may cause moderate irritation, reddening of the affected eye, and discomfort.

SKIN ABSORPTION: No component of this product is known to absorb through the skin.
INGESTION: Ingestion of this product may cause gastric distress.

INJECTION: While injection of this product is unlikely, it may occur as a result of a puncture or cut with a sharp object contaminated with the extinguishing agent. Mild symptoms, similar to those of skin irritation may occur.

HEALTH EFFECTS OR RISKS FROM EXPOSURE: An Explanation in Lay Terms. This product poses low, acute health risks.

HAZARDOUS MATERIAL INFORMATION SYSTEM

HEALTH	(BLUE)	1
FLAMMABILITY	(RED)	0
REACTIVITY	(YELLOW)	1

PROTECTIVE EQUIPMENT

EYES	RESPIRATION	HANDS	BODY
	See Section 8		See Section 8

For routine industrial applications

ACUTE: This extinguishing material presents only a slight risk of causing acute health effects. If such effects occur, they will be in the form of mild irritation of the skin, nose, or throat and mild irritation of the eyes. If ingested, this product may cause an upset stomach.

CHRONIC: This product is not known to cause chronic illnesses or diseases.

Hazard symbols: WHMIS (Canadian workplace hazardous materials identification system)
D2B – Product may irritate eyes, skin, or mucous membranes

PART II . What should I do if a hazardous situation occurs?

4. FIRST AID MEASURES

SKIN EXPOSURE: If spilled on skin, immediately begin decontamination with running water. Remove exposed or contaminated clothing, taking care not to contaminate eyes. If reddening or irritation occurs, victim and rescuers must seek immediate medical attention.

EYE EXPOSURE: If chemical is splashed in eyes, open victim's eyes while under gentle running water. Use sufficient force to open eyelids. Have victim "roll" eyes. Minimum flushing is for 15 minutes.

INHALATION: If chemical is inhaled, remove victim to fresh air. If necessary, use artificial respiration to support vital functions. If reddening or irritation occurs, victim and rescuers must seek immediate medical attention.

INGESTION: If chemical is swallowed, **CALL PHYSICIAN OR POISON CONTROL CENTRE FOR MOST CURRENT INFORMATION**. If professional advice is not available, do not induce vomiting. Never induce vomiting or give dilutents (milk or water) to someone who is unconscious, having convulsions, or who cannot swallow.

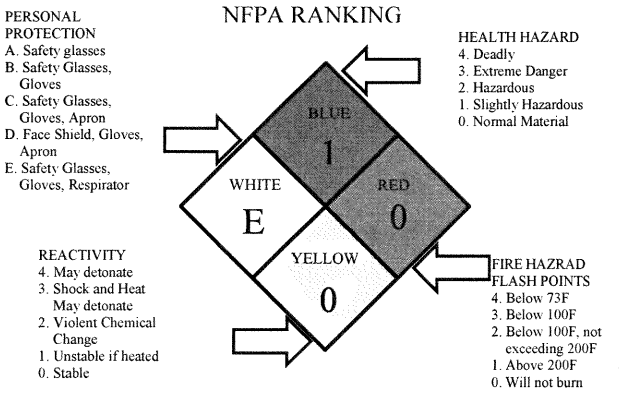
If exposure causes obvious distress, victim(s) and rescuers must be taken for medical attention. Take copy of label and MSDS to physician or health professional with victim.

---

5. FIRE FIGHTING MEASURES

FLASH POINT, C (method): Not applicable
AUTOIGNITION TEMPERATURE, C: Not applicable
FLAMMABLE LIMITS (in air by volume %) Lower (LEL): Not applicable
Upper (LEL): Not applicable

FIRE EXINTGUISHING MATERIALS: None. This product is a fire extinguishing agent.
UNUSUAL FIRE AND EXPLOSION HAZARDS: When involved in a fire, this material may decompose and produce irritating fumes and toxic gases including sulfur oxides, carbon dioxide and carbon monoxide.
Explosion Sensitivity to Mechanical Impact: Not sensitive
Explosion Sensitivity to Static Discharge: Not sensitive
SPECIAL FIRE FIGHTING PROCEDURES: When involved incipient fire responders should wear eye protection. Structural fire fighters must wear Self-Contained Breathing Apparatus and full protective equipment.



---

6. ACCIDENTAL RELEASE MEASURES

SPILL AND LEAK RESPONSE: Uncontrolled releases should be responded to by trained personnel using preplanned procedures. Proper protective equipment should be used. In case of spill, clear the affected area, protect people, and respond with trained personnel. If it is determined that exposure guidelines for nuisance particulates – 10mg/m3 (total particulates) or 5mg/m3 (respirable particulates) is exceeded, use *(continued on next page)*

Level C: triple gloves (rubber gloves with nitrile gloves, over latex gloves), chemically resistant suit and boots, hard hat, and purifying respirator with a HEPA filter.
Sweep up the spilled solid and place all spill residue in a double plastic bag and seal. Dispose of in accordance with Federal, Provincial, and local hazardous waste disposal regulations (see Sections 13).

PART III . How can I prevent hazardous situations from occurring?

7. HANDLING AND STORAGE

WORK PRACTICES AND HYGIENE PRACTICES: Avoid getting chemicals ON YOU or IN YOU. Wash hands after handling chemicals. Do not eat or drink while handling chemicals.

STORAGE AND HANDLING PRACTICES: All employees who handle this material should be trained to handle it safely. Avoid breathing dusts generated by this product.

PROTECTIVE PRACTICES DURING MAINTENANCE OF CONTAMINATED EQUIPMENT: Follow practices indicated in Section 6 (Accidental Release Measures). Make certain application equipment is locked and tagged-out safely. Always use this product in areas where adequate ventilation is provided. Decontaminate equipment using soapy water before maintenance begins. Collect all rinsates and dispose of according to applicable Federal, Provincial, or local procedures.

---

8. EXPOSURE CONTROLS - PERSONAL PROTECTION

VENTILATION AND ENGINEERED CONTROLS: Use with adequate ventilation. Use a mechanical fan or vent area to outside.

RESPIRATORY PROTECTION: Respiratory protection is not expected to be needed. Maintain airborne contaminant concentrations below guidelines for nuisance particulates: 10 mg/m3 (total particulates) or 5 mg/m3 (respirable particulates). If respiratory protection is needed, use only protection authorized in 29CFR 1910.134, or applicable Provincial regulations. Use supplied air respiratory protection if oxygen levels are below 19.5%.

EYE PROTECTION: Safety glasses

HAND PROTECTION: Wear rubber gloves for routine industrial use. Use triple gloves for spill response, as stated in Section 6 of this MSDS.

BODY PROTECION: Use body protection appropriate for task.

---

9. PHYSICAL AND CHEMICAL PROPERTIES

VAPOR DENSITY: < 1 mm Hg

EVAPORATION RATE (n-BuAc=1): Not applicable

SPECIFIC GRAVITY: Approximately 0.85

MELTING POINT RANGE: Not applicable

SOLUBILITY IN WATER: Not soluble. Water repellent coating

BOILING POINT: Not applicable

VAPOR PRESSURE, mm Hg@20 C: Not applicable

pH (10% solution): Approx. 4-5

APPEARANCE AND COLOUR: This material is a finely divided, yellowish powder

HOW TO DETECT THIS SUBSTANCE (warning properties): This product does not have any specific warning properties.

10. STABILITY AND REACTIVITY

STABILITY: Stable

DECOMPOSITION PRODUCTS: Sulfur oxides, carbon monoxide and carbon dioxide

MATERIALS WITH WHICH SUBSTANCE IS INCOMPATIBLE: Strong alkalis, magnesium, swimming pool sanitizers (inorganic perachlorates, sodium dichloroisacyanurate dehydrate, trichloroisacyanuric acid, calcium hypochlorite, and other strong oxidizers).

HAZARDOUS POLYMERIZATION: Will not occur.

CONDITIONS TO AVOID: Incompatible materials

PART IV Is there any other useful information about this material?

11. TOXICOLOGICAL INFORMATION

TOXICITY DATA: The following data is available for components of this product greater than 1% by weight in concentration.

AMMONIUM SULFATE
TDLo (oral, man) = 150 mg/kg
LD50 (oral, rat) = 3000 mg / kg
LD50 (interperitoneal, rat) = 610 mg/kg

MONOAMMONIUM PHOSPHATE

No toxicology information listed

SUSPECTED CANCER AGENT: This product's ingredients are not found on the following lists: FEDERAL OSHA Z LIST, NTP,CAL/OSHA. A variety of silica forms (i.e. crystalline, fumed) are reported in IARC as a Group 3 Compound (Human Inadequate Evidence: Animal Inadequate Evidence).

IRRITANCY OF PRODUCT: This product may cause mild skin and respiratory irritation and moderate eye irritancy.

SENSITIZATION TO THE PRODUCT: This product is not known to cause sensitization.

REPRODUCTIVE TOXICITY INFORMATION: Listed below is information concerning the effects of this product and its components on the human system.

Mutagenicity: This product is not known to cause mutagenic effects
Teratogenicity: This product is not known to cause teratogenic effects
Reproductive Toxicity: This product is not known to cause reproductive toxicity effects

A mutagen is a chemical which causes permanent changes to genetic material (DNA) such that the changes will propagate through generational lines. A teratogen is a chemical which causes damage to a developing fetus, but the damage does not propagate across generational lines. A reproductive toxin is any substance which interferes in any way with the reproductive process.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Prolonged contact with this product may cause pre-existing dermatitis to become aggravated. Persons sensitive to pulmonary irritation upon exposure to high concentrations of dust should use appropriate engineering controls or respiratory protection when recharging fire extinguishers.

RECOMMENDATION TO PHYSICIANS: Treat patient symptoms. This product should not cause any notable clinical symptoms.

12. ECOLOGICAL INFORMATION

ENVIRONMENTAL STABILITY: No adverse environmental consequences are expected

EFFECT OF MATERIAL ON PLANTS OR ANIMALS: None currently known

EFFECT OF CHEMICAL ON AQUATIC LIFE: Not expected to harm aquatic life

13. DISPOSAL CONSIDERATIONS

PREPARING WASTES FOR DISPOSAL: Waste disposal must be in accordance with appropriate Federal, Provincial, and local regulations. This chemical, if unaltered by use, may be disposed of by treatment at a permitted facility or as advised by your local hazardous waste regulatory authority. Residue from fires extinguished with this material may be hazardous.

14. TRANSPORTATION INFORMATION

THIS MATERIAL IS NOT HAZARDOUS AS DEFINED BY 49 CFR 172.101 BY THE US DEPARTMENT OF TRANSPORTATION

PROPER SHIPPING NAME:	Not applicable
HAZARD CLASS NUMBER AND DESCRIPTION:	Not applicable
UN IDENTIFICATION NUMBER:	Not applicable
PACKING GROUP:	Not applicable
DOT LABEL(S) REQUIRED:	Not applicable
EMERGENCY RESPONSE GUIDE NUMBER:	Not applicable
MARINE POLLUTANT:	Not applicable

THIS MATERIAL IS NOT HAZARDOUS AS DEFINED BY TRANSPORT CANADA "TRANSPORTATION OF DANGEROUS GOODS" REGULATIONS.

When shipped in a stored pressure type fire extinguisher, and with a non-flammable, non-toxic inert expellant gas, the fire extinguisher is considered a hazardous material by the US Department of Transportation and Transport Canada. The proper shipping name shall be FIRE EXTINGUISHER and the UN designation is UN 1044. The DOT hazard class / division is 2.2. Non-flammable Gas. Packing Group – N/A.

---

15. REGULATORY INFORMATION

SARA REPORTING REQUIREMENTS: No component of this product is subject to the reporting requirements of Section 302, 304, and 313 of Title III of the Superfund Amendments and Reauthorization Act.

SARA Threshold Planning Quantity: Not applicable

TSCA INVENTORY STATUS: All components are listed on the TSCA Inventory

CERCLA REPORTABLE QUANTITY (RO): Not applicable

OTHER FEDERAL REGULATIONS: Not applicable

STATE REGULATORY INFORMATION: Chemicals in this product are covered under specific State regulations, as denoted below:

Alaska – Designated Toxic and Hazardous Substances: None
Massachusetts – Substance List: Mica Dust, Ammonium Sulfate
Pennsylvania – Hazardous Substance List: None
California – Permissible Exposure Limits for Chemical Contaminants: None
Minnesota – List of Hazardous Substances: None

Rhode Island - Hazardous Substance List: Mica Dust, Ammonium Sulfate
Florida- Substance List – Mica Dust, Ammonium Sulfate
Missouri – Employer Information / Toxic Substance List: None
Texas – Hazardous Substance List: None
Illinois – Toxic Substance List – None.
North Dakota – List of Hazardous Chemicals, Reportable Quantities. None
West Virginia – Hazardous Substance List: None
Kansas – Section 302/313 List: None
Wisconsin – Toxic and Hazardous Substance: None.

CALIFORNIA PROPOSITION 65: No component is listed on the California Proposition 65 lists.

Labeling: CAUTION! May cause skin or eye irritation. Avoid contact with skin or eyes. In the event of contact, rinse affected part of your body with water for at least 15 minutes. Seek medical attention if reddening or irritation occurs. Keep container tightly closed. Store in a cool, dry location away from incompatible materials. Clean up spills promptly. This product will not contribute to the intensity of a fire.

TARGET ORGANS: Skin, eyes

---

16. OTHER INFORMATION

The information contained herein is based on data considered accurate. However, no warranty is expressed or implied regarding the accuracy of these data or the results to be obtained from the use thereof. Steel Fire Equipment Ltd. assumes no responsibility for injury to the vendee or third persons proximately caused by the material if reasonable safety procedures are not adhered to as stipulated in the data sheet. Additionally, Steel Fire Equipment Ltd. assumes no responsibility for injury to the vendee or third persons proximately caused by abnormal use of the material even if reasonable safety procedures are followed. Furthermore vendee assumes the risk in his use of the material.

DEFINITION OF TERMS

A large number of abbreviations and acronyms appear on a MSDS. Some of these which are commonly used include the following:

CAS# - This is the chemical abstract number which uniquely identifies each constituent. It is used for computer related searching.

EXPOSURE LIMITS IN AIR:

ACGIH – American Conference of Government Industrial Hygenists, a professional association which establishes exposure limits.

TLV – Threshold Limit Value – an airborne concentration of a substance which represents conditions under which it is generally believed that nearly all workers may be repeatedly exposed without adverse effects. The duration must be considered, including the 8 hour Time Weighted Average (TWA), the 15 minute Short Term Exposure Limit, and the instantaneous Ceiling Level. Skin absorption effects must also be considered.

OSHA – US Occupational Safety and Health Administration

PEL – Permissible Exposure Limit – this exposure value means exactly the same as a TLV, except that it is enforceable by OSHA. The IDLH Immediately Dangerous to Life and Health Level represents a concentration from which one can escape within 30 minutes without suffering escape preventing or permanent injury. The DFG – MAK is the Republic of Germany's Maximum Exposure Level, similar to the US PEL. NIOSH is the National Institute of Occupational Safety and Health which is the research arms of the US Occupational Safety and Health Administration (OSHA). NIOSH issues exposure guidelines called Recommended Exposure Levels (RELS). When no exposure guidelines are established an entry of NE is made for reference.

FLAMMABILITY LIMITS IN AIR – Much of the information related to fire and explosion is derived from the National Fire Protection Association (NFPA). LEL – the lowest percent of vapor in air, by volume, that will explode or ignite in the presence of an ignition source. UEL – the highest percent of vapor in air, by volume, that will explode or ignite in the presence of an ignition source.

TOXICOLOGICAL INFORMATION

Possible health hazards are derived from human data, animal studies or from the results of studies with similar compounds are presented. Definitions of some terms used in this section are:

LD50 – Lethal Dose (solids and liquids) which kills 50% of the exposed animals LC50 – Lethal Concentration (gasses) which kills 50% of the exposed animals Ppm – concentration expressed in parts of material per million parts of air or water Mg/m3 – concentration expressed in weight of substance per volume of air
Mg/kg – quantity of material, by weight, administered to a test subject, based on their body weight in kg.

Data from several sources are used to evaluate the cancer causing potential of the material. The sources are:

IARC – the International Agency for Research on Cancer
NTP – the National Toxicology Program
RTECS – The Registry of Toxic Effects of Chemical Substances, OSHA and CAL/OSHA
IARC and **NTP** rate chemicals on a scale of decreasing potential to cause human cancer with rankings from 1 to 4. Sub rankings (2A, 2B, etc.) are also used. Other measures of toxicity include:

TDLo – the lowest dose to cause a symptom
TDo, LDLo, and LDo – the lowest dose to cause death.

REGULATORY INFORMATION

This section explains the impact of various laws and regulations on the material.

EPA is the US Environmental Protection Agency
WHMIS is the Canadian Workplace Hazard Information System
DOT and **CTC** are the US Department of Transportation and the Canadian Transportation Commission, respectively.
SARA – Superfund Amendments and Reauthorization Act
TSCA – The Toxic Substance Control Act
California Proposition 65 – California Safe Drinking Water Act
CERCLA – the Comprehensive Environmental Response, Compensation and Liability Act

This section also includes information on the precautionary warnings which appear on the materials package label.

FIRE EXTINGUISHER
Cautions and Warnings

Fire extinguishers are designed and produced for the specific purpose of providing a safe and efficient safety tool to be used only in the fighting of fires. Improper or careless use may cause severe bodily injury and / or property damage.

Contents are under pressure which is necessary to deliver the contained extinguishing agent to the fire source. Please take note of the following safety information:

- Contents under pressure. Do not puncture, incinerate, or discharge into another person's face
- Do not store at high temperatures above 120 degrees Fahrenheit or 49 degrees Celsius
- Keep away from children
- Avoid inhaling the extinguishing agent. Avoid inhaling smoke and fumes – all fires release toxic substances that are harmful. DO NOT remain in a closed area after use; evacuate the area immediately and ventilate thoroughly before re-entering.
- Although extinguishing agents are non-toxic when used properly, contact with them may cause irritation to eyes, nose, throat, and other allergic symptoms.

Refer to specific extinguishing agent material safety data sheet for additional information.

AVOID INHALING SMOKE AND FUMES; ALL FIRES RELEASE TOXIC SUBSTANCES THAT ARE HARMFUL. DO NOT REMAIN IN CLOSED AREA AFTER USE. VENTILATE CLOSED AREAS BEFORE RETURNING.

Safety Data Sheet

acc. to OSHA HCS (29 CFR 1910.1200) and WHMIS 2015 regulations

Printing date: 05/02/2016 Revision: 05/02/2016

1 Identification

· **Product identifier**

· **Trade name: Fix-a-Flat 1234ZE**

· **Product code:** S60410, S60420, S60430, S60266, S60269

· **Recommended use and restriction on use**

· **Recommended use:** Sealant

· **Restrictions on use:** See Sections 8 and 10 for further information.

· **Details of the supplier of the Safety Data Sheet**

· **Manufacturer/Supplier:**
ITW Global Tire Repair, Inc.
125 Venture Drive, Suite 210, San Luis Obispo, CA 93401.
Tel (805) 489-0490

· **Emergency telephone number:**
ChemTel Inc.
+1 (800)255-3924, +1 (813)248-0585

2 Hazard(s) identification

· **Classification of the substance or mixture**

Press. Gas H280 Contains gas under pressure; may explode if heated.

Skin Sens. 1 H317 May cause an allergic skin reaction.

· **Label elements**

· **GHS label elements**

The product is classified and labeled according to the Globally Harmonized System (GHS).

· **Hazard pictograms:**

GHS04 GHS07

· **Signal word:** Warning

· **Hazard statements:**

H280 Contains gas under pressure; may explode if heated.
H317 May cause an allergic skin reaction.

· **Precautionary statements:**

P261 Avoid breathing dust/fume/gas/mist/vapors/spray
P280 Wear protective gloves.
P302+P352 IF ON SKIN: Wash with plenty of water.
P363 Wash contaminated clothing before reuse.
P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
P410+P403 Protect from sunlight. Store in a well-ventilated place.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Other hazards** There are no other hazards not otherwise classified that have been identified.

(Cont'd. on page 2)

Safety Data Sheet

acc. to OSHA HCS (29 CFR 1910.1200) and WHMIS 2015 regulations

Printing date: 05/02/2016 Revision: 05/02/2016

Trade name: Fix-a-Flat 1234ZE

(Cont'd. of page 1)

3 Composition/information on ingredients

· **Chemical characterization: Mixtures**

· **Components:**			
29118-24-9	(1E)-1,3,3,3-Tetrafluoro-1-propene	Press. Gas, H280 Simple Asphyxiant	20-40%
9006-04-6	natural rubber latex	Skin Sens. 1B, H317	10-20%
56-81-5	glycerol		10-20%

· **Additional information:**
For the listed ingredient(s), the identity and/or exact percentage(s) are being withheld as a trade secret.
For the wording of the listed Hazard Statements refer to section 16.

4 First-aid measures

· **Description of first aid measures**
· **General information:** Immediately remove any clothing soiled by the product.
· **After inhalation:** Supply fresh air; consult doctor in case of complaints.
· **After skin contact:**
Immediately wash with water and soap and rinse thoroughly.
If skin irritation continues, consult a doctor.
· **After eye contact:**
Remove contact lenses if worn.
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
· **After swallowing:**
Unlikely route of exposure.
Do not induce vomiting; immediately call for medical help.
· **Most important symptoms and effects, both acute and delayed:**
Allergic reactions
Gastric or intestinal disorders when ingested.
· **Indication of any immediate medical attention and special treatment needed:**
Medical supervision for at least 48 hours.
Treat skin and mucous membrane with antihistamine and corticoid preparations.
Contains natural rubber latex. May produce an allergic reaction.

5 Fire-fighting measures

· **Extinguishing media**
· **Suitable extinguishing agents:** Use fire fighting measures that suit the environment.
· **For safety reasons unsuitable extinguishing agents:** None.
· **Special hazards arising from the substance or mixture**
Danger of receptacles bursting because of high vapor pressure if heated.
· **Advice for firefighters**
· **Protective equipment:**
Wear self-contained respiratory protective device.
Wear fully protective suit.

(Cont'd. on page 3)

Safety Data Sheet

acc. to OSHA HCS (29 CFR 1910.1200) and WHMIS 2015 regulations

Printing date: 05/02/2016 Revision: 05/02/2016

Trade name: Fix-a-Flat 1234ZE

(Cont'd. of page 2)

· **Additional information:** Cool endangered receptacles with water in flooding quantities.

6 Accidental release measures

· **Personal precautions, protective equipment and emergency procedures:**
Wear protective equipment. Keep unprotected persons away.
Ensure adequate ventilation.
For large spills, use respiratory protective device against the effects of fumes/dust/aerosol.
· **Environmental precautions:** No special measures required.
· **Methods and material for containment and cleaning up:**
Allow to solidify. Pick up mechanically.
Dispose contaminated material as waste according to item 13.
Send for recovery or disposal in suitable receptacles.
· **Reference to other sections:**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and storage

· **Handling**
· **Precautions for safe handling:**
Use only in well ventilated areas.
Avoid splashes or spray in enclosed areas.
· **Information about protection against explosions and fires:** No special measures required.

· **Conditions for safe storage, including any incompatibilities**
· **Storage**
· **Requirements to be met by storerooms and receptacles:**
Observe official regulations on storing packagings with pressurized containers.
· **Information about storage in one common storage facility:** Store away from foodstuffs.
· **Further information about storage conditions:**
Store in a cool place. Heat will increase pressure and may lead to the receptacle bursting.
· **Specific end use(s):** No relevant information available.

8 Exposure controls/personal protection

· **Control parameters**

· **Components with limit values that require monitoring at the workplace:**	
56-81-5 glycerol	
PEL (USA)	Long-term value: 15* 5** mg/m³ mist; *total dust **respirable fraction
TLV (USA)	TLV withdrawn-insufficient data human occup. exp.

(Cont'd. on page 4)

Safety Data Sheet

acc. to OSHA HCS (29 CFR 1910.1200) and WHMIS 2015 regulations

Printing date: 05/02/2016 Revision: 05/02/2016

Trade name: Fix-a-Flat 1234ZE

(Cont'd. of page 3)

EL (Canada)	Long-term value: 10* 3** mg/m³ *mist; **mist, respirable
EV (Canada)	Long-term value: 10 mg/m³
LMPE (Mexico)	Long-term value: 10 mg/m³
9006-04-6 natural rubber latex	
TLV (USA)	Long-term value: 0.0001* mg/m³ Skin; DSEN, RSEN;* inh. fraction
EL (Canada)	Long-term value: 0.001 mg/m³ inhalable, Skin; S
EV (Canada)	Long-term value: 0.001 mg/m³ as total proteins, inhalable, Skin
LMPE (Mexico)	Long-term value: 0.0001* mg/m³ SEN, PIEL, *fracción inhalable

· **Exposure controls**

· **Personal protective equipment:**

· **General protective and hygienic measures:**

The usual precautionary measures for handling chemicals should be followed.
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing.
Wash hands before breaks and at the end of work.
Do not inhale gases / fumes / aerosols.
Avoid contact with the eyes and skin.

· **Engineering controls:** No relevant information available.

· **Breathing equipment:**

Not required under normal conditions of use.
Use suitable respiratory protective device when high concentrations are present.

· **Protection of hands:**

Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· **Eye protection:**

Safety glasses

· **Body protection:**

Not required under normal conditions of use.
Protection may be required for spills.

· **Limitation and supervision of exposure into the environment**

No relevant information available.

(Cont'd. on page 5)

Safety Data Sheet

acc. to OSHA HCS (29 CFR 1910.1200) and WHMIS 2015 regulations

Printing date: 05/02/2016 Revision: 05/02/2016

Trade name: Fix-a-Flat 1234ZE

(Cont'd. of page 4)

· **Risk management measures** No relevant information available.

9 Physical and chemical properties

· **Information on basic physical and chemical properties**	
· **Appearance:**	
Form:	Aerosol
Color:	According to product specification
· **Odor:**	Characteristic
· **Odor threshold:**	Not determined.
· **pH-value:**	Not determined.
· **Melting point/Melting range:**	Not applicable, as aerosol.
· **Boiling point/Boiling range:**	>100 °C (>212 °F)
· **Flash point:**	Not applicable, as aerosol.
· **Flammability (solid, gaseous):**	Not applicable.
· **Auto-ignition temperature:**	Not determined.
· **Decomposition temperature:**	Not determined.
· **Danger of explosion:**	Not determined.
· **Explosion limits**	
Lower:	Not determined.
Upper:	Not determined.
· **Vapor pressure at 20 °C (68 °F):**	23 hPa (17 mm Hg)
· **Density at 20 °C (68 °F):**	1.00 ± 0.02 g/cm³ (8.345 ± 0.167 lbs/gal) (Liquid Components)
· **Relative density:**	Not determined.
· **Vapor density:**	Not determined.
· **Evaporation rate:**	Not applicable.
· **Solubility in / Miscibility with**	
Water:	Not miscible or difficult to mix.
· **Partition coefficient (n-octanol/water):**	Not determined.
· **Viscosity**	
Dynamic:	Not determined.
Kinematic:	Not determined.
VOC (California):	< 10 % wt
· **Other information**	No relevant information available.

10 Stability and reactivity

· **Reactivity:** No relevant information available.

(Cont'd. on page 6)

Safety Data Sheet

acc. to OSHA HCS (29 CFR 1910.1200) and WHMIS 2015 regulations

Printing date: 05/02/2016 Revision: 05/02/2016

Trade name: Fix-a-Flat 1234ZE

(Cont'd. of page 5)

· **Chemical stability:**
· **Thermal decomposition / conditions to be avoided:**
No decomposition if used and stored according to specifications.
Danger of receptacles bursting because of high vapor pressure if heated.
· **Possibility of hazardous reactions:**
Reacts with strong oxidizing agents.
Toxic fumes may be released if heated above the decomposition point.
· **Conditions to avoid:** No relevant information available.
· **Incompatible materials:** No relevant information available.
· **Hazardous decomposition products:**

Under fire conditions only:
Carbon monoxide and carbon dioxide
Danger of toxic fluorine based pyrolysis products.

11 Toxicological information

· **Information on toxicological effects**
· **Acute toxicity:**
· **LD/LC50 values that are relevant for classification:** None.
· **Primary irritant effect:**
· **On the skin:** No irritant effect.
· **On the eye:** No irritating effect.
· **Sensitization:**
Contains natural rubber latex. May produce an allergic reaction.
Sensitization possible through skin contact.
· **Subacute to chronic toxicity:** No relevant information available.

· **IARC (International Agency for Research on Cancer):**		
9003-55-8	styrene-butadiene latex	3

· **NTP (National Toxicology Program):**
None of the ingredients are listed.

· **OSHA-Ca (Occupational Safety & Health Administration):**
None of the ingredients are listed.

· **Probable route(s) of exposure:**
Inhalation.
Eye contact.
Skin contact.
· **Acute effects (acute toxicity, irritation and corrosivity):** Danger through skin absorption.
· **Repeated dose toxicity:** Repeated exposures may result in skin and/or respiratory sensitivity.
· **CMR effects (carcinogenity, mutagenicity and toxicity for reproduction)**
· **Germ cell mutagenicity:** Based on available data, the classification criteria are not met.
· **Carcinogenicity:** Based on available data, the classification criteria are not met.
· **Reproductive toxicity:** Based on available data, the classification criteria are not met.
· **STOT-single exposure:** Based on available data, the classification criteria are not met.
· **STOT-repeated exposure:** Based on available data, the classification criteria are not met.

(Cont'd. on page 7)

Safety Data Sheet

acc. to OSHA HCS (29 CFR 1910.1200) and WHMIS 2015 regulations

Printing date: 05/02/2016 Revision: 05/02/2016

Trade name: Fix-a-Flat 1234ZE

(Cont'd. of page 6)

· **Aspiration hazard:** Based on available data, the classification criteria are not met.

12 Ecological information

· **Toxicity**
· **Aquatic toxicity** No relevant information available.
· **Persistence and degradability** No relevant information available.
· **Bioaccumulative potential:** No relevant information available.
· **Mobility in soil:** No relevant information available.
· **Additional ecological information**
· **General notes:**
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
· **Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.
· **Other adverse effects:** No relevant information available.

13 Disposal considerations

· **Waste treatment methods**
· **Recommendation:**
Must not be disposed of together with household garbage. Do not allow product to reach sewage system. The user of this material has the responsibility to dispose of unused material, residues and containers in compliance with all relevant local, state and federal laws and regulations regarding treatment, storage and disposal for hazardous and nonhazardous wastes. Residual materials should be treated as hazardous.

· **Uncleaned packagings**
· **Recommendation:** Disposal must be made according to official regulations.

14 Transport information

· **UN-Number**
· **DOT, ADR, IMDG, IATA** UN1950

· **UN proper shipping name**

Limited Quantity for packages less than 30 kg (66 lb) and inner packagings less than 1 L (0.3 gal).

· **DOT, IATA**	Aerosols, non-flammable
· **ADR**	1950 AEROSOLS
· **IMDG**	AEROSOLS

(Cont'd. on page 8)

Safety Data Sheet

acc. to OSHA HCS (29 CFR 1910.1200) and WHMIS 2015 regulations

Printing date: 05/02/2016 Revision: 05/02/2016

Trade name: Fix-a-Flat 1234ZE

(Cont'd. of page 7)

· **Transport hazard class(es)**

· **DOT**

· **Class**	2 Gases
· **Label**	2.2

· **ADR**

· **Class**	2.2 5A
· **Label**	2.2

· **IMDG, IATA**

· **Class**	2 Gases
· **Label**	2.2
· **Packing group**	Aerosols are not assigned a packing group.
· **Environmental hazards**	
· **Marine pollutant:**	No
· **Special precautions for user**	Not applicable.
· **EMS Number:**	F-D,S-U
· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**	Not applicable.

15 Regulatory information

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**

· **United States (USA)**

· **SARA**

· **Section 355 (extremely hazardous substances):**

None of the ingredients are listed.

· **Section 313 (Specific toxic chemical listings):**

None of the ingredients are listed.

(Cont'd. on page 9)

Safety Data Sheet

acc. to OSHA HCS (29 CFR 1910.1200) and WHMIS 2015 regulations

Printing date: 05/02/2016 Revision: 05/02/2016

Trade name: Fix-a-Flat 1234ZE

(Cont'd. of page 8)

· **TSCA (Toxic Substances Control Act)**
All ingredients are listed.

· **Proposition 65 (California)**

· **Chemicals known to cause cancer:**
None of the ingredients are listed.

· **Chemicals known to cause reproductive toxicity for females:**
None of the ingredients are listed.

· **Chemicals known to cause reproductive toxicity for males:**
None of the ingredients are listed.

· **Chemicals known to cause developmental toxicity:**
None of the ingredients are listed.

· **Carcinogenic categories**

· **EPA (Environmental Protection Agency):**
None of the ingredients are listed.

· **IARC (International Agency for Research on Cancer):**

9003-55-8	styrene-butadiene latex	3

· **NIOSH-Ca (National Institute for Occupational Safety and Health):**
None of the ingredients are listed.

· **Canadian Domestic Substances List (DSL):**
All ingredients are listed.

· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Date of preparation / last revision** 05/02/2016 / -

· **Abbreviations and acronyms:**
ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association
CAS: Chemical Abstracts Service (division of the American Chemical Society)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
NIOSH: National Institute for Occupational Safety
OSHA: Occupational Safety & Health
Press. Gas: Gases under pressure: Compressed gas
Press. Gas: Gases under pressure: Liquefied gas
Skin Sens. 1: Sensitisation - Skin, Hazard Category 1
Skin Sens. 1B: Sensitisation - Skin, Hazard Category 1B

· **Sources**

SDS Prepared by:
ChemTel Inc.
1305 North Florida Avenue

(Cont'd. on page 10)

Safety Data Sheet

acc. to OSHA HCS (29 CFR 1910.1200) and WHMIS 2015 regulations

Printing date: 05/02/2016 Revision: 05/02/2016

Trade name: Fix-a-Flat 1234ZE

(Cont'd. of page 9)

Tampa, Florida USA 33602-2902
Toll Free North America 1-888-255-3924 Intl. +01 813-248-0573
Website: www.chemtelinc.com

Conforms to USDOL OSHA 29CFR 1910.1200 HAZCOM

SAFETY DATA SHEET

Lysol Disinfecting Wipes - All Scents

HEALTH · HYGIENE · HOME

1. Product and company identification

Product name : Lysol Disinfecting Wipes - All Scents

Distributed by : Reckitt Benckiser LLC.
Morris Corporate Center IV
399 Interpace Parkway (P.O. Box 225)
Parsippany, New Jersey 07054-0225
+1 973 404 2600

Reckitt Benckiser (Canada) Inc.
1680 Tech Avenue, Unit #2
Mississauga, Ontario L4W 5S9
CANADA
Telephone: +1 905 283 7000

Emergency telephone number (Medical) : 1-800-338-6167

Emergency telephone number (Transport) : 1-800-424-9300 (U.S. & Canada) CHEMTREC
Outside U.S. and Canada (North America), call Chemtrec:703-527-3887

Website: : **http://www.rbnainfo.com**

Product use : Surface Disinfectant.

This SDS is designed for workplace employees, emergency personnel and for other conditions and situations where there is greater potential for large-scale or prolonged exposure, in accordance with the requirements of USDOL Occupational Safety and Health Administration.

This SDS is not applicable for consumer use of our products. For consumer use, all precautionary and first aid language is provided on the product label in accordance with the applicable government regulations, and shown in Section 15 of this SDS.

SDS # : D8298990 v2.0

Formulation #: : **Lemon Lime Blossom/Citrus:** Fill e0062-340/ 8287832 v1 (PMX. e0038-391A / 8251139 v1 + Non-woven #8269971 v1;expressed Liquid e0038-391A)
Cool Wave/Ocean Fresh/Spring Waterfall: Fill 8287833 v1 (PMX. e0069-070A / 8278721 v1 + Non-woven 8269971 v1; expressed liquid e0069-070C)
Early Morning Breeze/Lavender: Fill 8287834 v1 (PMX 2096-032B / 8159847 v1+ Non-woven 8269971 v1 ; expressed liquid 1671-111B)
Crisp Linen: Fill 8287835 v1 (PMX 2096-032E / 8159854 v1 + Non-woven 8269971v1; expressed liquid 1671-115A)
Citrus Meadows/Citrus: Fill 8287839 v1 (PMX e0065-075A /8169859 v1 + Non-woven 8269971 v1; expressed liquid e0065-041C)
Green Apple: Fill 8287841 v1 (PMX e2096-032D / 8159853 v1 + Non woven 8269971 v1; expressed liquid 1671-114A)
Cool Wave Infinity: Fill 8287842 (PMX e0069-080 / 8287871 v1 + Non-woven 8269971 v1; expressed liquid e0069-080)
Lemon Infinity: Fill 8287843 v1 (PMX e0038-445A / 8251567 v1 + Non-woven 8269971 v1; expressed liquid e0038-445A)

1. Product and company identification

EPA ID No. : 777-114

DIN # : 02359014

UPC Code / Sizes : HDPE Canister and PE cap; Flatpack, laminate pouch

2. Hazards identification

Classification of the substance or mixture : Not classified

GHS label elements

Hazard pictograms : Not applicable.

Signal word : No signal word.

Hazard statements : No known significant effects or critical hazards.

Precautionary statements

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

Prevention : Not applicable.

Response : Not applicable.

Storage : Not applicable.

Disposal : Not applicable.

Supplemental label elements : None known.

Hazards not otherwise classified : None known.

3. Composition/information on ingredients

Substance/mixture : Mixture

Ingredient name	%	CAS number
ethanol	1 - 5	64-17-5
D-Glucopyranose, oligomeric, C9-11-alkyl glycosides	0.5 - 1.5	132778-08-6
Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides	0.1 - 1	68424-85-1

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.

4. First aid measures

Description of necessary first aid measures

Eye contact : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.

Inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.

Skin contact : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.

4. First aid measures

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 : Moderately irritating to eyes.

Inhalation : No known significant effects or critical hazards.

Skin contact : Slightly irritating to the skin.

Ingestion : No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact : No specific data.

Inhalation : No specific data.

Skin contact : No specific data.

Ingestion : No specific data.

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

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

Specific treatments : No specific treatment.

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

See toxicological information (Section 11)

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

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.

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 : Move containers from spill area. Vacuum or sweep up material and place in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor.

Large spill : Move containers from spill area. Prevent entry into sewers, water courses, basements or confined areas. Vacuum or sweep up material and place in a designated, 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.

7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8).

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.

8. Exposure controls/personal protection

Control

Occupational exposure limits

Ingredient name	Exposure limits
ethanol	**ACGIH TLV (United States, 3/2015).** STEL: 1000 ppm 15 minutes. **OSHA PEL 1989 (United States, 3/1989).** TWA: 1000 ppm 8 hours. TWA: 1900 mg/m³ 8 hours. **NIOSH REL (United States, 10/2013).** TWA: 1000 ppm 10 hours. TWA: 1900 mg/m³ 10 hours. **OSHA PEL (United States, 2/2013).** TWA: 1000 ppm 8 hours. TWA: 1900 mg/m³ 8 hours.

Appropriate engineering controls : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

8. Exposure controls/personal protection

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

Individual protection measures

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

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

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.

9. Physical and chemical properties

Appearance

Physical state : Solid. [Presaturated Wipes]

Color : White.

Odor : Characteristic.

Odor threshold : Not available.

pH : 10.5 [liquid preparations]

Melting point : Not available.

Boiling point : Not available.

Flash point : Closed cup: >93.3°C (>199.9°F) [flash point value based on ingredient data]

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 : 0.985 [liquid preparations]

Solubility : Not available.

9. Physical and chemical properties

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

Auto-ignition temperature : Not available.

Decomposition temperature : Not available.

Viscosity : Not available.

Flow time (ISO 2431) : Not available.

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 : Do not use with other products.

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Ethyl alcohol	LC50 Inhalation Vapor	Rat	124700 mg/m³	4 hours
	LD50 Oral	Rat	7 g/kg	-
*Lysol Disinfecting Wipes	LC50 Inhalation Vapor	Rat	>2.04 mg/l	24 hours
	LD50 Dermal	Rat	>5000 mg/kg	-
	LD50 Oral	Rat	>5000 mg/kg	-

Conclusion/Summary : Not classified. *Information is based on toxicity test result of a similar product.

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Ethyl alcohol	Eyes - Moderate irritant	Rabbit	-	0.066666667 minutes 100 milligrams	-
	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Eyes - Moderate irritant	Rabbit	-	100 microliters	-
	Eyes - Severe irritant	Rabbit	-	500 milligrams	-
	Skin - Mild irritant	Rabbit	-	400 milligrams	-
	Skin - Moderate irritant	Rabbit	-	24 hours 20 milligrams	-
*Lysol Disinfecting Wipes	Skin - Slight irritant	Rabbit	1.5	-	-
	Eyes - Cornea opacity	Rabbit	0	-	-

Conclusion/Summary

Skin : Slightly irritating to the skin. *Information is based on toxicity test result of a similar product.

11. Toxicological information

Eyes : Moderately irritating to eyes. * Information is based on toxicity test result of a similar product.

Respiratory : Based on available data, the classification criteria are not met.

Sensitization

Product/ingredient name	Route of exposure	Species	Result
*Lysol Disinfecting Wipes	skin	Guinea pig	Not sensitizing

Conclusion/Summary

Skin : Non-sensitizer. *Information is based on toxicity test result of a similar product.

Respiratory : Based on available data, the classification criteria are not met.

Mutagenicity

Product/ingredient name	Test	Experiment	Result
Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides	OECD 471 - Bacterial Reverse Mutation Test	Experiment: In vitro Subject: Bacteria	Negative
	OECD 473 - Mammalian Chromosamal Aberration Test	Experiment: In vitro Subject: Mammalian-Animal	Negative
	OECD 476 - Mammalian Cell Gene Mutation Test	Experiment: In vitro Subject: Mammalian-Animal	Negative

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.

Classification

Product/ingredient name	OSHA	IARC	NTP
ethanol	-	1	-

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.

11. Toxicological information

Information on the likely routes of exposure : Not available.

Potential acute health effects

Eye contact : Moderately irritating to eyes.

Inhalation : No known significant effects or critical hazards.

Skin contact : Slightly irritating to the skin.

Ingestion : No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : No specific data.

Inhalation : No specific data.

Skin contact : No specific data.

Ingestion : No specific data.

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

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

Not available.

Conclusion/Summary : Based on available data, the classification criteria are not met.

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.

12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
ethanol	Acute EC50 17.921 mg/l Marine water	Algae - Ulva pertusa	96 hours
	Acute EC50 2000 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 25500 µg/l Marine water	Crustaceans - Artemia franciscana - Larvae	48 hours
	Acute LC50 42000 µg/l Fresh water	Fish - Oncorhynchus mykiss	4 days
	Chronic NOEC 4.995 mg/l Marine water	Algae - Ulva pertusa	96 hours
	Chronic NOEC 100 ul/L Fresh water	Daphnia - Daphnia magna - Neonate	21 days
Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides	Acute EC50 0.016 mg/l	Daphnia	48 hours
	Acute LC50 64 ppb Fresh water	Fish - Oncorhynchus mykiss	96 hours
	Chronic EC10 0.009 mg/l	Algae	72 hours

Persistence and degradability

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides	-	-	Readily

Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
ethanol	-0.35	-	low

Mobility in soil

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

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

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.

14. Transport information

Regulatory information	UN number	Proper shipping name	Classes	PG*	Label	Additional information
DOT Classification	Not Regulated	Not applicable.	Not available.	-		-
TDG Classification	Not Regulated	Not applicable.	Not available.	-		-
Mexico Classification	Not Regulated	Not applicable.	Not available.	-		-
IMDG Class	Not Regulated	Not applicable.	Not available.	-		-
IATA-DGR Class	Not Regulated	Not applicable.	Not available.	-		-

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.

PG* : Packing group

15. Regulatory information

U.S. Federal regulations : **TSCA 4(a) proposed test rules**: Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides

TSCA 8(a) PAIR: 2-(4-tert-butylbenzyl)propionaldehyde; 2-methylpropan-2-ol; octanal; decanal; 2-methylundecanal; α-hexylcinnamaldehyde; cinnamaldehyde; phenylacetaldehyde

TSCA 8(a) CDR Exempt/Partial exemption: Not determined

United States inventory (TSCA 8b): All components are listed or exempted.

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

Clean Air Act Section 602 Class I Substances : Not listed

Clean Air Act Section 602 Class II Substances : Not listed

DEA List I Chemicals (Precursor Chemicals) : Not listed

15. Regulatory information

DEA List II Chemicals (Essential Chemicals) : Not listed

SARA 302/304

Composition/information on ingredients

No products were found.

SARA 304 RQ : Not applicable.

SARA 311/312

Classification : Not applicable.

Composition/information on ingredients

Name	%	Fire hazard	Sudden release of pressure	Reactive	Immediate (acute) health hazard	Delayed (chronic) health hazard
ethanol Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides	1 - 2.5 0.1 - 1	Yes. No.	No. No.	No. No.	Yes. Yes.	No. No.

State regulations

Massachusetts : The following components are listed: ETHYL ALCOHOL; DENATURED ALCOHOL

New York : None of the components are listed.

New Jersey : The following components are listed: ETHYL ALCOHOL; ALCOHOL

Pennsylvania : The following components are listed: DENATURED ALCOHOL; ETHANOL

Canada

WHMIS (Canada) : Not controlled under WHMIS (Canada).

Canadian lists

Canadian NPRI : The following components are listed: Ethanol

CEPA Toxic substances : None of the components are listed.

Canada inventory : All components are listed or exempted.

Label elements

Signal word: : CAUTION

Hazard statements : May cause eye irritation.

Precautionary measures : Avoid contact with eyes.
Wash hands after use.

16. Other information

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

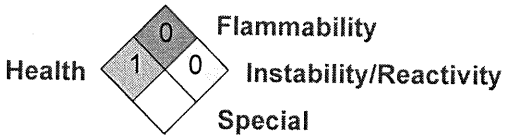
Health	*	1
Flammability		0
Physical hazards		0
Personal protection		B

16. Other information

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks Although HMIS® ratings are not required on MSDSs under 29 CFR 1910. 1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

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.

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

Date of issue : 15/05/2018

Date of previous issue : 13/10/2017

Version : 2

Prepared by : Reckitt Benckiser LLC.
SQC - Consumer Safety Department
1 Philips Parkway
Montvale, New Jersey 07646-1810 USA.
FAX: 201-476-7770

Indicates information that has changed from previously issued version.

Notice to reader

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

MATERIAL SAFETY DATA SHEET

SECTION 1: IDENTIFICATION

Product identifier : **LIQUID WRENCH WITH CERFLON**

Product Use : Lubricant.
Chemical Family : Mixture.
Manufacturer part no. : L312C, L312/6C

Supplier's name and address:

Radiator Specialty Co., of Canada
1711 Aimco Blvd.
Mississauga, ON, Canada
L4W 1H7

Manufacturer's name and address:
Refer to Supplier

Information Telephone # : (905) 625-9117 (Monday - Friday, 8 AM - 4 PM)
24 Hr. Emergency Tel # : 613-996-6666 (CANUTEC)

SECTION 2 - HAZARDS IDENTIFICATION

Classification : WHMIS information: This product is a WHMIS Controlled Product. It meets one or more of the criteria for a controlled product provided in Part IV of the Canadian Controlled Products Regulations (CPR). WHMIS Classification:
Class A (Pressurized containers);
Class D1B (Materials Causing Immediate and Serious Toxic Effects, Toxic Material);
Class D2A (Materials Causing Other Toxic Effects, Very Toxic Material);
Class D2B (Materials Causing Other Toxic Effects, Toxic Material).

Labelling: Phrases recommended to appear on a supplier label, can be found in Section 15.

WHMIS symbols required on a supplier label:

Emergency Overview : Colourless aerosol spray. Ether like odour.
WARNING!
Contents under pressure. Containers may explode if heated. POISON! May be fatal if too much is inhaled. May be harmful or fatal if swallowed in large amounts. Can enter the lungs and cause damage. May cause headache, nausea, dizziness and other symptoms of central nervous system depression. Could result in pulmonary edema (fluid accumulation). Causes severe skin irritation. Possible cancer hazard - contains material which may cause cancer.

Contains material that may be harmful in the environment.

POTENTIAL HEALTH EFFECTS:

Signs and symptoms of short-term (acute) exposure

Inhalation : May be fatal if too much is inhaled. May cause irritation to the nose, throat and upper respiratory tract. Symptoms may include pain, headache, nausea, vomiting, dizziness, drowsiness and other central nervous system effects. Could result in pulmonary edema (fluid accumulation). Symptoms of pulmonary edema (chest pain, shortness of breath) may be delayed. May result in unconsciousness and possibly death. In extremely high concentrations, product may act as an asphyxiant and cause increased breathing and pulse rates, fatigue and unconsciousness.

Skin : Causes severe skin irritation. Symptoms may include redness and possibly blistering, if product is left on the skin. If product is sprayed directly on skin, symptoms of frostbite may be experienced including numbness, prickling and itching.

Eyes : May cause mild eye irritation. Symptoms may include stinging and tearing. If product is sprayed directly into the eyes, could cause freezing of the eye.

Ingestion : May cause irritation to the mouth, throat and stomach. May produce mild central nervous system depression characterized by headache, nausea, vertigo, and stupor. Temporary vision impairment (cloudy or blurred vision) is possible. May be an aspiration hazard. Aspiration into the lungs during swallowing or subsequent vomiting may cause chemical pneumonitis, which can be fatal.

Effects of long-term (chronic) exposure

: Prolonged skin contact may cause dermatitis (rash), characterized by red, dry, itching skin. Some reports have associated repeated, prolonged overexposure to solvents with permanent central nervous system changes. Prolonged overexposure may cause liver and kidney effects.

Carcinogenic status : Possible cancer hazard .See TOXICOLOGICAL INFORMATION, Section 11.

Additional health hazards : See TOXICOLOGICAL INFORMATION, Section 11.

Potential environmental effects

: Contains material that may be harmful in the environment. See Section 12 for more environmental information.

SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients	CAS #	Wt.%
Tetrachloroethylene (Perchloroethylene)	127-18-4	60.00 - 100.00
Distillates (petroleum), hydrotreated heavy naphthenic	64742-52-5	20.00 - 30.00
Carbon dioxide	124-38-9	1.00 - 5.00

SECTION 4 - FIRST AID MEASURES

Inhalation : Immediately remove person to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen by qualified medical personnel only. Seek immediate medical attention/advice.

Skin contact : Remove/Take off immediately all contaminated clothing. Wash exposed area thoroughly with soap and water for at least 15 minutes. Get medical attention.

Eye contact : Immediately flush eyes with plenty of water for at least 15 minutes. If irritation persists, seek prompt medical attention.

Ingestion : Seek immediate medical attention/advice. Do not induce vomiting. Never give anything by mouth to an unconscious person. If vomiting occurs spontaneously, keep victim's head lowered (forward) to reduce the risk of aspiration.

Notes For Physician : Treat symptomatically. Symptoms may be delayed. Could result in pulmonary edema (fluid accumulation). This product is a CNS depressant.

SECTION 5 - FIRE FIGHTING MEASURES

Fire hazards/conditions of flammability

: Not flammable. Closed containers are contained under pressure and may explode if exposed to excess heat for a prolonged period of time. Vapours are heavier than air and collect in confined and low-lying areas. Toxic fumes may be released during a fire.

Oxidizing properties : None known.

Explosion data: Sensitivity to mechanical impact / static discharge

: Aerosols are sensitive to mechanical impact. Contents under pressure. Will not accumulate static charge.

Suitable extinguishing media : Dry chemical, foam, carbon dioxide and water fog.

Special fire-fighting procedures/equipment

: Firefighters should wear proper protective equipment and self-contained breathing apparatus with full face piece operated in positive pressure mode. Move containers from fire area if safe to do so. Shield personnel to protect from venting or rupturing containers. Water spray may be useful in cooling equipment exposed to heat and flame.

Hazardous combustion products

: Chlorine ; Phosgene ;Hydrogen chloride gas; Carbon oxides; Sulphur oxides; Nitrogen oxides (NOx); Phosphorus oxides; Polycyclic aromatic hydrocarbons; Unidentified organic compounds.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Personal precautions : All persons dealing with clean-up should wear the appropriate protective equipment including self-contained breathing apparatus. Keep all other personnel upwind and away from the spill/release. Restrict access to area until completion of clean-up. Refer to protective measures listed in sections 7 and 8.

Environmental precautions : Ensure spilled product does not enter drains, sewers, waterways, or confined spaces.

Spill response/cleanup : Ventilate area of release. Remove all sources of ignition. Contain and absorb spilled liquid with non-combustible, inert absorbent material (e.g. sand), then place absorbent material into a container for later disposal (see Section 13). Notify the appropriate authorities as required.

Prohibited materials : None known.

SECTION 7 - HANDLING AND STORAGE

Safe Handling procedures : Use in a well-ventilated area. Wear suitable protective equipment during handling. Do not breathe vapours or spray mist. Avoid contact with skin, eyes and clothing. Keep away from extreme heat and flame. Avoid contact with incompatible materials. Do not puncture or incinerate. Wash thoroughly after handling. Always replace cap after use. Keep away from children.

Storage requirements : Store in a cool, dry, well-ventilated area away from sources of heat, ignition and sunlight. Inspect periodically for damage or leaks. Storage area should be clearly identified, clear of obstruction and accessible only to trained and authorized personnel.

Incompatible materials : Strong oxidizing agents; Reactive metals; Acids; Bases.

Special packaging materials : Always keep in containers made of the same materials as the supply container.

SECTION 8 - EXPOSURE CONTROLS AND PERSONAL PROTECTION

Exposure Limits

Ingredients	ACGIH TLV		OSHA PEL	
	TWA	STEL	PEL	STEL
Tetrachloroethylene (Perchloroethylene)	25 ppm	100 ppm	100 ppm	200 ppm (Ceiling)
Distillates (petroleum), hydrotreated heavy naphthenic	5 mg/m³ (As 'Oil mist, mineral') (inhalable)	N/Av	5 mg/m³ (As 'Oil mist, mineral')	N/Av
Carbon dioxide	5000 ppm	30 000 ppm	5000 ppm (9000 mg/m³)	N/Av

Ventilation and engineering measures : Use general or local exhaust ventilation to maintain air concentrations below recommended exposure limits.

Respiratory protection : If the TLV is exceeded, a NIOSH/MSHA-approved respirator is advised. A self contained breathing apparatus should be used in emergency situations or instances where exposure levels are not known. Advice should be sought from respiratory protection specialists.

Skin protection : Impervious gloves must be worn when using this product. Advice should be sought from glove suppliers. Depending on conditions of use, an impervious apron should be worn.

Eye / face protection : Chemical splash goggles must be worn when handling this material.

Other protective equipment : An eyewash station and safety shower should be made available in the immediate working area.

General hygiene considerations : Do not breathe vapours or spray mist. Avoid contact with eyes, skin and clothing. Wash hands thoroughly after using this product, and before eating, drinking or smoking. Remove and wash contaminated clothing before re-use. Handle in accordance with good industrial hygiene and safety practice.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Physical state : Liquid aerosol.

Appearance : Colourless aerosol spray.

Odour : Ether-like.

Odour threshold : N/Av

pH : N/Av

Boiling point : 120°C (248°F)

Specific gravity : 1.34

Melting/Freezing point : N/Av

Coefficient of water/oil distribution : N/Av

Vapour pressure (mmHg @ 20° C / 68° F) : N/Av

Solubility in water : Insoluble.

Vapour density (Air = 1) : 5.83

Evaporation rate (n-Butyl acetate = 1) : 0.95

Volatile organic Compounds (VOC's) : N/Av
Volatiles (% by weight) : 0%
Flash point : N/Ap (Non-flammable.)
Flash point Method : N/Ap
Auto-ignition temperature : N/Av
Lower flammable limit (% by vol.) : N/Ap
Upper flammable limit (% by vol.) : N/Ap
Flame Projection Length : None.
Flashback observed : NO
Absolute pressure of container : N/Av
Viscosity : N/Av
General Information : No additional information.

Section 10: STABILITY AND REACTIVITY

Stability and reactivity : Stable under the recommended storage and handling conditions prescribed. May hydrolyze very slowly in the presence of water to form acids.
Hazardous polymerization : Hazardous polymerization does not occur.
Conditions to avoid : Avoid heat and open flame. Do not use in areas without adequate ventilation. Avoid contact with incompatible materials.
Materials To Avoid And Incompatibility : Strong oxidizing agents; Reactive metals; Acids; Bases.
Hazardous decomposition products : Hydrochloric acid; Phosgene; Trichloroacetyl chloride; Trichloroacetic acid. Refer to Section 5 for additional 'Hazardous combustion products'.

SECTION 11 - TOXICOLOGICAL INFORMATION

Target organs : Eyes, skin, respiratory system and digestive system. Liver and kidney injuries may occur. Central nervous system.
Routes of exposure : *Inhalation:* YES *Skin Absorption:* YES *Skin & Eyes:* YES *Ingestion:* YES
Irritancy : Mild eye irritant. Severe skin irritation.
Toxicological data : There is no available data for the product itself, only for the ingredients. See below for individual ingredient acute toxicity data.

Ingredients	LC_{50} (4hr) inh, rat	LD_{50} (Oral, rat)	LD_{50} (Rabbit, dermal)
Tetrachloroethylene (Perchloroethylene)	3786 ppm (25.7 mg/L) (vapour) (rat) 2613 ppm (17.7 mg/L) (vapour) (mouse)	2600 mg/kg	> 3245 mg/kg
Distillates (petroleum), hydrotreated heavy naphthenic	> 5 mg/L (mist)	> 5000 mg/kg	> 2000 mg/kg
Carbon dioxide	200 000 ppm/2H (141 421 ppm/4H)	N/Ap(gas)	N/Ap(gas)

Carcinogenic status : This product contains Tetrachloroethylene, which is classified as carcinogenic by IARC (Group 2A) and ACGIH (Category A3).
Reproductive effects : Not expected to have other reproductive effects.
Teratogenicity : Not expected to be a teratogen.
Mutagenicity : Not expected to be mutagenic in humans.
Epidemiology : None known or reported by the manufacturer.
Sensitization to material : Not expected to be a skin or respiratory sensitizer.
Synergistic materials : None known or reported by the manufacturer.
other important hazards : Reports have associated repeated and prolonged occupational overexposure to various organic solvents with internal organ, brain and nervous system damage.
Conditions aggravated by overexposure : None known or reported by the manufacturer.

SECTION 12 - ECOLOGICAL INFORMATION

Ecotoxicity : No data is available on the product itself. The product should not be allowed to enter drains or water courses, or be deposited where it can affect ground or surface waters. The product contains the following substances which are hazardous for the environment: Tetrachloroethylene.

See the following tables for individual ingredient ecotoxicity data.

Ecotoxicity data:

Ingredients	CAS No	Toxicity to Fish		
		LC50 / 96h	NOEC / 21 day	M Factor
Tetrachloroethylene (Perchloroethylene)	127-18-4	5 mg/L (Rainbow trout)	N/Av	None.
Distillates (petroleum), hydrotreated heavy naphthenic	64742-52-5	> 5000 mg/L (Rainbow trout)	N/Av	None.
Carbon dioxide	124-38-9	N/Ap	N/Ap	N/Ap

Ingredients	CAS No	Toxicity to Daphnia		
		EC50 / 48h	NOEC / 21 day	M Factor
Tetrachloroethylene (Perchloroethylene)	127-18-4	8.5 mg/L (Daphnia magna)	0.51 mg/L/28-day	None.
Distillates (petroleum), hydrotreated heavy naphthenic	64742-52-5	> 1000 mg/L (Daphnia magna)	N/Av	None.
Carbon dioxide	124-38-9	N/Ap	N/Ap	N/Ap

Ingredients	CAS No	Toxicity to Algae		
		EC50 / 96h or 72h	NOEC / 96h or 72h	M Factor
Tetrachloroethylene (Perchloroethylene)	127-18-4	3.64 mg/L/72hr (Green algae)	N/Av	None.
Distillates (petroleum), hydrotreated heavy naphthenic	64742-52-5	> 1000 mg/L/96hr (Green algae)	N/Av	None.
Carbon dioxide	124-38-9	N/Ap	N/Ap	N/Ap

Mobility : No data is available on the product itself.

Persistence : No data is available on the product itself.
Contains the following chemicals which are considered to be inherently biodegradable: Distillates (petroleum), hydrotreated heavy naphthenic.
Contains the following chemicals which are not readily biodegradable: Tetrachloroethylene.

Bioaccumulation potential : No data is available on the product itself. See the following data for ingredient information.

Components	Partition coefficient n-octanol/water (log Kow)	Bioconcentration factor (BCF)
Tetrachloroethylene (Perchloroethylene) (CAS 127-18-4)	3.4	49 (Bluegill sunfish)
Distillates (petroleum), hydrotreated heavy naphthenic (CAS 64742-52-5)	> 20	N/Av

Other Adverse Environmental effects

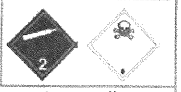
: No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

SECTION 13 - DISPOSAL CONSIDERATIONS

Handling for Disposal : Handle waste according to recommendations in Section 7. Do not puncture or incinerate containers.

Methods of Disposal : Dispose of in accordance with federal, provincial and local hazardous waste laws.

SECTION 14: TRANPORT INFORMATION

Regulatory Information	UN Number	Shipping Name	Class	Packing Group	Label
TDG	UN1950	AEROSOLS	2.2(6.1)	None	
TDG Additional information	May be shipped as LIMITED QUANTITY when transported in containers no larger than 1.0 Litre, in packages not exceeding 30 kg gross mass. Under the TDGR, refer to Section 1.17 for additional exemption information, if shipping under this exemption.				

SECTION 15 - REGULATORY INFORMATION

Labelling:

WARNING! Contents under pressure. Container may explode if heated. POISON! May be fatal if too much is inhaled. May be harmful or fatal if swallowed in large amounts. Can enter the lungs and cause damage. May cause nausea, vomiting, headache and other central nervous system effects. Could result in pulmonary edema (fluid accumulation). Causes severe skin irritation. Possible cancer hazard - contains material which may cause cancer.

Precautions: Use in a well-ventilated area. Wear suitable protective equipment during handling. Do not breathe vapours or spray mist. Avoid contact with skin, eyes and clothing. Keep away from extreme heat and flame. Avoid contact with incompatible materials. Do not puncture or incinerate containers. Wash thoroughly after handling. Store in a cool, dry, well ventilated area, away from heat and ignition sources.

FIRST AID: If inhaled, move to fresh air. If breathing is difficult, give oxygen by qualified medical personnel only. If breathing stops, provide artificial respiration. For skin contact, immediately remove contaminated clothing then wash thoroughly with soap and water for at least 15 minutes. For eye contact, flush with running water for at least 15 minutes. If ingested, do not induce vomiting. Never give anything by mouth to an unconscious person. Guard against aspiration into lungs. For all cases, obtain medical attention immediately.

Refer To Material Safety Data Sheet for further information.

Canadian Information:

Canadian Environmental Protection Act (CEPA) information: All ingredients listed appear on the Domestic Substances List (DSL).

WHMIS information: Refer to Section 2 for a WHMIS Classification for this product.

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

US Federal Information:

TSCA: All listed ingredients appear on the Toxic Substances Control Act (TSCA) inventory.

SECTION 16 - OTHER INFORMATION

Legend :

ACGIH: American Conference of Governmental Industrial Hygienists
CAS: Chemical Abstract Services
HSDB: Hazardous Substances Data Bank
IARC: International Agency for Research on Cancer
Inh: Inhalation
LC: Lethal Concentration
LD: Lethal Dose
MSHA: Mine Safety and Health Administration
N/Ap: Not Applicable
N/Av: Not Available
NIOSH: National Institute of Occupational Safety and Health
OECD: Organisation for Economic Co-operation and Development
OSHA: Occupational Safety and Health Administration
PEL: Permissible exposure limit
RTECS: Registry of Toxic Effects of Chemical Substances
STEL: Short Term Exposure Limit
TDG: Canadian Transportation of Dangerous Goods Act & Regulations
TLV: Threshold Limit Values
TWA: Time Weighted Average

WHMIS: Workplace Hazardous Materials Identification System

References :

1. ACGIH, Threshold Limit Values for Chemical Substances and Physical Agents & Biological Exposure Indices for 2016.
2. International Agency for Research on Cancer Monographs, searched 2016.
3. Canadian Centre for Occupational Health and Safety, CCInfoWeb databases, 2016 (Chempendium, HSDB and RTECs).
4. Material Safety Data Sheets from manufacturer.
5. OECD - The Global Portal to Information on Chemical Substances - eChemPortal, 2016.

Prepared for: Radiator Specialty Co. of Canada 1711 Aimco Blvd. Mississauga, ON, Canada, L4W 1H7 Telephone: 905-625-9117 (Mon. - Fri., 8 AM - 4 PM) Please direct all enquiries to Radiator Specialty.	
Prepared by: ICC The Compliance Center Inc. http://www.thecompliancecenter.com	icc ComplianceCenter

DISCLAIMER OF LIABILITY

This Material Safety Data Sheet was prepared by ICC The Compliance Center Inc. using information provided by Radiator Specialty Co. of Canada and CCOHS' Web Information Service. The information in the Material Safety Data Sheet is offered for your consideration and guidance when exposed to this product. ICC The Compliance Center Inc and Radiator Specialty Co. of Canada expressly disclaim all expressed or implied warranties and assume no responsibilities for the accuracy or completeness of the data contained herein. The data in this MSDS does not apply to use with any other product or in any other process.

This Material Safety Data Sheet may not be changed, or altered in any way without the expressed knowledge and permission of ICC The Compliance Center Inc. and Radiator Specialty Co. of Canada.

MSDS Preparation Date (mm/dd/yyyy)

: 08/02/2007

MSDS Revision Date (mm/dd/yyyy)

: 06/17/2016

Revision No. : 4

Revision Information : (M)SDS sections updated:
11. TOXICOLOGICAL INFORMATION;
12. ECOLOGICAL INFORMATION.

END OF DOCUMENT

MSDS - Material Safety Data Sheet

Monday, April 18, 2011

Product Name: LIQUID WRENCH PENETRATING OIL

MSDS No.: L112

I. Basic Information:

Manufacturer: RADIATOR SPECIALTY COMPANY
Address: 600 RADIATOR ROAD
City, ST Zip: INDIAN TRAIL, NC 28079
Country:

Contact: Robert Geer
Information Telephone Number: 704-684--181 1
Emergency Contact: RMPDC (877-740-5015)
Emergency Telephone Number: 303-623-5716
Emergency Restrictions:

Product Name: LIQUID WRENCH PENETRATING OIL
MSDS No.: L112

Issue Date: 12/13/2010
Supersedes Date: 02/15/2010

II. Hazards Identification:

EMERGENCY OVERVIEW

Danger: Harmful or fatal if swallowed. Vapor Harmful. Eye and skin irritant.

Level 3 Aerosol

OSHA Regulatory Status

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

Potential Health Effects

Route(s) of Entry:

Absorption, Inhalation, and Ingestion.

Health Hazards (Acute and Chronic):

N/D

Signs and Symptoms:

Eye Contact: Irritant. Prolonged contact may cause conjunctivitis.
Skin Contact: Irritant. Defatting of tissue, dermatitis may occur.
Inhalation: Irritant to mucous membranes. Repeated exposure may cause narcosis, dizziness, respiratory or lung irritation.
Ingestion: HARMFUL OR FATAL IF SWALLOWED. May cause burns to mouth, throat & stomach.

Medical Conditions Generally Aggravated by Exposure:

N/D

Other Health Warnings:

Vomiting and subsequent aspiration into the lungs may lead to chemical pneumonia and pulmonary edema which is a potentially fatal condition.

Potential Environmental Effects

Not Available

III. Composition/Information on Ingredients:

Chemical Name	CAS No.	% Range	Trade Secret
Carbon dioxide	124-38-9	1.0 - 5.0	
Corrosion Inhibitor	Proprietary	0.1 - 1.0	
Hydrocarbon Fluid	64742-47-8	60.0 - 100.0	
PTFE/boron nitride colloid	Proprietary	0.1 - 1.0	
TMP Tri-Oleate Polyol Ester	Proprietary	1.0 - 5.0	
Tripropylene Glycol Monomethyl Ether	25498-49-1	7.0 - 13.0	

MSDS - Material Safety Data Sheet

Product Name: LIQUID WRENCH PENETRATING OIL

MSDS No.: L112

IV. First Aid Measures:

Emergency and First Aid Procedures:

Eye Contact: Flush eyes with clean water for 15 minutes while lifting eyelids. Get prompt medical attention.
Skin Contact: Wash with soap and water thoroughly. If adverse effects persist, get prompt medical attention. Launder contaminated clothing before reuse.
Inhalation: Remove to fresh air. If breathing becomes difficult give oxygen and get prompt medical attention. If breathing stops, give artificial respiration and get prompt medical attention.
Ingestion: DO NOT INDUCE VOMITING! Call Poison Control Center, physician, or hospital emergency room immediately. Aspiration of vomitus into the lungs can cause pneumonitis, which can be fatal.

Note to Physicians:

N/E

V. Fire Fighting Measures:

Suitable Extinguishing Media:

Water Fog, Foam, Carbon Dioxide, Dry Chemical

Unsuitable Extinguishing Media:

Do not use forced water stream as this could cause the fire to spread.

Products of Combustion:

Normal products of combustion, smoke, carbon dioxide, carbon monoxide, and sulfur trioxides.

Protection of Firefighters:

Wear self-contained positive pressure breathing apparatus and protective clothes. Use shield to protect from rupturing and venting containers. At elevated temperatures containers may vent, rupture or burst, even violently

VI. Accidental Release Measures:

Personal Precautions:

Eliminate all ignition sources. Persons not wearing protective equipment should be excluded from area of spill until clean up has been completed.

Environmental Precautions:

Prevent run-off to sewers, streams, or other bodies of water. If run-off occurs, notify proper authorities as required that a spill has occurred. Run off to sewer may create fire or explosion hazard.

Methods for Containment:

Dike or contain spill and absorb with inert materials (sand, sawdust, absorbent sweeping compounds, rags, etc).

Methods for Cleanup:

Using a non-metalic scoop, place contaminated material into an approved chemical waste container. Where possible, vacuum spilled liquid using an explosion proof vacuum to recover material.

Other Information:

All equipment used with handling the concentrate must be grounded. If run-off occurs, notify proper authorities as required that a spill has occurred.

VII. Handling and Storage:

Handling Precautions:

Use with adequate ventilation and proper protective equipment. Do not use or store near fire, sparks, or open flame. Do not puncture or incinerate container. Contact lenses may cause further damage in case of splash into eye. KEEP AWAY FROM CHILDREN AND ANIMALS! Danger: Flammable.

Storage Precautions:

Do not use or store near fire, sparks, or open flame. Store at temperatures below 120°F. Avoid contact with strong oxidizers

VIII. Exposure Controls/Personal Protection:

MSDS - Material Safety Data Sheet

Product Name: LIQUID WRENCH PENETRATING OIL

MSDS No.: L112

Chemical Name	OSHA PEL	ACGIH TLV	Other Limits
Hydrocarbon Fluid	5 mg/m3	5 mg/m3	Not Available
Tripropylene Glycol Monomethyl Ether	N/E	N/E	Not Available
TMP Tri-Oleate Polyol Ester	N/E	N/E	Not Available
Corrosion Inhibitor	N/E	N/E	Not Available
PTFE/boron nitride colloid	N/E	N/E	Not Available
Carbon dioxide	N/AV	5000 ppm	Not Available

Engineering Controls:

Use with adequate ventilation. If TLV is exceeded, wear NIOSH approved respirator.

Personal Protective Equipment:

For prolonged exposure wear protective safety glasses, gloves, and apron.

IX. Physical and Chemical Properties:

Boiling Point: 320 F

Boiling Range: Not Available

Solubility In Water: Insoluble

Flash Point: 200°F

Odor Threshold: Not Available

Vapor Density (AIR = 1): N/A

pH Range: Not Available

Decomposition Temp: Not Available

Lower Explosive Limit: 0.7%

Specific Gravity (H20 = 1): 0.89

Other Information: VOC Content: < 1%

Melting Point: N/A

Freezing Point: Not Available

Evaporation Rate (Butyl Acetate = 1): N/A

Flash Point Method: TCC

Appearance and Odor: opaque yellow with pleasant odor

Vapor Pressure (mm Hg.): N/A

Partition Coefficient: Not Available

Auto-Ignition Temp: Not Available

Upper Explosive Limit: 5%

X. Stability and Reactivity:

Stability:

Product is stable

Conditions to Avoid:

See Incompatible Materials below

Incompatible Materials:

Avoid contact with strong oxidizers

Hazardous Decomposition Products:

Normal products of combustion, smoke, carbon dioxide, carbon monoxide, and sulfur trioxides.

Possibility of Hazardous Reactions:

Will not occur

XI. Toxicological Information:

N/D

Monday, April 18, 2011

MSDS - Material Safety Data Sheet

Product Name: LIQUID WRENCH PENETRATING OIL

MSDS No.: L112

XII. Ecological Information:

N/D

XIII. Disposal Considerations:

DISPOSAL: This container may be recycled in aerosol recycling centers when empty. Before offering for recycling, empty the can by using the product according to the label. DO NOT PUNCTURE! If recycling is not available, wrap the container and discard in the trash. Dispose of unused product in accordance with all local, state government and federal laws and regulations.

XIV. Transport Information:

Shipping Name: Not Available

DOT Hazard Class: Not Available

UN/NA#: Not Available

DOT Subsidiary Hazard Class: Not Available

Packing Group: Not Available

Transportation Information:

DOT Hazard Class: Not Regulated
Shipping Name: Not Regulated

The DOT description is provided to assist in the proper shipping classification of this product and may not be suitable for international and air shipping purposes.

ICAO/IATA (US): Not Regulated

International:
ICAO/IATA: Not Regulated
IMDG: Not Regulated

XV. Regulatory Information:

SARA 313 Reportable Chemicals:
None

USA TSCA: All components of this material are listed on the US TSCA Inventory.

State RTK Chemicals:
None

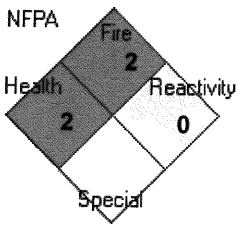
XVI. Other Information:

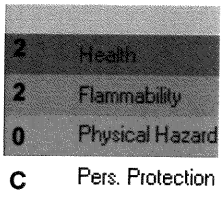
Chemical State: [X] Liquid [ ] Gas [ ] Solid

Chemical Type: [ ] Pure [X] Mixture

Hazard Category:

[X] Acute [ ] Chronic [X] Fire [ ] Pressure [ ] Reactive





Additional Manufacturer Warnings:

Do not used in confined area without proper ventilation. Contact lenses may cause further damage in case of splash into eye. KEEP AWAY FROM CHILDREN AND ANIMALS!

N/E: Not Established
N/D: Not Determined
N/A: Not Applicable
N/AV: Not Available

Additional Product Information:

While Radiator Specialty Company believes this data is accurate as of the revision date, we make no warranty with respect to the data and we expressly disclaim all liability for reliance thereon. The data is offered solely for information, investigation, and verification. Various government agencies may have specific regulations regarding the transportation, handling, storage, use, or disposal of this product which may not be covered by this MSDS. The user is responsible for full compliance.

SAFETY DATA SHEET

In accordance with 453/2010 and 1272/2008

(All references to EU regulations and directives are abbreviated into only the numeric term)

Issued 2015-09-02

Replaces issued SDS 2015-08-26

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier

Trade name **MINIAX, MINIAX KS, VENTILAX**

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

Identified uses Smoke for leakage tests and air flow studies

1.3. Details of the supplier of the safety data sheet

Company BJÖRNAX AB
Ringshyttan
Gruvstugan 729
SE-71393 Nora
Sweden

Telephone +46 581 43150

E-mail info@bjornax.se

1.4. Emergency telephone number

In case of emergency contact toxicological information, emergency tel 112.

For non-emergency poison information, see http://www.who.int/gho/phe/chemical_safety/poisons_centres/en/

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

Classification in accordance with 1272/2008

Irritates eyes (Category 2)

Harmful to aquatic life with long-lasting effects (Category Cron 3)

2.2. Label elements

Label information in accordance with 1272/2008

Hazard pictograms

Signal words	Warning
Hazard statements	
H319	Causes serious eye irritation
H412	Harmful to aquatic life with long lasting effects
Precautionary statements	
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking
P273	Avoid release to the environment
P280	Wear eye protection

2.3. Other hazards

The product produces smoke which can cause irritation upon contact with the eyes or inhalation under conditions of long periods of exposure or incorrect use. In case of uncertainty about how the product should be used, please contact the manufacturer or the company from which the product was originally purchased.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

This product is composed of a mixture of several solid substances.

3.2. Mixtures

Note that the table shows known hazards of the ingredients in a pure form. These hazards are reduced or eliminated when mixed or diluted, see Section 16d.

Constituent		Classification	Concentration
AMMONIUM CHLORIDE			
CAS No	12125-02-9	Acute Tox 4*oral*, Eye Irrit 2; H302, H319	31.7%
EC No	235-186-4		
Index No	017-014-00-8		
POTASSIUM CHLORATE			
CAS No	3811-04-9	Aquatic Chronic 2, Acute Tox 4*dust*, Acute Tox 4*oral*, Ox Sol 1; H411, H332, H302, H271	24.9%
EC No	223-289-7		
Index No	017-004-00-3		

Explanations to the classification and labelling of the ingredients are given in Section 16e. Official abbreviations are printed in normal font. Text in italics are specifications and/or complement used in the calculation of the hazards of this mixture, see Section 16b.
Also contains component(s) not necessary to label.

SECTION 4: FIRST AID MEASURES

4.1. Description of first aid measures

Generally

No special measures are considered to be necessary. If symptoms do occur however, call a doctor/physician.

Upon breathing in

Inhalation of chemicals from the product in normal use is not appropriate. For generated smoke: In the case of overexposure to generated smoke, move the affected person to fresh air. If symptoms persist, consult a doctor.

Upon contact with the eyes

Eye contact with chemicals from the product in normal use is not appropriate. For generated smoke: If symptoms occur, Flush with lukewarm water with the eye or eyes wide open. If symptoms persist, consult a doctor. In the case of a broken or tampered product, the procedure for the constituent chemicals is as follows: Flush immediately with lukewarm water for 15 - 20 min with the eye or eyes wide open. If symptoms persist, consult a doctor.

Upon skin contact

Skin contact with chemicals from the product in normal use is not appropriate. In case of broken or tampered products the procedure for the constituent chemicals is as follows: Wash the skin with soap and water.

Upon ingestion

First rinse the mouth thoroughly with a lot of water and SPIT OUT the water. Then drink at least 1/2 liter of water and call a doctor/physician. Do NOT induce vomiting.

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

Information on symptoms are ambiguous or missing for this product.

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

Symptomatic treatment.

SECTION 5: FIRE-FIGHTING MEASURES

5.1. Extinguishing media

Recommended extinguishing agents

Extinguish with water.

Unsuitable extinguishing agents

Must not be extinguished with foam, powder or carbon dioxide.

5.2. Special hazards arising from the substance or mixture

In case of fire, substances hazardous to health, or substances harmful in other respects, may be dispersed.
Combustible solid.

5.3. Advice for fire-fighters

In case of fire use a respirator mask.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Avoid discharge into sewers.

6.2. Environmental precautions

Not applicable

6.3. Methods and material for containment and cleaning up

Collect.

Residues left behind after cleaning shall be treated as hazardous waste. For further information, contact the local authority sanitisation works. Present this safety data sheet.

6.4. Reference to other sections

See section 8 and 13 for personal protection equipment and disposal considerations.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

This product should be stored well out of reach of young children and kept safely apart from products intended for consumption.

When using, place the product on an incombustible base and check that the product has gone out completely before it is discarded.

7.2. Conditions for safe storage, including any incompatibilities

Handle in premises with modern ventilation standards, store in a dry place.

Must not be stored in the vicinity of combustible material.

Keep away from moisture.

Store only in the original package.

7.3. Specific end uses

Not relevant.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

8.1.1. National limit values, United Kingdom

All ingredients (cf. Section 3) lack occupational exposure limit values.

8.2. Exposure controls

In terms of minimizing risks, attention must be paid to the health hazards (see Sections 2, 3 and 10) of this product or any of its ingredients according to EU directives 89/391 and 98/24 and national occupational legislation.

Eye protection should be worn if there is any danger of direct exposure or splashing.

Dust filter IIb (P2) may be required.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

a) Appearance	Form: Solid article Colour: white
b) Odour	No smell or uncharacteristic smell
c) Odour threshold	Not applicable
d) pH	Not applicable
e) Melting point/freezing point	Not applicable
f) Initial boiling point and boiling range	Not applicable
g) Flash point	Not applicable
h) Evaporation rate	Not applicable
i) Flammability (solid, gas)	Not applicable
j) Upper/lower flammability or explosive limits	Not applicable
k) Vapour pressure	Not applicable
l) Vapour density	Not applicable
m) Relative density	Not applicable
n) Solubility	Not applicable

o) Partition coefficient: n-octanol/water	Not applicable
p) Auto-ignition temperature	> 200 °C
q) Decomposition temperature	Not applicable
r) Viscosity	Not applicable
s) Explosive properties	Not applicable
t) Oxidising properties	Not applicable

9.2. Other information

No data available

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity

The product contains no substances which can lead to hazardous reactions at normal use.

10.2. Chemical stability

The product is stable at normal storage and handling conditions.

10.3. Possibility of hazardous reactions

Not indicated

10.4. Conditions to avoid

Avoid heat, sparks and open flames.

10.5. Incompatible materials

Avoid mixing with organic material.

10.6. Hazardous decomposition products

Not indicated

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Acute effects

The mixture has not been tested as a whole but considered to be a non-acutely toxic substance, based on the full information on the toxicity of all the ingredients.

Harmfulness

The product is a health hazard.

Corrosive and irritating effects

Irritant on eyes, skin, mucous membranes and the upper respiratory tract.

Relevant toxicological properties

AMMONIUM CHLORIDE

LD50 rat (Orally) 24h = 1650 mg/kg

POTASSIUM CHLORATE

LD50 rabbit (Dermally) 24h > 2000 mg/kg

LD50 rat (Orally) 24h = 1870 mg/kg

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Contains substance that is toxic to herbs. Prevent discharge to soil, water and air.

For environmental impact, see also Section 2.

12.2. Persistence and degradability

No information about persistence or degradability exists but there is no reason to suppose that the product is persistent.

12.3. Bioaccumulative potential

No information exists on bioaccumulation, but there is no cause for concern in respect of this.

12.4. Mobility in soil

No information about mobility in the nature exists but there is no reason to suppose the product to be ecologically harmful because of this.

12.5. Results of PBT and vPvB assessment

No chemical safety report has been executed.

12.6. Other adverse effects

Not indicated

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Waste handling for the product

The product after use is not classed as hazardous waste. Unused or broken products are classed as hazardous waste.

Classification according to 2006/12

Recommended LoW-code: 16 03 03 Inorganic wastes containing dangerous substances.

Recycling of the product

Not indicated

SECTION 14: TRANSPORT INFORMATION

Where not otherwise stated the information applies to all of the UN Model Regulations, i.e. ADR (road), RID (railway), ADN (inland waterways), IMDG (sea), and ICAO (IATA) (air).

14.1. UN number

Not classified as dangerous goods

14.2. UN proper shipping name

Not applicable

14.3. Transport hazard class(es)

Not applicable

14.4. Packing group

Not applicable

14.5. Environmental hazards

Not applicable

14.6. Special precautions for user

Not applicable

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

Not applicable

14.8 Other transport information

Stowage category not indicated.

Emergency Schedule (EmS) for FIRE (IMDG) Not indicated.

Emergency Schedule (EmS) for SPILLAGE (IMDG) Not indicated.

SECTION 15: REGULATORY INFORMATION

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

Not applicable.

15.2. Chemical safety assessment

Assessment and chemical safety report in accordance with 1907/2006 Annex I has not yet been performed.

SECTION 16: OTHER INFORMATION

16a. Indication of where changes have been made to the previous version of the safety data sheet

Revisions of this document

Earlier versions

2015-08-26 The composition of this product was changed

2013-03-26 The composition of this product was changed

2012-06-01 The composition of this product was changed

16b. Legend to abbreviations and acronyms used in the safety data sheet

Full texts for Hazard Class and Category Code mentioned in section 3

No phys haz	Non-assigned physical hazard
Acute Tox 4*oral*	Acute toxicity (Category 4 oral)
Eye Irrit 2	Irritates eyes (Category 2)
Aquatic Chronic 2	Toxic to aquatic life with long lasting effects (Category Cron 2)
Acute Tox 4*dust*	Acute toxicity (Category 4 dust)

Ox Sol 1 Oxidising solids (Verified Category 1)

Comprehensive definition of the hazards mentioned in Section 2

Eye Irrit 2

If, when applied to the eye of an animal, a substance produces at least in 2 of 3 tested animals, a positive response of:
- corneal opacity >= 1 and/or
- iritis >= 1, and/or
- conjunctival redness >= 2 and/or
- conjunctival oedema (chemosis) >= 2

calculated as the mean scores following grading at 24, 48 and 72 hours after installation of the test material, and which fully reverses within an observation period of 21 days

Aquatic Chronic 3

Chronic (long-term) aquatic hazard. 96 hr LC50 (for fish) 10-100 mg/l and/or
48 hr EC50 (for crustacea) 10-100 mg/l and/or
72 or 96 hr ErC50 (for algae or other aquatic plants) 10-100 mg/l and the substance is not rapidly degradable and/or the experimentally determined BCF >= 500 (or, if absent, the log Kow >= 4) unless the chronic toxicity NOECs are > 1 mg/l

Explanations of the abbreviations in Section 14

ADR European Agreement concerning the International Transport of Dangerous Goods by Road
RID Regulations concerning the International Transport of Dangerous Goods by Rail
ADN European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
IMDG International Maritime Dangerous Goods Code
ICAO International Civil Aviation Organization (ICAO, 999 University Street, Montreal, Quebec H3C 5H7, Canada)
IATA The International Air Transport Association

16c. Key literature references and sources for data

Sources for data

Primary data for the calculation of the hazards has preferentially been taken from the official European classification list, 1272/2008 Annex I , as updated to 2015-09-02.
Where such data was lacking, on the second hand the documentation on which this official classification is based was used, e.g. IUCLID (International Uniform Chemical Information Database). On the third hand, information was used from reputable international chemical suppliers, and on the fourth hand from other available information, e.g. safety data sheets from other suppliers or information from non-profit associations, whereby the reliability of the source was judged by an expert. If, in spite of this, reliable information was not found, the hazards were judged by expert opinions based on the known properties of similar substances, and according to the principles in 1907/2006 and 1272/2008.

Full texts for Regulations mentioned in this Safety Data Sheet

453/2010 COMMISSION REGULATION (EU) No 453/2010 of 20 May 2010 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)

1272/2008 REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006

89/391 COUNCIL DIRECTIVE (89/391/EEC of 12 June 1989 on the introduction of measures to encourage improvements in the safety and health of workers at work

98/24 COUNCIL DIRECTIVE 98/24/EC of 7 April 1998 on the protection of the health and safety of workers from the risks related to chemical agents at work (fourteenth individual Directive within the meaning of Article 16(1) of Directive 89/391/EEC)

2006/12 DIRECTIVE 2006/12/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 5 April 2006 on waste

1907/2006 REGULATION (EC) No 1907/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC Annex I

16d. Methods of evaluating information referred to in 1272/2008 Article 9 which was used for the purpose of classification

The calculation of the hazards of this mixture has been performed as an evaluation by applying a weight of evidence determination using expert judgement in accordance with 1272/2008 Annex I, weighing all available information having a bearing on the determination of the hazards of the mixture, and in accordance with 1907/2006 Annex XI.

16e. List of relevant hazard statements and/or precautionary statements

Full texts for hazard statements mentioned in section 3

H302 Harmful if swallowed

H319 Causes serious eye irritation

H411 Toxic to aquatic life with long lasting effects

H332 Harmful if inhaled

H271 May cause fire or explosion; strong oxidiser

16f. Advice on any training appropriate for workers to ensure protection of human health and the environment

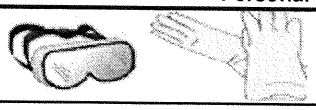
Other relevant information

Editorial information

This safety data sheet has been generated by the program KemRisk®, KemRisk Sweden AB, Teknikringen 10, SE-583 30 Linköping, Sweden.

Diversey

Oxivir Plus Disinfectant Cleaner Concentrate (CAN)

HMIS		NFPA	Personal protective equipment
Health	N/A	3	
Flammability	N/A	0	
Physical Hazard / Instability	N/A	0	

Version Number: 4

Preparation date: 2017-01-06

1. PRODUCT AND COMPANY IDENTIFICATION

Product name: Oxivir Plus Disinfectant Cleaner Concentrate (CAN)

SDS #: MS0301296
Product Code: 5919024, 5919032, 5919041, 5919059, 5919067
Recommended use: Disinfectant Cleaner. This product is intended to be diluted prior to use.

Manufacturer, importer, supplier:

US Headquarters
Diversey, Inc.
P.O. Box 19747
Charlotte, NC 28219-0747
Phone: 1-888-352-2249
SDS Internet Address: https://sds.sealedair.com

Canadian Headquarters
Diversey, Inc. - Canada
3755 Laird Road
Mississauga, Ontario L5L 0B3
Phone: 1-800-668-7171

Emergency telephone number: 1-800-851-7145; 1-651-917-6133 (Int'l)

2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW
DANGER. CORROSIVE TO EYES. CAUSES EYE BURNS. MAY BE MILDLY IRRITATING TO SKIN. HARMFUL OR FATAL IF SWALLOWED. USE ONLY IN WELL-VENTILATED AREAS.

Principal routes of exposure: Eye contact. Skin contact. Inhalation.
Eye contact: Corrosive. Causes permanent eye damage, including blindness.
Skin contact: May be mildly irritating to skin.
Inhalation: May cause irritation and corrosive effects to nose, throat and respiratory tract.
Ingestion: Corrosive. Causes burns to mouth, throat and stomach.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredient(s)	CAS #	Weight %	LD50 Oral - Rat (mg/kg)	Acute dermal (mg/kg)	LC50 Inhalation - Rat
Hydrogen peroxide	7722-84-1	5 - 10%	1193	No data available	=2 g/m³ (4 h)
2-Hydroxybenzoic Acid	69-72-7	1 - 5%	891	No data available	>900 mg/m³ (1 h)
Sulfuric acid	7664-93-9	0.1 - 1.5 %	2140	No data available	=510 mg/m³ (2 h)

4. FIRST AID MEASURES

Eye contact: Immediately wash out with water for at least 15 minutes. Get medical attention immediately.
Skin contact: Immediately flush with plenty of water. Wash thoroughly with soap and water after handling. If irritation persists, get medical attention.
Inhalation: If breathing is affected, remove to fresh air. Get medical attention immediately.
Ingestion: If swallowed, rinse mouth. Give a cupful of water or milk. THEN IMMEDIATELY CONTACT A PHYSICIAN OR POISON CENTER. DO NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person.
Notes to physician: Probable mucosal damage may contraindicate the use of gastric lavage. Measures against circulatory shock, respiratory depression and convulsion may be needed.
Aggravated Medical Conditions: Individuals with chronic respiratory disorders such as asthma, chronic bronchitis, emphysema, etc.,

may be more susceptible to irritating effects.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media: The product is not flammable. Extinguish fire using agent suitable for surrounding fire.
Specific hazards: Decomposition releases oxygen, which may intensify fire.
Unusual hazards: None known.

Special protective equipment for firefighters: As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.
Extinguishing media which must not be used for safety reasons: No information available.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions: Use personal protective equipment.
Environmental precautions and clean-up methods: Clean-up methods - large spillage. Absorb spill with inert material (e.g. dry sand or earth), then place in a chemical waste container. Use a water rinse for final clean-up.

7. HANDLING AND STORAGE

Handling: Avoid contact with skin, eyes and clothing. Do not taste or swallow. Avoid breathing vapors or mists. Use only with adequate ventilation. Remove and wash contaminated clothing and footwear before re-use. Wash thoroughly after handling. Product residue may remain on/in empty containers. All precautions for handling the product must be used in handling the empty container and residue. Mix only with water. DO NOT MIX WITH AMMONIA, BLEACH, OR OTHER CHLORINATED COMPOUNDS. Can react to release chlorine gas. FOR COMMERCIAL AND INDUSTRIAL USE ONLY.
Storage: Protect from freezing. Keep tightly closed in a dry, cool and well-ventilated place. KEEP OUT OF REACH OF CHILDREN.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering measures to reduce exposure:
Good general ventilation should be sufficient to control airborne levels. Respiratory protection is not required if good ventilation is maintained.

Personal Protective Equipment

Eye protection: Chemical-splash goggles.
Hand protection: Chemical-resistant gloves
Skin and body protection: If major exposure is possible, wear suitable protective clothing and footwear.
Respiratory protection: In case of insufficient ventilation wear suitable respiratory equipment. A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator's use.
Hygiene measures: Handle in accordance with good industrial hygiene and safety practice.

Ingredient(s)	CAS #	ACGIH	OSHA	Mexico
Hydrogen peroxide	7722-84-1	1 ppm (TWA)	1 ppm (TWA) 1.4 mg/m³ (TWA)	2 ppm (STEL) 3 mg/m³ (STEL) 1 ppm (TWA) 1.5 mg/m³ (TWA)
Sulfuric acid	7664-93-9	0.2 mg/m³ (TWA)	1 mg/m³ (TWA)	1 mg/m³ (TWA)

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Liquid
Appearance: Liquid Aqueous solution
Specific gravity: 1.037
Vapor density: No information available
Boiling point/range: Not determined
Decomposition temperature: Not determined
Solubility: Completely Soluble
Solubility in other solvents: No information available
Partition coefficient (n-octanol/water): No information available
Elemental Phosphorus: 0.09 % by wt.
pH: 0.45
Explosion limits: - upper: Not determined **- lower:** Not determined
Bulk density: No information available
Evaporation Rate: No information available
Color: Clear Colorless
Odor: Surfactant
Melting point/range: Not determined
Autoignition temperature: No information available
Density: 8.65 lbs/gal 1.037 Kg/L
Flash point (°F): > 200 °F > 93.3 °C
Viscosity: No information available
VOC: Not applicable
Dilution pH: 2.2 @ 1:40

10. STABILITY AND REACTIVITY

Stability:	The product is stable
Polymerization:	Hazardous polymerization does not occur.
Hazardous decomposition products:	Oxygen.
Materials to avoid:	Ammonia. Do not mix with chlorinated products (such as bleach). Bases.
Conditions to avoid:	Keep away from heat.

11. TOXICOLOGICAL INFORMATION

Acute toxicity: Corrosive to eyes. Oral LD50 estimated to be 3000 - 4000 mg/kg. Dermal LD50 estimated to be > 2000 mg/kg.

Component Information: See Section 3.

Chronic toxicity: None known

Specific effects

Carcinogenic effects:	None known
Mutagenic effects:	None known
Reproductive toxicity:	None known
Target organ effects:	None known

Ingredient(s)	CAS #	NTP	IARC	OSHA
Sulfuric acid	7664-93-9	X	1	

12. ECOLOGICAL INFORMATION

Environmental Information: No data available.

13. DISPOSAL CONSIDERATIONS

Waste from residues / unused products (undiluted product):
This product, as sold, if discarded or disposed, is a hazardous waste according to Federal regulations (40 CFR 261.4 (b)(4)). Dispose in compliance with all Federal, state, provincial, and local laws and regulations.
RCRA Hazard Class (undiluted product): D002 Corrosive Waste

14. TRANSPORT INFORMATION

DOT/TDG/IMDG: Proper shipping descriptions can vary by pack size. Please refer to the Diversey HazMat Library, http://naextranet.diversey.com/dot/, for up to date shipping information.

DOT (Ground) Bill of Lading Description: DISINFECTANTS

IMDG (Ocean) Bill of Lading Description: DISINFECTANTS

15. REGULATORY INFORMATION

International Inventories at CAS# Level

All components of this product are listed on the following inventories: U.S.A. (TSCA), Canada (DSL).

Canadian Regulations
WHMIS hazard class: Exempt.

Ingredient(s)	CAS #	NPRI
Sulfuric acid	7664-93-9	X

DIN No. : 02403684

16. OTHER INFORMATION

Reason for revision:	Not applicable
Prepared by:	NAPRAC
Additional advice:	• Does not contain an added fragrance • This product has been classified in accordance with hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products

Brenntag Canada Inc.

MATERIAL SAFETY DATA SHEET

PROPYLENE GLYCOL (ALL GRADES)

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Brenntag Canada Inc.
43 Jutland Rd.
Toronto, ON
M8Z 2G6
(416) 259-8231

Website: http:\\www.brenntag.ca

WHMIS#: 00060619
Index: GCD1351/07A
Effective Date: 2007 March 14
Date of Revision: 2007 March 14

EMERGENCY TELEPHONE NUMBERS (FOR EMERGENCIES INVOLVING CHEMICAL SPILLS OR RELEASE)

Toronto, ON (416) 226-6117
Edmonton, AB (780) 424-1754
Montreal, QC (514) 861-1211
Calgary, AB (403) 263-8660
Winnipeg, MB (204) 943-8827
Vancouver, BC (604) 685-5036

PRODUCT IDENTIFICATION

Product Name:	Propylene Glycol (All Grades).
Chemical Name:	1,2-Propanediol.
Synonyms:	Propylene Glycol 95 - 100 % (Technical grade & USP); Propylene Glycol 40 - 60 %; 1,2-Dihydroxypropane; Methylethylene Glycol; Monopropylene Glycol; Propane-1,2-diol; alpha-Propyleneglycol; 1,2-Proppylene Glycol; Propylene Glycol USP.
Chemical Family:	Glycols.
Molecular Formula:	C3H8O2.
Product Use:	Food additive. Pharmaceutical. Automotive coolant/antifreeze. Solvent used in paints and coating products. Glycols are not intended for the production of theatrical fog or artificial smoke. The normal use of ethylene glycols in the workplace usually includes preventative measures to reduce or minimize personnel contact. Such measures may not be consistent with theatrical or entertainment settings where these special effects may be produced.

WHMIS Classification / Symbol:

Not regulated.

READ THE ENTIRE MSDS FOR THE COMPLETE HAZARD EVALUATION OF THIS PRODUCT.

2. COMPOSITION, INFORMATION ON INGREDIENTS (Not Intended As Specifications)

Ingredient	*CAS#*	*ACGIH TLV*	*% Concentration*
Propylene Glycol	57-55-6	---	40 - 100

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW:	Low hazard for usual industrial or commercial handling. Can decompose at high temperatures forming toxic gases. Contents may develop pressure on prolonged exposure to heat.
POTENTIAL HEALTH EFFECTS	
Inhalation:	This product has a low vapour pressure and is not expected to present an inhalation hazard at ambient conditions. Prevent aerosolization or misting of this product. (3) See "Other Health Effects" Section.
Skin Contact:	This product is non-irritating upon contact. Prolonged, confined (especially under the finger nails, under rings or watch bands) or repeated exposure may cause skin irritation.
Skin Absorption:	A single, prolonged skin exposure is not likely to result in the absorption of toxic amounts of the material.

Eye Contact:	This product may cause mild, transient irritation. May cause blurred vision.
Ingestion:	This product may cause mild gastrointestinal discomfort.
Other Health Effects:	Effects (irritancy) on the skin and eyes may be delayed. Strict adherence to first aid measures following any exposure is essential. May cause hypoglycemia, liver damage, kidney damage and central nervous system (CNS) depression. CNS depression is characterized by headache, dizziness, drowsiness, nausea, vomiting and incoordination. Severe overexposures may lead to coma and possible death due to respiratory failure. Hypoglycemia is defined as an abnormally low concentration of glucose in the circulating blood. (6) Liver damage is characterized by the loss of appetite, jaundice (yellowish skin colour), and occasional pain in the upper left-hand side of the abdomen. Signs and symptoms of kidney damage generally progress from oliguria, to blood in the urine, to total renal failure.

4. FIRST AID MEASURES

FIRST AID PROCEDURES

Inhalation:	If respiratory problems arise, move the victim to fresh air. Give artificial respiration ONLY if breathing has stopped. Give cardiopulmonary resuscitation (CPR) if there is no breathing AND no pulse. Obtain medical advice IMMEDIATELY.
Skin Contact:	Start flushing while removing contaminated clothing. Wash affected areas thoroughly with soap and water. If irritation, redness, or a burning sensation develops and persists, obtain medical advice.
Eye Contact:	Immediately flush eyes thoroughly for 5 minutes with running water. Hold eyelids open during flushing. If irritation persists, repeat flushing. Obtain medical attention.
Ingestion:	Do not attempt to give anything by mouth to an unconscious person. If victim is alert and not convulsing, rinse mouth out and give 1/2 to 1 glass of water to dilute material. DO NOT induce vomiting. If spontaneous vomiting occurs, have victim lean forward with head down to avoid breathing in of vomitus, rinse mouth and administer more water. Obtain medical attention IMMEDIATELY.
Note to Physicians:	This product contains materials that may cause severe pneumonitis if aspirated. If ingestion has occurred less than 2 hours earlier, carry out careful gastric lavage; use endotracheal cuff if available, to prevent aspiration. Observe patient for respiratory difficulty from aspiration pneumonitis. Give artificial resuscitation and appropriate chemotherapy if respiration is depressed. Medical conditions that may be aggravated by exposure to this product include neurological and cardiovascular disorders, diseases of the skin, eyes or respiratory tract, preexisting liver and kidney disorders.

5. FIRE-FIGHTING MEASURES

Flashpoint (°C)	***AutoIgnition Temperature (°C)***	**Flammability Limits in Air (%):** ***LEL***	***UEL***
99 - 109 (3)	371 - 421. (3)	2.4. (3)	17.4. (3)

Flammability Class (WHMIS):	Not regulated.
Hazardous Combustion Products:	Thermal decomposition products are toxic and may include oxides of carbon and irritating gases.
Unusual Fire or Explosion Hazards:	Do not direct a solid stream of foam into hot, burning pools. This may cause spattering and increase fire intensity. Closed containers exposed to heat may burst. Spilled material may cause floors and contact surfaces to become slippery. Aqueous solutions containing less than 95 % Propylene Glycol by weight have no flash points as obtained by standard test methods. However, aqueous solutions of Propylene Glycol greater than 22 % by weight, if heated sufficiently, will produce flammable vapours. Only aqueous solutions of Propylene Glycol less than 22 % by weight should be used in sprinkler systems or other fire-fighting equipment. (3)
Sensitivity to Mechanical Impact:	Not expected to be sensitive to mechanical impact.
Rate of Burning:	Not available.
Explosive Power:	Not available.
Sensitivity to Static Discharge:	Not expected to be sensitive to static discharge.

EXTINGUISHING MEDIA

Fire Extinguishing Media:	Use carbon dioxide or dry chemical media for small fires. If only water is available, use it in the form of a fog. Do not use high volume water jet.
FIRE FIGHTING INSTRUCTIONS	
Instructions to the Fire Fighters:	Use water spray to cool fire-exposed containers or structures. Use water spray to disperse vapours. Isolate materials that are not involved in the fire and protect personnel. Cool containers with flooding quantities of water until well after the fire is out. Spilled material may cause floors and contact surfaces to become slippery.
Fire Fighting Protective Equipment:	Use self-contained breathing apparatus and protective clothing.

6. ACCIDENTAL RELEASE MEASURES

Information in this section is for responding to spills, leaks or releases in order to prevent or minimize the adverse effects on persons, property and the environment. There may be specific reporting requirements associated with spills, leaks or releases, which change from region to region.

Containment and Clean-Up Procedures:	Wear protective clothing. Collect product for recovery or disposal. For release to land, or storm water runoff, contain discharge by constructing dykes or applying inert absorbent; for release to water, utilize damming and/or water diversion to minimize the spread of contamination. Ventilate enclosed spaces. Notify applicable government authority if release is reportable or could adversely affect the environment. Spilled material may cause floors and contact surfaces to become slippery.

7. HANDLING AND STORAGE

HANDLING

Handling Practices:	Use normal "good" industrial hygiene and housekeeping practices. Containers exposed to heat may be under internal pressure. These should be cooled and carefully vented before opening. A face shield and apron should be worn. Vent container frequently, and more often in warm weather, to relieve pressure.
Ventilation Requirements:	See Section 8, "Engineering Controls".
Other Precautions:	Use only with adequate ventilation and avoid breathing aerosols (vapours or mists). Avoid contact with eyes, skin or clothing. Wash thoroughly with soap and water after handling. Wash contaminated clothing thoroughly before re-use. Do not use cutting or welding torches on empty drums that contained this material/product.

STORAGE

Storage Temperature (°C):	Ideal storage temperature is 18 to 32. The typical shelf life of this product is 6 months. (3)
Ventilation Requirements:	General exhaust is acceptable.
Storage Requirements:	Store in a cool, well-ventilated area. Keep away from heat, sparks and flames. Keep containers closed. Do not expose sealed containers to temperatures above 40° C. Protect from direct sunlight. Avoid moisture contamination. Hygroscopic. Protect against physical damage. Store under inert gas (nitrogen). Once container is open, use nitrogen blanket on material and reseal. (3)
Special Materials to be Used for Packaging or Containers:	Materials of construction for storing the product include: mild steel or stainless steel. Equipment for storage, handling or transport should NOT be made from the following material, or, where applicable, its alloys: copper and zinc. Confirm suitability of any material before using.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Recommendations listed in this section indicate the type of equipment, which will provide protection against overexposure to this product. Conditions of use, adequacy of engineering or other control measures, and actual exposures will dictate the need for specific protective devices at your workplace.

ENGINEERING CONTROLS

Engineering Controls:	General exhaust is acceptable. Local exhaust ventilation preferred. Make up air should be supplied to balance air that is removed by local or general exhaust ventilation. Ventilate low lying areas such as sumps or pits where dense vapours may collect.
PERSONAL PROTECTIVE EQUIPMENT (PPE)	
Eye Protection:	Safety glasses with side shields are recommended to prevent eye contact. Use chemical safety goggles when there is potential for eye contact. Contact lenses should not be worn when working with this material.

Skin Protection:	Gloves and protective clothing made from neoprene, PVC, nitrile rubber and butyl rubber should be impervious under conditions of use. Prior to use, user should confirm impermeability. Discard contaminated gloves.
Respiratory Protection:	No specific guidelines available. Respiratory protection should not be necessary unless the material is heated or a mist created. A NIOSH/MSHA-approved air-purifying respirator equipped with organic vapour cartridges for concentrations up to 1 000 ppm organic vapours. An air-supplied respirator if concentrations are higher or unknown. If while wearing a respiratory protection, you can smell, taste or otherwise detect anything unusual, or in the case of a full facepiece respirator you experience eye irritation, leave the area immediately. Check to make sure the respirator to face seal is still good. If it is, replace the filter, cartridge or canister. If the seal is no longer good, you may need a new respirator. (4)
Other Personal Protective Equipment:	Wear regular work clothing. The use of coveralls is recommended. Locate safety shower and eyewash station close to chemical handling area. Take all precautions to avoid personal contact.

EXPOSURE GUIDELINES

None established for this product.

9. PHYSICAL AND CHEMICAL PROPERTIES (Not intended as Specifications)

Physical State:	Liquid.
Appearance:	Clear, colourless liquid.
Odour:	Mild glycol odour.
Odour Threshold (ppm):	Not applicable.
Boiling Range (°C):	186 - 189. (3)
Melting/Freezing Point (°C):	- 60. (3)
Vapour Pressure (mm Hg at 20° C):	0.07 - 0.20. (3)
Vapour Density (Air = 1.0):	2.5 - 2.6. (3)
Relative Density (g/cc):	1.03 - 1.04. (3)
Bulk Density:	1 030 - 1 040 kg/m3.
Viscosity:	55 mPa.s @ 20 °C. (3)
Evaporation Rate (Butyl Acetate = 1.0):	0.005.
Solubility:	Soluble in water. Hygroscopic.
% Volatile by Volume:	100.
pH:	6 - 7. (3)
Coefficient of Water/Oil Distribution:	< 0.
Volatile Organic Compounds (VOC):	28 % (ASTM D 2369) (3)

10. STABILITY AND REACTIVITY

CHEMICAL STABILITY

Under Normal Conditions:	Stable.
Under Fire Conditions:	Not flammable.
Hazardous Polymerization:	Will not occur.
Conditions to Avoid:	High temperatures, sparks, open flames and all other sources of ignition. Temperatures above 40 °C (104 °F). Avoid moisture contamination. Hygroscopic.
Materials to Avoid:	Strong oxidizers. Strong acids. Isocyanates.
Decomposition or Combustion Products:	Thermal decomposition products are toxic and may include oxides of carbon and irritating gases.

11. TOXICOLOGICAL INFORMATION

TOXICOLOGICAL DATA:

SUBSTANCE	***LD50 (Oral, Rat)***	***LD50 (Dermal, Rabbit)***	***LC50 (Inhalation, Rat, 4h)***

Propylene Glycol	20 000 mg/kg (1)	20 8000 mg/kg (1)	---

Carcinogenicity Data: The ingredient(s) of this product is (are) not classed as carcinogenic by ACGIH, IARC, OSHA or NTP. See "Other Studies Relevant to Material".

Reproductive Data: No adverse reproductive effects are anticipated. See "Other Studies Relevant to Material".

Mutagenicity Data: No adverse mutagenic effects are anticipated. See "Other Studies Relevant to Material".

Teratogenicity Data: No adverse teratogenic effects are anticipated.

Respiratory / Skin Sensitization Data: None known.

Synergistic Materials: None known.

Other Studies Relevant to Material: Propylene Glycol, when tested by open and occluded patch tests, was found to be non-irritating to the skin of humans and animals. Slight irritation was noted when Propylene Glycol was administered to the eye. The irritation was non injurious and lasted until tears washed the Propylene Glycol away. (4)

Propylene Glycol has altered the intraocular osmotic blood pressure in both humans and rabbits when administered orally. Central nervous system depression, liver changes, kidney changes and some cardiovascular depression were observed following intravenous or oral administration of Propylene Glycol to rats, mice and calves. (4)

Animal studies for reproductive effects have shown damage to spermatocytes in mice. Reduced litter size, weights and appetite were also observed in rats administered Propylene Glycol (greater than 7.5 %) in their diets. (4)

Propylene Glycol was not mutagenic in bacteria. Chromosomal damage in mammalian cell lines and rat spermatocytes were also observed following administration of Propylene Glycol. (4)

12. ECOLOGICAL INFORMATION

Ecotoxicity: May be harmful to aquatic life at high concentrations.

48-hour EC50 (Daphnia) = Above 43, 500 mg/L (3)
96-hour LC50 (Sheepshead Minnow) = 23, 800 mg/L (3)

Environmental Fate: May be harmful if allowed to enter drinking water intakes. Do not contaminate domestic or irrigation water supplies, lakes, streams, ponds, or rivers.

Propylene Glycol:
Biological Oxygen Demand (BOD) = 2.2 - 64 % (Theoretical, 5 Days) (4)
Biological Oxygen Demand (BOD) = 56.7 % (Theoretical, 10 days) (4)
Biological Oxygen Demand (BOD) = 79 % (Theoretical, 20 days) (4)
Biological Oxygen Demand (BOD) = 80 % (Theoretcial, 50 days) (4)

This product is estimated to have a moderate (Greater than 30%) rate of biodegradation in a test for ready biodegradation. (3)

This material is not expected to bioaccumulate. (3)

Propylene Glycol rapidly degrades to CO2 in soil without any lag time. Degradation does not appear to be inhibited by high glycol concentrations and proceeds, although at lower rates, at subfreezing temperatures. Mean degradation in soil microsomes were 83.5, 22.7 and 2.3 mg/Kg of soil per day at 25, 8 and -2 Degrees Celsius respectively. Based on its aqueous miscibility and Log Kow (-0.92), Propylene Glycol can be expected to be susceptible to leaching. Evaporation from dry surfaces is likely to occur; however, volatilization from moist solids myt not be significant. (4)

Propylene Glycol has been shown to biodegrade readily in a number of biological screening studies. Aquatic hydrolysis, oxidation, volatilization, bioconcentration and adsorption to sediment are not expected to be significant fate process because of its high water solubility and lack of hydrolyzable or oxidizable groups. Therefore, when Propylene Glycol is released to the aquatic environment, it is expected to be removed by biological processes. (4)

Propylene Glycol is expected to exist almost entirely in the vapour phase in the ambient atmosphere, based on a vapour pressure of 0.129 mm Hg at 25 Degrees Celsius. It is degraded rapidly in the vapour phase by reactions with photochemically produced hydroxy radicals (half-life of approx. 32 hours in an ambient atmosphere). The aqueous miscibility of Propylene Glycol suggests that physical removal from the atmosphere via rainfall occurs. (4)

13. DISPOSAL CONSIDERATIONS

Deactivating Chemicals:	Not available.
Waste Disposal Methods:	This information applies to the material as manufactured. Reevaluation of the product may be required by the user at the time of disposal since the product uses, transformations, mixtures and processes may influence waste classification. Dispose of waste material at an approved (hazardous) waste treatment/disposal facility in accordance with applicable local, provincial and federal regulations. Do not dispose of waste with normal garbage, or to sewer systems.
Safe Handling of Residues:	See "Waste Disposal Methods".
Disposal of Packaging:	Empty containers retain product residue. Empty drums should be completely drained, properly bunged and promptly returned to a drum reconditioner. Do not dispose of package until thoroughly washed out.

14. TRANSPORTATION INFORMATION

CANADIAN TDG ACT SHIPPING DESCRIPTION:

This product is not regulated by TDG.

Label(s): Not applicable. Placard: Not applicable.

ERAP Index: -----. Exemptions: None known.

US DOT CLASSIFICATION (49CFR 172.101, 172.102):

This product is not regulated by DOT.

Label(s): Not applicable. Placard: Not applicable.

CERCLA-RQ: Not available. Exemptions: None known.

15. REGULATORY INFORMATION

CANADA

CEPA - NSNR:	This material is included on the DSL under the CEPA.
CEPA - NPRI:	Not included.
CANADIAN FOOD AND DRUG ACT/REGULATIONS:	The use of this material/product as a food additive is regulated by Health and Welfare Canada in the Food and Drug Act and the Food and Drug Regulations. It is incumbent on the user of this material/product to ensure any intended food application is consistent with Health and Welfare Canada guidelines. Food Grade designation in no way implies that the product is safe for consumption by humans. (3)

Controlled Products Regulations Classification (WHMIS):

Not regulated.

USA

Environmental Protection Act:	This material is included on the TSCA Inventory.
OSHA HCS (29CFR 1910.1200):	Not regulated.
U.S. FOOD AND DRUG ADMINISTRATION:	This material/product is regulated for use by the US FDA. It is incumbent on the user of this material/product to ensure any intended food application is consistent with US FDA guidelines. Food Grade designation in no way implies that the product is safe for consumption by humans. (3)

NFPA: 0 Health, 1 Fire, 0 Reactivity (3)

HMIS: 0 Health, 1 Fire, 0 Reactivity (3)

INTERNATIONAL

All components of this product are found on the following inventories: EINECS (European Inventory of Existing Commercial Chemical Substances), ACOIN (Australia), MITI (Japan) and Korea.

16. OTHER INFORMATION

REFERENCES

1. RTECS-Registry of Toxic Effects of Chemical Substances, Canadian Centre for Occupational Health and Safety RTECS

database.

2. Clayton, G.D. and Clayton, F.E., Eds., Patty's Industrial Hygiene and Toxicology, 3rd ed., Vol. IIA,B,C, John Wiley and Sons, New York, 1981.
3. Supplier's Material Safety Data Sheet(s).
4. CHEMINFO, through "CCINFOdisc", Canadian Centre for Occupational Health and Safety, Hamilton, Ontario, Canada.
5. Guide to Occupational Exposure Values, 2005, American Conference of Governmental Industrial Hygienists, Cincinnati, 2005.
6. Regulatory Affairs Group, Brenntag Canada Inc.
7. The British Columbia Drug and Poison Information Centre, Poison Managements Manual, Canadian Pharmaceutical Association, Ottawa, 1981.
8. Hensyl, William R., Stedman's Medical Dictionary, 25th Ed., Williams & Wilkins, Baltimore, 1990.

To obtain revised copies of this or other Material Safety Data Sheets, contact your nearest Brenntag Canada Regional office.

British Columbia: 20333-102B Avenue, Langley, BC, V1M 3H1
Phone: (604) 513-9009 Facsimile: (604) 513-9010

Alberta: 6628 - 45 th. Street, Leduc, AB, T9E 7C9
Phone: (780) 986-4544 Facsimile: (780) 986-1070

Manitoba: 681 Plinquet Street, Winnipeg, MB, R2J 2X2
Phone: (204) 233-3416 Facsimile: (204) 233-7005

Ontario: 43 Jutland Road, Toronto, ON, M8Z 2G6
Phone: (416) 259-8231 Facsimile: (416) 259-6175

Quebec: 2900 Jean Baptiste Des., Lachine, PQ, H8T 1C8
Phone: (514) 636-9230 Facsimile: (514) 636-0877

Atlantic: A-105 Akerley Boulevard, Dartmouth, NS, B3B 1R7
Phone: (902) 468-9690 Facsimile: (902) 468-3085

Prepared By: Regulatory Affairs Group, Brenntag Canada Inc., (416) 259-8231.

Red Gage Fluid
Safety Data Sheet

Issue date: 05/14/2013 Revision date: 06/20/2016

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

1.1. Product identifier

Product name. : Red Gage Fluid

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

Use of the substance/mixture : Gage Fluid

1.3. Details of the supplier of the safety data sheet

Dwyer Instruments, Inc.
102 Highway 212
Michigan City, IN 46361
T 219-879-8868 - F 219-872-9057

1.4. Emergency telephone number

Emergency number : Call CHEMTREC day or night. Domestic North America call- 800-424-9300; International call - 703-527-3887 (collect accepted)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

GHS-US classification

Flam. Liq. 4 H227
Carc. 1B H350
Asp. Tox. 1 H304

2.2. Label elements

GHS-US labelling

Hazard pictograms (GHS-US) :

GHS08

Signal word (GHS-US) : Danger

Hazard statements (GHS-US) : H227 - Combustible liquid
H304 - May be fatal if swallowed and enters airways
H350 - May cause cancer

Precautionary statements (GHS-US) : 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
P280 - Wear protective gloves/protective clothing/eye protection/face protection
P301+P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor
P308+P313 - IF exposed or concerned: Get medical advice/attention
P331 - If swallowed, do NOT induce vomiting
P370+P378 - In case of fire: Use ... for extinction
P403+P235 - Store in a well-ventilated place. Keep cool
P405 - Store locked up
P501 - Dispose of contents/container to ...

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. Mixture

Name	Product identifier	%	GHS-US classification
Petroleum distillates, hydrotreated light	(CAS No.) 64742-47-8	40-70	Not classified
Distillates, petroleum, hydrotreated light naphthenic	(CAS No.) 64742-53-6	1-5	Not classified
C.I. Solvent Red 164	(CAS No.) 71819-51-7	0.1-1	Not classified

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures after inhalation : Move person to non-contaminated air. If the affected person is not breathing, apply artificial respiration.

First-aid measures after skin contact : For skin contact, flush with large amounts of water. If irritation persists, get medical attention.

First-aid measures after eye contact : Immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention or advice.

First-aid measures after ingestion : If the material is swallowed, get immediate medical attention or advice. Do not induce vomiting unless directed to do so by medical personnel.

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

Symptoms/injuries after inhalation : May cause respiratory tract irritation.

Symptoms/injuries after skin contact : May cause skin irritation.

Symptoms/injuries after eye contact : May cause eye irritation.

Symptoms/injuries after ingestion : Not considered a likely route of exposure under normal product use conditions. May be fatal if swallowed and enters airways.

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

Unsuitable extinguishing media : None.

5.2. Special hazards arising from the substance or mixture

Fire hazard : None known.

Explosion hazard : None known.

5.3. Advice for firefighters

Protection during firefighting : Firefighters should wear full protective gear.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Avoid contact with the skin and the eyes. Wear appropriate protective clothing and respiratory protection for the situation.

6.1.1. For non-emergency personnel

No additional information available

6.1.2. For emergency responders

No additional information available

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

For containment : Stop the flow of material, if this is without risk.

Methods for cleaning up : Absorb spill with inert material. Shovel or sweep up and put in a closed container for disposal.

6.4. Reference to other sections

No additional information available

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Avoid contact with eyes, skin and clothing. Wash thoroughly after handling.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Keep the container tightly closed and in a cool, well-ventilated place.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No exposure limits have been established for any of this product's components.

8.2. Exposure controls

Appropriate engineering controls	: Ensure exposure is below occupational exposure limits (where available).
Hand protection	: Use impervious gloves such as neoprene, nitrile, or rubber for hand protection.
Eye protection	: Wear safety glasses; chemical goggles (if splashing is possible).
Skin and body protection	: Wear suitable protective clothing.
Respiratory protection	: If exposure limits are exceeded or irritation is experienced, NIOSH approved respiratory protection should be worn.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Colour	: Red
Odour	: Characteristic
Odour threshold	: No data available
pH	: 5.78
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: No data available
Freezing point	: No data available
Boiling point	: No data available
Flash point	: 162°F
Self ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: No data available
Vapour pressure	: No data available
Relative vapour density at 20 °C	: No data available
Specific gravity	: 0.826
Solubility	: Insoluble.
Log Pow	: No data available
Log Kow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

No additional information available

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

Will not occur.

10.4. Conditions to avoid

Avoid heat, open flames and ignition sources.

10.5. Incompatible materials

Oxidizing materials.

10.6. Hazardous decomposition products

Decomposes to form toxic compounds.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

Petroleum distillates, hydrotreated light (64742-47-8)	
LD50 oral rat	> 5000 mg/kg
LD50 dermal rabbit	> 2000 mg/kg
LC50 inhalation rat (mg/l)	> 5.2 mg/l (Exposure time: 4 h)

Distillates, petroleum, hydrotreated light naphthenic (64742-53-6)	
LD50 oral rat	> 5000 mg/kg
LD50 dermal rabbit	> 2000 mg/kg
LC50 inhalation rat (mg/l)	2.18 mg/l (Exposure time: 4 h)

Skin corrosion/irritation : Not classified

Serious eye damage/irritation : Not classified

Respiratory or skin sensitisation : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : May cause cancer.

Reproductive toxicity : Not classified

Specific target organ toxicity (single exposure) : Not classified

Specific target organ toxicity (repeated exposure) : Not classified

Aspiration hazard : May be fatal if swallowed and enters airways.

SECTION 12: Ecological information

12.1. Toxicity

Petroleum distillates, hydrotreated light (64742-47-8)	
LC50 fishes 1	45 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
EC50 Daphnia 1	4720 mg/l (Exposure time: 96 h - Species: Den-dronereides heteropoda)
LC50 fish 2	2.2 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus [static])

Distillates, petroleum, hydrotreated light naphthenic (64742-53-6)	
LC50 fishes 1	> 5000 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss)
EC50 Daphnia 1	> 1000 mg/l (Exposure time: 48 h - Species: Daphnia magna)

12.2. Persistence and degradability

No additional information available

12.3. Bioaccumulative potential

Petroleum distillates, hydrotreated light (64742-47-8)	
BCF fish 1	61 - 159

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste disposal recommendations : Dispose of contents/container in accordance with local/regional/national/international regulations.

SECTION 14: Transport information

In accordance with DOT / ADR / RID / ADNR / IMDG / ICAO / IATA

14.1. UN number

DOT NA no. NA1993

14.2. UN proper shipping name

DOT Proper Shipping Name : Combustible liquid, n.o.s. (Petroleum distillates, hydrotreated light)

Department of Transportation (DOT) Hazard Classes : 3 - Class 3 - Flammable and combustible liquid 49 CFR 173.120

DOT Symbols : D - Proper shipping name for domestic use only, or to and from Canada,G - Identifies PSN requiring a technical name

Packing group (DOT) : III - Minor Danger

DOT Special Provisions (49 CFR 172.102) : IB3 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1 and 31HA2, 31HB2, 31HN2, 31HD2 and 31HH2). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized, except for UN2672 (also see Special Provision IP8 in Table 2 for UN2672).
T1 - 1.5 178.274(d)(2) Normal..... 178.275(d)(2)
T4 - 2.65 178.274(d)(2) Normal..... 178.275(d)(3)
TP1 - The maximum degree of filling must not exceed the degree of filling determined by the following: (image) Where: tr is the maximum mean bulk temperature during transport, and tf is the temperature in degrees celsius of the liquid during filling.

DOT Packaging Exceptions (49 CFR 173.xxx) : 150

DOT Packaging Non Bulk (49 CFR 173.xxx) : 203

DOT Packaging Bulk (49 CFR 173.xxx) : 241

International Air Transport Association (IATA) Proper Shipping Name: Petroleum distillates, n.o.s.

IATA UN/ID No.: UN1268

IATA Hazard Classes: 3 - Class III Flammable and combustible liquid

IATA Packing Instructions, Passenger and Cargo aircraft: 355

IATA Packing Instructions, Cargo Aircraft only: 366

IATA Special Provisions: A3

14.3. Additional information

Other information : No supplementary information available.

Overland transport

No additional information available

Transport by sea

DOT Vessel Stowage Location : A - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel.

Air transport

DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) : 60 L

DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) : 220 L

IATA Quantity Limitations Passenger and Cargo aircraft (IATA DGR 4.3 UN 1268 PG III) : 60 L

IATA Quantity Limitations Cargo aircraft only (IATA DGR 4.3 UN 1268 PG III) : 220 L

SECTION 15: Regulatory information

15.1. US Federal regulations

Petroleum distillates, hydrotreated light (64742-47-8)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

Distillates, petroleum, hydrotreated light naphthenic (64742-53-6)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

15.2. International regulations

CANADA

Petroleum distillates, hydrotreated light (64742-47-8)

Listed on the Canadian DSL (Domestic Sustances List) inventory.

Distillates, petroleum, hydrotreated light naphthenic (64742-53-6)

Listed on the Canadian DSL (Domestic Sustances List) inventory.

15.3. US State regulations

Distillates, petroleum, hydrotreated light naphthenic (64742-53-6)

U.S. - Massachusetts - Right To Know List

SECTION 16: Other information

Full text of H-phrases:

Asp. Tox. 1	Aspiration hazard Category 1
Carc. 1B	Carcinogenicity Category 1B
Flam. Liq. 4	Flammable liquids Category 4
H304	May be fatal if swallowed and enters airways
H350	May cause cancer

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.

Zep Inc.
1310 Seaboard Industrial Blvd.
Atlanta, GA 30318
1-877-I-BUY-ZEP (428-9937)
www.zep.com

Section 1. Chemical Product and Company Identification

Product name SCREEN CLEAN
Product use Aerosol Cleaner.
Product code 0070
Date of issue 04/27/09 **Supersedes** 05/31/05

Emergency Telephone Numbers

For MSDS Information:
Compliance Services 1-877-I-BUY-ZEP (428-9937)

For Medical Emergency
(877) 541-2016 Toll Free - All Calls Recorded

For Transportation Emergency
CHEMTREC: (800) 424-9300 - All Calls Recorded
In the District of Columbia (202) 483-7616

Prepared By
Compliance Services
1420 Seaboard Industrial Blvd.
Atlanta, GA 30318

Printing date: 04/27/09

Section 2. Hazards Identification

Emergency overview

*Hazard Determination System (HDS): Health, Flammability, Reactivity

1	1	0

WARNING !

CAUSES EYE, SKIN AND RESPIRATORY TRACT IRRITATION.
HARMFUL IF INHALED OR ABSORBED THROUGH SKIN.

NOTE: MSDS data pertains to the product as delivered in the original shipping container(s). Risk of adverse effects are lessened by following all prescribed safety precautions, including the use of proper personal protective equipment.

Acute Effects **Routes of Entry** Dermal contact. Inhalation.

Eyes Causes eye irritation. Inflammation of the eye is characterized by redness, watering and itching.

Skin Causes skin irritation. May be harmul if absorbed through the skin. Skin inflammation is characterized by itching, scaling, or reddening.

Inhalation Avoid inhalation of vapor, spray or mist. Over-exposure by inhalation may cause respiratory irritation. Can cause central nervous system (CNS) depression.

Ingestion Unlikely in this form. Ingestion may cause nausea, weakness and central nervous system effects.

Chronic effects Repeated or prolonged exposure to the substance can produce damage to blood, kidneys, liver. Prolonged or repeated contact may dry skin and cause irritation.

Carcinogenicity

Ingredients: Not listed as carcinogen by OSHA, NTP or IARC.

Product/ingredient name

Not available.

Additional Information: See Toxicological Information (Section 11)

Section 3. Composition/Information on Ingredients

Name of Hazardous Ingredients	CAS number	% by Weight
ETHANOL; ethyl alcohol; grain alcohol	64-17-5	10 - 20
ETHYLENE GLYCOL MONOBUTYL ETHER; 2-butoxyethanol; butyl cellosolve	111-76-2	1 - 10
HYDROCARBON PROPELLANT; blend of propane & isobutane	75-28-5; 74-98-6	1 - 10

Section 4. 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 immediately.

Skin Contact Flush affected skin with plenty of water. Remove contaminated clothing and shoes. Wash clothing before reuse. Get medical attention if irritation develops.

Inhalation Move exposed person to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Ingestion Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If affected person is conscious, give plenty of water to drink. Get medical attention immediately.

Section 5. Fire Fighting Measures

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

Flash Point Not available.

Flammable Limits Not available.

Flammability Non-flammable Aerosol. (CSMA)

Fire hazard CONTENTS UNDER PRESSURE. Container explosion may occur under fire conditions or when heated.

Fire-Fighting Procedures Use an extinguishing agent suitable for the surrounding fire.

Section 6. Accidental Release Measures

Spill Clean up Large spills are unlikely due to packaging.

Section 7. Handling and Storage

Handling Put on appropriate personal protective equipment (see section 8). Avoid contact with eyes, skin and clothing. Avoid breathing vapors, spray or mists. Use with adequate ventilation. Do not ingest. Wash thoroughly after handling.

Storage CONTENTS UNDER PRESSURE. Do not puncture, incinerate or store the container at temperatures above 49°C (120°F) or in direct sunlight. Keep out of the reach of children.

Section 8. Exposure Controls/Personal Protection

Product name	Exposure limits
ETHANOL; ethyl alcohol; grain alcohol	**ACGIH TLV / OSHA PEL (United States).** TWA: 1000 ppm 8 hour(s).
ETHYLENE GLYCOL MONOBUTYL ETHER; 2-butoxyethanol; butyl cellosolve	**ACGIH TLV (United States). Skin** TWA: 20 ppm 8 hour(s). Form: **OSHA PEL (United States). Skin** TWA: 50 ppm 8 hour(s). Form:
HYDROCARBON PROPELLANT; blend of propane & isobutane	**ACGIH TLV / OSHA PEL (United States). Notes: Propane** TWA: 1000 ppm 8 hour(s).

Personal Protective Equipment (PPE)

Eyes Safety glasses.

Body For prolonged or repeated handling, use gloves. Recommended: Rubber gloves. Nitrile gloves. Neoprene gloves.

Respiratory Use with adequate ventilation. Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective occupational exposure limits.

Section 9. Physical and Chemical Properties

Physical State Liquid. [Aerosol.]

pH 10.0 - 10.5

Boiling Point 93°C (199.4°F)

Specific Gravity 0.95

Solubility Easily soluble in the following materials: cold water and hot water.

Color Clear. Colorless.

Odor Pleasant.

Vapor Pressure Not determined.

Vapor Density Not determined.

Evaporation Rate 1 (Water = 1)

VOC (Consumer) 21.5% 1.70 (lb/gal) 204 (g/l).

Section 10. Stability and Reactivity

Stability and Reactivity The product is stable.

Incompatibility Keep away from heat, sparks and flame. Reactive or incompatible with the following materials: oxidizing materials and acids.

Hazardous Polymerization Will not occur.

Hazardous Decomposition Products carbon oxides (CO, CO_2)

Section 11. Toxicological Information

Acute Toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Ethanol	LD50 Oral	Rat	7060 mg/kg	-
	LC50 Inhalation Vapor	Rat	20000 mg/m	4 hours
Ethylene Glycol Monobutyl Ether	LD50 Dermal	Guinea pig	>2000 mg/kg	-
	LD50 Oral	Guinea pig	1200 mg/kg	-
	LC50 Inhalation Vapor	Guinea pig	>633 ppm	1 hours

Section 12. Ecological Information

Environmental Effects No known significant effects or critical hazards.

Aquatic Ecotoxicity

Not available.

Section 13. Disposal Considerations

Waste Information

Waste must be disposed of in accordance with federal, state and local environmental control regulations. Consult your local or regional authorities for additional information.

Waste Stream Code: - (None.)
Classification: - (Non-hazardous waste)

Section 14. Transport Information

Regulatory information	UN number	Proper shipping name	Classes	PG*	Label
DOT Classification		Consumer commodity	ORM-D		
IMDG Class	Not determined.				

NOTE: DOT classification applies to most package sizes. For specific container size classifications or for size exceptions, refer to the Bill of Lading with your shipment.
PG* : Packing group

Section 15. Regulatory Information

U.S. Federal Regulations

SARA 313 toxic chemical notification and release reporting:

Product name

Ethylene Glycol Monobutyl Ether

Clean Water Act (CWA) 307: No products were found.

Clean Water Act (CWA) 311: No products were found.

Clean Air Act (CAA) 112 regulated toxic substances: No products were found.

All Components of this product are listed or exempt from listing on TSCA Inventory.

State Regulations

California Prop 65 No products were found.

Section 16. Other Information

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

**NOTE: Hazard Determination System (HDS) ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks Although these ratings are not required on MSDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HDS ratings are to be used with a fully implemented program to relay the meanings of this scale.*

Sea Foam Sales Company
12987 Pioneer Trail
Eden Prairie, MN, USA 55347

SAFETY DATA SHEET

SECTION 1. IDENTIFICATION

Product identifier used on the label : **Deep Creep**

Product Code(s) : DC-14

Recommended use of the chemical and restrictions on use

: Lubricating oil
Use pattern: Consumer use; professional use.

Chemical family : Mixture.

Name, address, and telephone number of the supplier:

Sea Foam Sales Company

12987 Pioneer Trail
Eden Prairie, MN, USA
55347

Supplier's Telephone # : (952) 938-4811

Name, address, and telephone number of the manufacturer:

Refer to supplier

24 Hr. Emergency Tel # : INFOTRAC - (800) 535-5053 (Within Continental US); (352) 323-3500 (Outside US)
NOTE: INFOTRAC emergency number is to be used only in the event of chemical emergencies involving a spill, leak, fire, exposure or accident involving chemicals.

SECTION 2. HAZARDS IDENTIFICATION

Classification of the chemical

Clear liquid, contained in a pressurized aerosol can. Petroleum hydrocarbon odor.

Most important hazards: This material is classified as hazardous under OSHA regulations (29CFR 1910.1200) (Hazcom 2012). Hazardous classification:
- Flammable aerosol - Category 1
- Serious eye damage/eye irritation - Category 2B
- Specific target organ toxicity - single exposure - Category 3
- Aspiration toxicity - Category 1

WHMIS information: This product is a WHMIS Controlled Product. It meets one or more of the criteria for a controlled product provided in Part IV of the Canadian Controlled Products Regulations (CPR). WHMIS Classification:
- Class A (Pressurized containers)
- Class B5 (Flammable Aerosols)
- Class D2B (Materials Causing Other Toxic Effects, Toxic Material)

Label elements

The following label information is applicable only to the United States according to OSHA Regulations (29 CFR 1910.1200) (Hazcom 2012):

Signal Word

DANGER!

Hazard statement(s)

Extremely flammable aerosol.
Causes eye irritation.
May cause respiratory irritation.
May cause drowsiness and dizziness.
May be fatal if swallowed and enters airways.
Contains gas under pressure – dissolved gas; may explode if heated.
Causes mild skin irritation.

SAFETY DATA SHEET

Precautionary statement(s)

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

IF INHALED: Remove person to fresh air and keep comfortable for breathing.
Call a POISON CENTER or doctor/physician if you feel unwell.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.
Continue rinsing.
If eye and skin irritation persists, get medical advice/attention.
IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
Do NOT induce vomiting.
Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F.
Store in a well-ventilated place. Keep container tightly closed.
Store locked up.
Dispose of contents/container in accordance with local regulation.

The following label information is applicable only to Canada according to the Canadian Controlled Products Regulations (CPR/WHMIS):

Danger! Extremely flammable aerosol. Harmful or fatal if swallowed. Can enter the lungs and cause damage. Harmful if inhaled. May cause respiratory irritation. May cause nausea, vomiting, headache and other central nervous system effects. Causes eye irritation. May cause mild skin irritation.

Precautions: Use only in well-ventilated areas. Wear suitable protective equipment during handling. Avoid breathing vapors or mists. Avoid contact with skin, eyes and clothing. Keep away from heat, sparks and open flame. - No smoking. Avoid contact with strong oxidizing agents. Wash thoroughly after handling. Pressurized container: Do not pierce or burn, even after use. Keep containers tightly closed when not in use. Store in a cool, dry, well-ventilated area, away from heat and ignition sources.

FIRST AID: If inhaled, move to fresh air. If breathing is difficult, give oxygen by qualified medical personnel only. If breathing has stopped, begin artificial respiration. Get medical attention. For skin contact, wash with soap and water while removing contaminated clothing. If irritation persists, seek prompt medical attention. For eye contact, flush with running water for at least 15 minutes. If irritation persists, seek prompt medical attention. If ingested, do not induce vomiting. If vomiting occurs spontaneously, keep head below hips to prevent aspiration of liquid into lungs. Get medical attention.

Refer To Material Safety Data Sheet for further information.

Other hazards

SAFETY DATA SHEET

Other hazards which do not result in classification:
Propellant is a simple asphyxiant. Burning produces noxious and toxic fumes. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. Prolonged skin contact may cause dermatitis (rash), characterized by red, dry, itching skin.

Environmental precautions: See ECOLOGICAL INFORMATION, Section 12.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical name	CAS #	Concentration
Hyrdocarbon Blend*	Blend	**<95%**
Isopropanol	67-63-0	**10.0 - 30.0**
Carbon dioxide	124-38-9	**3.0 - 7.0**

*Note: The exact concentrations of the above listed chemicals are being withheld as a trade secret.

SECTION 4. FIRST-AID MEASURES

Description of first aid measures

Ingestion : Not a likely route of exposure. Seek immediate medical attention/advice. Do not induce vomiting. Never give anything by mouth to an unconscious person. If vomiting occurs spontaneously, keep victim's head lowered (forward) to reduce the risk of aspiration.

Inhalation : Immediately remove person to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen by qualified medical personnel only. Get medical attention.

Skin contact : Remove/Take off immediately all contaminated clothing. Wash exposed area thoroughly with soap and water for at least 15 minutes. If irritation or symptoms develop, seek medical attention.

Eye contact : Immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention.

Most important symptoms and effects, both acute and delayed

: Causes eye irritation.
May cause respiratory irritation.
May cause drowsiness and dizziness.
Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Indication of any immediate medical attention and special treatment needed

: None known. Treat symptomatically. This product is a CNS depressant.

SECTION 5. FIRE-FIGHTING MEASURES

Extinguishing media

Suitable extinguishing media

: Dry chemical, alcohol foam, carbon dioxide and water fog.

Unsuitable extinguishing media

: Do not use a solid water stream as it may scatter and spread fire.

Special hazards arising from the substance or mixture / Conditions of flammability

: Extremely flammable aerosol. Will be ignited by heat, sparks, flame, or other ignition sources. Vapors are heavier than air and collect in confined and low-lying areas. The product is insoluble and floats on water. Closed containers are contained under pressure and may explode if exposed to excess heat for a prolonged period of time.

Flammability classification (OSHA 29 CFR 1910.106)

: Flammable aerosol. - Category 1

Explosion Data: Sensitivity to Mechanical Impact / Static Discharge:

: Not expected to be sensitive to mechanical impact. May be sensitive to static discharge. Vapors in the flammable range may be ignited by a static discharge of sufficient energy.

SAFETY DATA SHEET

Hazardous combustion products

: Carbon oxides ;Nitrogen oxides (NOx) ;Sulphur oxides; Other unidentified organic compounds; irritating fumes and smoke.

Special protective equipment and precautions for firefighters

Protective equipment for fire-fighters

: Firefighters should wear proper protective equipment and self-contained breathing apparatus with full face piece operated in positive pressure mode.

Special fire-fighting procedures

: Move containers from fire area if safe to do so. Water spray may be useful in cooling equipment exposed to heat and flame. Direct water or foam spray may cause frothing which can increase the intensity and range of the fire.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

: All persons dealing with clean-up should wear the appropriate protective equipment including self-contained breathing apparatus. Keep all other personnel upwind and away from the spill/release. Restrict access to area until completion of clean-up. Refer to protective measures listed in sections 7 and 8.

Environmental precautions : Do not allow material to contaminate ground water system. If necessary, dike well ahead of the spill to prevent runoff into drains, sewers, or any natural waterway or drinking supply.

Methods and material for containment and cleaning up

: Ventilate the area. Remove all sources of ignition. Prevent further leakage or spillage if safe to do so. Use only non-sparking tools. Soak up with inert absorbent material. Do not use combustible absorbents, such as sawdust. Pick up and transfer to properly labeled containers. Contaminated absorbent material may pose the same hazards as the spilled product. Contact the proper local authorities.

Special spill response procedures

: If a spill/release in excess of the EPA reportable quantity is made into the environment, immediately notify the national response center in the United States (phone: 1-800-424-8802).
US CERCLA Reportable quantity (RQ): None.

SECTION 7. HANDLING AND STORAGE

Precautions for safe handling

: Wear protective gloves and eye/face protection. Use only in well-ventilated areas. Avoid breathing vapor or mist. Avoid contact with eyes, skin and clothing. Pressurized container: Do not pierce or burn, even after use. Keep away from heat, sparks and open flame. - No smoking. Take precautionary measures against static discharges. Use explosion-proof ventilating equipment. Always replace cap after use. Do not eat, drink or smoke when using this product. Empty containers retain residue (liquid and/or vapor) and can be dangerous. Wash thoroughly after handling.

Conditions for safe storage : Store in a cool, dry, well-ventilated area. Store locked up. Storage area should be clearly identified, clear of obstruction and accessible only to trained and authorized personnel. No smoking. Protect from sunlight. Have appropriate fire extinguishers and spill clean-up equipment in or near storage area.

Incompatible materials : Strong oxidizing agents; Acids; Caustics.

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

SAFETY DATA SHEET

Exposure Limits:

Chemical Name	ACGIH TLV		OSHA PEL	
	TWA	STEL	PEL	STEL
Hydrocarbon Blend	N/Av	N/Av	500 ppm (as petroleum distillates, naphtha)	N/Av
Isopropanol	200 ppm	400 ppm	400 ppm ; 980 mg/m³	N/Av
Carbon dioxide	5000 ppm	30000 ppm	5000 ppm ; 9000 mg/m³	N/Av

Exposure controls

Ventilation and engineering measures
: Provide mechanical ventilation in confined spaces. Use explosion-proof equipment.

Respiratory protection : If the TLV is exceeded, a NIOSH/MSHA-approved respirator is advised.

Skin protection : Gloves impervious to the material are recommended. Advice should be sought from glove suppliers. Wear long sleeved shirt and pants to minimize exposed skin.

Eye / face protection : Chemical splash goggles must be worn when handling this material. A full face shield may also be necessary.

Other protective equipment : Depending on conditions of use, an impervious apron should be worn. An eyewash station and safety shower should be made available in the immediate working area.

General hygiene considerations
: Avoid breathing vapor or mist. Avoid contact with eyes, skin and clothing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Remove and wash contaminated clothing before re-use. Handle in accordance with good industrial hygiene and safety practice.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : Clear liquid, contained in a pressurized aerosol can.

Odor : Petroleum hydrocarbon odor/Solvent.

Odor threshold : No information available.

pH : No information available.

Melting/Freezing point : No information available.

Initial boiling point and boiling range
: 180° F

Flash point : 54° F

Flashpoint (Method) : Liquid

Evaporation rate (BuAe = 1) : >1 Slower than ether.

Flammability (solid, gas) : Extremely flammable Level 3 aerosol

Lower flammable limit (% by vol.)
: 2.1 (propellant) (Lower explosion limit)

Upper flammable limit (% by vol.)
: 8.5 (propellant) (Upper explosion limit)

Oxidizing properties : None known.

Explosive properties : Not explosive.

Vapor pressure : 80-90 psig.

Vapor density : >1 Heavier than air.

SAFETY DATA SHEET

Relative density / Specific gravity

: 0.77 (concentrate)

Solubility in water : Slight

Other solubility(ies) : No information available.

Partition coefficient: n-octanol/water or Coefficient of water/oil distribution

: No information available.

Auto-ignition temperature : No information available.

Decomposition temperature : No information available.

Viscosity : No information available.

Volatiles (% by weight) : No information available.

Volatile organic Compounds (VOC's)

: No information available.

Absolute pressure of container

: No information available.

Flame projection length : > 15 cm and < 100 cm

Other physical/chemical comments

: Chemical heat of combustion: 34 kJ/g

SECTION 10. STABILITY AND REACTIVITY

Reactivity : Not normally reactive.

Chemical stability : Stable under normal storage and handling conditions.

Possibility of hazardous reactions

: Hazardous polymerisation does not occur.

Conditions to avoid : Avoid heat and open flame. Do not use in areas without adequate ventilation. Avoid contact with incompatible materials.

Incompatible materials : None known.

Hazardous decomposition products

: None known, refer to hazardous combustion products in Section 5.

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure:

Routes of entry inhalation : YES

Routes of entry skin & eye : YES

Routes of entry Ingestion : YES

Routes of exposure skin absorption

: NO

Potential Health Effects:

Signs and symptoms of short-term (acute) exposure

Sign and symptoms Inhalation

: May cause irritation to the nose, throat and upper respiratory tract. Exposure to high vapor concentration can cause dizziness, nausea and central nervous system depression. Saturated vapors can be encountered in confined spaces and/or under conditions of poor ventilation. Propellant is a simple asphyxiant. May displace oxygen in breathing air and lead to suffocation and death, particularly in confined spaces.

Sign and symptoms ingestion

SAFETY DATA SHEET

: Not an expected route of entry under normal conditions of use. However, if the product is sprayed directly into mouth and large amounts of the liquid concentrate are swallowed, it may cause irritation to the mouth, throat and stomach. May cause central nervous system depression. Aspiration into the lungs during swallowing or subsequent vomiting may cause chemical pneumonitis, which can be fatal.

Sign and symptoms skin : May cause mild skin irritation. If product is sprayed directly on skin, symptoms of frostbite may be experienced including numbness, prickling and itching.

Sign and symptoms eyes : May cause moderate to severe irritation. If product is sprayed directly into the eyes, could cause freezing of the eye.

Potential Chronic Health Effects

: Prolonged skin contact may cause dermatitis (rash), characterized by red, dry, itching skin. Prolonged overexposure to product can result in permanent central nervous system changes. May cause lung inflammation and lung damage with extreme exposures.

Mutagenicity : Not expected to be mutagenic in humans.

Carcinogenicity : No components are listed as carcinogens by ACGIH, IARC, OSHA or NTP.

Reproductive effects & Teratogenicity

: Not expected to have other reproductive effects.

Senitization to material : Not expected to be a skin or respiratory sensitizer.

Specific target organ effects : Eyes, skin, respiratory system, digestive system, central nervous system. The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with narcotic effects. The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Irritancy : Moderate to severe eye irritant. Mild skin irritant.

Medical conditions aggravated by overexposure

: None known or reported by the manufacturer.

Synergistic materials : None known or reported by the manufacturer.

Toxicological data : The calculated ATE values for this mixture are:
ATE oral = 15,748 mg/kg
ATE dermal = 6452 mg/kg
ATE inhalation (mists) = 5.23 mg/L/4H

See below for individual ingredient acute toxicity data.

Chemical name	LC_{50}(4hr) inh, rat	LD_{50} (Oral, rat)	LD_{50} (Rabbit, dermal)
Hydrocarbon Blend	>5.28 mg/L	>5000 mg/kg	>2000 mg/kg
Isopropanol	17000 ppm 41.8 mg/L	4720 mg/kg	12890 mg/kg
Carbon dioxide	N/Av	N/Ap	N/Ap

Other important toxicological hazards

: None known or reported by the manufacturer.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity : No data is available on the product itself. The product contains the following substances which are hazardous for the environment: Hydrocarbon blend. All other ingredients in these products are not considered acutely toxic for the environment, or are at such low levels they do not affect environmental toxicity.

SAFETY DATA SHEET

Persistence and degradability

: The product itself has not been tested. Contains: Isopropanol; Hydrocarbon blend. Isopropanol is considered to be readily biodegradable. The Hydrocarbon blend is considered to be readily biodegradable.

Bioaccumulation potential : The product itself has not been tested. Contains: Isopropyl alcohol. The log Kow for isopropyl alcohol is 1.0 and its Bioconcentration Factor (BCF) is 0.05.

Mobility in soil : The product itself has not been tested.

Other Adverse Environmental effects

: None known.

SECTION 13. DISPOSAL CONSIDERATIONS

Handling for Disposal : Handle in accordance with good industrial hygiene and safety practice. Refer to protective measures listed in sections 7 and 8. Empty containers retain residue (liquid and/or vapor) and can be dangerous. Do not cut, weld, drill or grind on or near this container.

Methods of Disposal : Dispose of in accordance with federal, provincial and local hazardous waste laws. Contact your local, state or federal environmental agency for specific rules. For assistance with your waste management needs, contact EMCO's Waste Services Division at (262) 658-4000.

RCRA : If this product, as supplied, becomes a waste in the United States, it may meet the criteria of a hazardous waste as defined under RCRA, Title 40 CFR 261. It is the responsibility of the waste generator to determine the proper waste identification and disposal method. For disposal of unused or waste material, check with local, state and federal environmental agencies.

SECTION 14. TRANSPORTATION INFORMATION

Regulatory Information	UN Number	UN proper shipping name	Transport hazard class(es)	Packing Group	Label
49CFR/DOT	UN1950	Aerosols	ORM-D	none	ORM-D
49CFR/DOT Additional information	Domestic US ground shipments may be shipped as Consumer Commodity, ORM-D. Refer to 49CFR section 173.306 for additionial information.				
TDG	UN1950	AEROSOLS	2.1	none	
TDG Additional information	Within Canada, the Limited Quantity Exemption may apply for containers which hold specific quantities of the product. Under the TDGR, refer to section 1.17 for Limited Quantity Exemption information, if shipping under this exemption.				

Special precautions for user : Appropriate advice on safety must accompany the package. Keep away from heat, sparks and open flame. - No smoking.

Environmental hazards : This product does not meet the criteria for an environmentally hazardous mixture, according to the IMDG Code. See ECOLOGICAL INFORMATION, Section 12.

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

: This information is not available.

SECTION 15. REGULATORY INFORMATION

US Federal Information:

SAFETY DATA SHEET

TSCA: All listed ingredients appear on the Toxic Substances Control Act (TSCA) inventory or are exempt.

US CERCLA Reportable quantity (RQ): None.

SARA TITLE III: Sec. 302, Extremely Hazardous Substances, 40 CFR 355: No Extremely Hazardous Substances are present in this material.

SARA TITLE III: Sec. 311 and 312, MSDS Requirements, 40 CFR 370 Hazard Classes: Fire Hazard; Immediate (Acute) health hazard; Chronic Health Hazard. Under SARA Sections 311 and 312, the EPA has established threshold quantities for the reporting of hazardous chemicals. The current thresholds are 500 pounds for the threshold planning quantity (TPQ), whichever is lower, for extremely hazardous substances and 10,000 pounds for all other hazardous chemicals.

SARA TITLE III: Sec. 313, Toxic Chemicals Notification, 40 CFR 372: This product may be subject to SARA notification requirements, since it contains Toxic Chemical constituents above their de minimus concentrations. This product contains: Isopropanol.

US State Right to Know Laws:

California Proposition 65: To the best of our knowledge, this product does not contain any chemicals known to the State of California to cause cancer or reproductive harm.

Other U.S. State "Right to Know" Lists: The following chemicals are specifically listed by individual States: Isopropanol (MA, MN, NJ, CA, PA, RI)

Canadian Information:

Canadian Environmental Protection Act (CEPA) information: All ingredients listed appear on the Domestic Substances List (DSL).

WHMIS information: Refer to Section 2 for a WHMIS Classification for this product.
This product has been classified according to the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR.

International Information:

European EINECs information: All ingredients listed appear on the European EINECs inventory.

SECTION 16. OTHER INFORMATION

Legend :
ACGIH: American Conference of Governmental Industrial Hygienists
ATE: Acute Toxicity Estimate
CAS: Chemical Abstract Services
IARC: International Agency for Research on Cancer
Inh: Inhalation
N/Ap: Not Applicable
N/Av: Not Available
NIOSH: National Institute of Occupational Safety and Health
OSHA: Occupational Safety and Health Administration
PEL: Permissible exposure limit
RTECS: Registry of Toxic Effects of Chemical Substances
SDS: Safety Data Sheet
STEL: Short Term Exposure Limit
TDG: Canadian Transportation of Dangerous Goods Act & Regulations
TLV: Threshold Limit Values TWA:
Time Weighted Average TSCA:
Toxic Substance Control Act
WHMIS: Workplace Hazardous Materials Identification System

References :
1. ACGIH, Threshold Limit Values and Biological Exposure Indices for 2012.
2. International Agency for Research on Cancer Monographs, searched 2013.
3. Canadian Centre for Occupational Health and Safety, CCInfoWeb databases (Chempendium, HSDB and RTECs). (2013)
4. Material Safety Data Sheets from manufacturer.
5. US EPA Title III List of Lists - October 2012.
6. California Proposition 65 List - 4 January 2013

SAFETY DATA SHEET

Preparation Date

: 08/11/2007

Reviewed Date SDS

: **12/09/2015**

Revision No. : 5

Revision Information : (M)SDS sections updated: All (format change)

Other special considerations for handling

: Provide adequate information, instruction and training for operators.

HMIS Rating : *- Chronic hazard 0 - Minimal 1 - Slight 2 - Moderate 3 - Serious 4 - Severe

Health: 2 *Flammability:* 3 *Reactivity:* 0

NFPA Rating

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

: *Health:* 2 *Flammability:* 3 *Instability:* 0 *Special Hazards:* X

Prepared for: Direct all enquiries to: Sea Foam Sales Company 12987 Pioneer Trail Eden Prairie, MN, USA 55347 Telephone: (952) 938-4811	

SAFETY DATA SHEET

In accordance with 453/2010 and 1272/2008

(All references to EU regulations and directives are abbreviated into only the numeric term)

Issued 2015-09-02

Replaces issued SDS 2015-08-26

BJÖRNAX
SMOKE PRODUCTS

SMOKE BOMB

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier

Trade name **MINIAX, MINIAX KS, VENTILAX**

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

Identified uses Smoke for leakage tests and air flow studies

1.3. Details of the supplier of the safety data sheet

Company BJÖRNAX AB
Ringshyttan
Gruvstugan 729
SE-71393 Nora
Sweden

Telephone +46 581 43150

E-mail info@bjornax.se

1.4. Emergency telephone number

In case of emergency contact toxicological information, emergency tel 112.

For non-emergency poison information, see http://www.who.int/gho/phe/chemical_safety/poisons_centres/en/

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

Classification in accordance with 1272/2008

Irritates eyes (Category 2)

Harmful to aquatic life with long-lasting effects (Category Cron 3)

2.2. Label elements

Label information in accordance with 1272/2008

Hazard pictograms

Signal words	Warning
Hazard statements	
H319	Causes serious eye irritation
H412	Harmful to aquatic life with long lasting effects
Precautionary statements	
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking
P273	Avoid release to the environment
P280	Wear eye protection

2.3. Other hazards

The product produces smoke which can cause irritation upon contact with the eyes or inhalation under conditions of long periods of exposure or incorrect use. In case of uncertainty about how the product should be used, please contact the manufacturer or the company from which the product was originally purchased.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

This product is composed of a mixture of several solid substances.

3.2. Mixtures

Note that the table shows known hazards of the ingredients in a pure form. These hazards are reduced or eliminated when mixed or diluted, see Section 16d.

Constituent	Classification	Concentration
AMMONIUM CHLORIDE		
CAS No 12125-02-9 EC No 235-186-4 Index No 017-014-00-8	Acute Tox 4*oral*, Eye Irrit 2; H302, H319	31.7%
POTASSIUM CHLORATE		
CAS No 3811-04-9 EC No 223-289-7 Index No 017-004-00-3	Aquatic Chronic 2, Acute Tox 4*dust*, Acute Tox 4*oral*, Ox Sol 1; H411, H332, H302, H271	24.9%

Explanations to the classification and labelling of the ingredients are given in Section 16e. Official abbreviations are printed in normal font. Text in italics are specifications and/or complement used in the calculation of the hazards of this mixture, see Section 16b.
Also contains component(s) not necessary to label.

SECTION 4: FIRST AID MEASURES

4.1. Description of first aid measures

Generally

No special measures are considered to be necessary. If symptoms do occur however, call a doctor/physician.

Upon breathing in

Inhalation of chemicals from the product in normal use is not appropriate. For generated smoke: In the case of overexposure to generated smoke, move the affected person to fresh air. If symptoms persist, consult a doctor.

Upon contact with the eyes

Eye contact with chemicals from the product in normal use is not appropriate. For generated smoke: If symptoms occur, Flush with lukewarm water with the eye or eyes wide open. If symptoms persist, consult a doctor. In the case of a broken or tampered product, the procedure for the constituent chemicals is as follows: Flush immediately with lukewarm water for 15 - 20 min with the eye or eyes wide open. If symptoms persist, consult a doctor.

Upon skin contact

Skin contact with chemicals from the product in normal use is not appropriate. In case of broken or tampered products the procedure for the constituent chemicals is as follows: Wash the skin with soap and water.

Upon ingestion

First rinse the mouth thoroughly with a lot of water and SPIT OUT the water. Then drink at least 1/2 liter of water and call a doctor/physician. Do NOT induce vomiting.

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

Information on symptoms are ambiguous or missing for this product.

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

Symptomatic treatment.

SECTION 5: FIRE-FIGHTING MEASURES

5.1. Extinguishing media

Recommended extinguishing agents

Extinguish with water.

Unsuitable extinguishing agents

Must not be extinguished with foam, powder or carbon dioxide.

5.2. Special hazards arising from the substance or mixture

In case of fire, substances hazardous to health, or substances harmful in other respects, may be dispersed.
Combustible solid.

5.3. Advice for fire-fighters

In case of fire use a respirator mask.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Avoid discharge into sewers.

6.2. Environmental precautions

Not applicable

6.3. Methods and material for containment and cleaning up

Collect.

Residues left behind after cleaning shall be treated as hazardous waste. For further information, contact the local authority sanitisation works. Present this safety data sheet.

6.4. Reference to other sections

See section 8 and 13 for personal protection equipment and disposal considerations.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

This product should be stored well out of reach of young children and kept safely apart from products intended for consumption.

When using, place the product on an incombustible base and check that the product has gone out completely before it is discarded.

7.2. Conditions for safe storage, including any incompatibilities

Handle in premises with modern ventilation standards, store in a dry place.

Must not be stored in the vicinity of combustible material.

Keep away from moisture.

Store only in the original package.

7.3. Specific end uses

Not relevant.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

8.1.1. National limit values, United Kingdom

All ingredients (cf. Section 3) lack occupational exposure limit values.

8.2. Exposure controls

In terms of minimizing risks, attention must be paid to the health hazards (see Sections 2, 3 and 10) of this product or any of its ingredients according to EU directives 89/391 and 98/24 and national occupational legislation.

Eye protection should be worn if there is any danger of direct exposure or splashing.

Dust filter IIb (P2) may be required.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

a)	Appearance	Form: Solid article Colour: white
b)	Odour	No smell or uncharacteristic smell
c)	Odour threshold	Not applicable
d)	pH	Not applicable
e)	Melting point/freezing point	Not applicable
f)	Initial boiling point and boiling range	Not applicable
g)	Flash point	Not applicable
h)	Evaporation rate	Not applicable
i)	Flammability (solid, gas)	Not applicable
j)	Upper/lower flammability or explosive limits	Not applicable
k)	Vapour pressure	Not applicable
l)	Vapour density	Not applicable
m)	Relative density	Not applicable
n)	Solubility	Not applicable

o) Partition coefficient: n-octanol/water	Not applicable
p) Auto-ignition temperature	> 200 °C
q) Decomposition temperature	Not applicable
r) Viscosity	Not applicable
s) Explosive properties	Not applicable
t) Oxidising properties	Not applicable

9.2. Other information

No data available

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity

The product contains no substances which can lead to hazardous reactions at normal use.

10.2. Chemical stability

The product is stable at normal storage and handling conditions.

10.3. Possibility of hazardous reactions

Not indicated

10.4. Conditions to avoid

Avoid heat, sparks and open flames.

10.5. Incompatible materials

Avoid mixing with organic material.

10.6. Hazardous decomposition products

Not indicated

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Acute effects

The mixture has not been tested as a whole but considered to be a non-acutely toxic substance, based on the full information on the toxicity of all the ingredients.

Harmfulness

The product is a health hazard.

Corrosive and irritating effects

Irritant on eyes, skin, mucous membranes and the upper respiratory tract.

Relevant toxicological properties

AMMONIUM CHLORIDE

LD50 rat (Orally) 24h = 1650 mg/kg

POTASSIUM CHLORATE

LD50 rabbit (Dermally) 24h > 2000 mg/kg

LD50 rat (Orally) 24h = 1870 mg/kg

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Contains substance that is toxic to herbs. Prevent discharge to soil, water and air.

For environmental impact, see also Section 2.

12.2. Persistence and degradability

No information about persistence or degradability exists but there is no reason to suppose that the product is persistent.

12.3. Bioaccumulative potential

No information exists on bioaccumulation, but there is no cause for concern in respect of this.

12.4. Mobility in soil

No information about mobility in the nature exists but there is no reason to suppose the product to be ecologically harmful because of this.

12.5. Results of PBT and vPvB assessment

No chemical safety report has been executed.

12.6. Other adverse effects

Not indicated

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Waste handling for the product

The product after use is not classed as hazardous waste. Unused or broken products are classed as hazardous waste.

Classification according to 2006/12

Recommended LoW-code: 16 03 03 Inorganic wastes containing dangerous substances.

Recycling of the product

Not indicated

SECTION 14: TRANSPORT INFORMATION

Where not otherwise stated the information applies to all of the UN Model Regulations, i.e. ADR (road), RID (railway), ADN (inland waterways), IMDG (sea), and ICAO (IATA) (air).

14.1. UN number

Not classified as dangerous goods

14.2. UN proper shipping name

Not applicable

14.3. Transport hazard class(es)

Not applicable

14.4. Packing group

Not applicable

14.5. Environmental hazards

Not applicable

14.6. Special precautions for user

Not applicable

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

Not applicable

14.8 Other transport information

Stowage category not indicated.

Emergency Schedule (EmS) for FIRE (IMDG) Not indicated.

Emergency Schedule (EmS) for SPILLAGE (IMDG) Not indicated.

SECTION 15: REGULATORY INFORMATION

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

Not applicable.

15.2. Chemical safety assessment

Assessment and chemical safety report in accordance with 1907/2006 Annex I has not yet been performed.

SECTION 16: OTHER INFORMATION

16a. Indication of where changes have been made to the previous version of the safety data sheet

Revisions of this document

Earlier versions

2015-08-26 The composition of this product was changed

2013-03-26 The composition of this product was changed

2012-06-01 The composition of this product was changed

16b. Legend to abbreviations and acronyms used in the safety data sheet

Full texts for Hazard Class and Category Code mentioned in section 3

No phys haz	Non-assigned physical hazard
Acute Tox 4*oral*	Acute toxicity (Category 4 oral)
Eye Irrit 2	Irritates eyes (Category 2)
Aquatic Chronic 2	Toxic to aquatic life with long lasting effects (Category Cron 2)
Acute Tox 4*dust*	Acute toxicity (Category 4 dust)

Ox Sol 1 Oxidising solids (Verified Category 1)

Comprehensive definition of the hazards mentioned in Section 2

Eye Irrit 2

If, when applied to the eye of an animal, a substance produces at least in 2 of 3 tested animals, a positive response of:

- corneal opacity >= 1 and/or
- iritis >= 1, and/or
- conjunctival redness >= 2 and/or
- conjunctival oedema (chemosis) >= 2

calculated as the mean scores following grading at 24, 48 and 72 hours after installation of the test material, and which fully reverses within an observation period of 21 days

Aquatic Chronic 3

Chronic (long-term) aquatic hazard. 96 hr LC50 (for fish) 10-100 mg/l and/or

48 hr EC50 (for crustacea) 10-100 mg/l and/or

72 or 96 hr ErC50 (for algae or other aquatic plants) 10-100 mg/l and the substance is not rapidly degradable and/or the experimentally determined BCF >= 500 (or, if absent, the log Kow >= 4) unless the chronic toxicity NOECs are > 1 mg/l

Explanations of the abbreviations in Section 14

ADR European Agreement concerning the International Transport of Dangerous Goods by Road

RID Regulations concerning the International Transport of Dangerous Goods by Rail

ADN European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways

IMDG International Maritime Dangerous Goods Code

ICAO International Civil Aviation Organization (ICAO, 999 University Street, Montreal, Quebec H3C 5H7, Canada)

IATA The International Air Transport Association

16c. Key literature references and sources for data

Sources for data

Primary data for the calculation of the hazards has preferentially been taken from the official European classification list, 1272/2008 Annex I , as updated to 2015-09-02.

Where such data was lacking, on the second hand the documentation on which this official classification is based was used, e.g. IUCLID (International Uniform Chemical Information Database). On the third hand, information was used from reputable international chemical suppliers, and on the fourth hand from other available information, e.g. safety data sheets from other suppliers or information from non-profit associations, whereby the reliability of the source was judged by an expert. If, in spite of this, reliable information was not found, the hazards were judged by expert opinions based on the known properties of similar substances, and according to the principles in 1907/2006 and 1272/2008.

Full texts for Regulations mentioned in this Safety Data Sheet

453/2010 COMMISSION REGULATION (EU) No 453/2010 of 20 May 2010 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)

1272/2008 REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006

89/391 COUNCIL DIRECTIVE (89/391/EEC of 12 June 1989 on the introduction of measures to encourage improvements in the safety and health of workers at work

98/24 COUNCIL DIRECTIVE 98/24/EC of 7 April 1998 on the protection of the health and safety of workers from the risks related to chemical agents at work (fourteenth individual Directive within the meaning of Article 16(1) of Directive 89/391/EEC)

2006/12 DIRECTIVE 2006/12/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 5 April 2006 on waste

1907/2006 REGULATION (EC) No 1907/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC Annex I

16d. Methods of evaluating information referred to in 1272/2008 Article 9 which was used for the purpose of classification

The calculation of the hazards of this mixture has been performed as an evaluation by applying a weight of evidence determination using expert judgement in accordance with 1272/2008 Annex I, weighing all available information having a bearing on the determination of the hazards of the mixture, and in accordance with 1907/2006 Annex XI.

16e. List of relevant hazard statements and/or precautionary statements

Full texts for hazard statements mentioned in section 3

H302 Harmful if swallowed

H319 Causes serious eye irritation

H411 Toxic to aquatic life with long lasting effects

H332 Harmful if inhaled

H271 May cause fire or explosion; strong oxidiser

16f. Advice on any training appropriate for workers to ensure protection of human health and the environment

Other relevant information

Editorial information

This safety data sheet has been generated by the program KemRisk®, KemRisk Sweden AB, Teknikringen 10, SE-583 30 Linköping, Sweden.

KONICA MINOLTA

MATERIAL SAFETY DATA SHEET

MSDS No.:MFP-0111

Product Name: TONER TN211

Prepared Date:22-Sep-2004
Revised Date: 5-Aug-2010

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: TONER TN211
used for: bizhub 250/200, 282/222

Supplier Identification:
Konica Minolta Business Solutions Australia Pty. Ltd.
4 Drake Avenue, Macquarie Park NSW 2113, Australia
Telephone: (02) 8026 2222 Facsimile: (02) 8026 3266

Contact Point
National Service Manager
Telephone: (02) 8026 2222 Facsimile: (02) 8026 3266
For emergency enquiries, please contact Konica Minolta Australia during Monday to Friday from 9.00am - 5.00pm.

2. HAZARDS IDENTIFICATION

Classification: Not classified as dangerous. (1999/45/EC)

Emergency Overview: Black powder (mean dia. is 5-10um by volume). Almost oderless.

Most Important Hazards and Effects of the Products

Ingestion Effect: None currently known.

Inhalation Effect: None currently known. Minimal respiratory tract irritation may occur as with exposure to large amount of any non-toxic dust.

Eye Effect: None currently known.

Skin Effect: None currently known.

Chronic Effects: Prolonged inhalation of excessive dusts may cause lung damage. Use of this product, as intended, does not result in inhalation of excessive dust.

Environment Hazards: No data are available on the adverse effects of this product on the environment.

Specific Hazards: Dust explosion(like most finely divided organic powders)

Product Name: TONER TN211

Prepared Date:22-Sep-2004
Revised Date: 5-Aug-2010

3. COMPOSITION / INFORMATION ON INGREDIENTS

Substance [ ] Preparation [X]

Major Ingredients:

[Generic Name]	[CAS No.]	[%]
Styrene acrylic resin	+++	80-90
Wax	+++	5-12
Carbon black	1333-86-4	5-12
Amorphous silica	7631-86-9	< 2
Titanium dioxide	13463-67-7	< 1
Titanium compound	12060-59-2	< 1

+++: Supplier's confidential information

Hazardous Ingredients:

Chemical Name: Carbon black (1-10%)

CAS No.: 1333-86-4 EEC-No.: 215-609-9
OSHA Z-Tables(USA): 3.5mg/m3 ACGIH-TLV(USA): 3.5mg/m3
NTP(USA): Not listed IARC Monographs: Group 2B
California Proposition 65(USA): Listed
Symbol(EC): Not listed R-Phrase(EC): Not listed
DFG-MAK(GER): III 3B Worksafe-TWA(Austl): 3mg/m3

4. FIRST-AID MEASURES

Ingestion: Wash out mouth with water. Drink one or two glasses of water. If symptoms occur, get medical attention.

Inhalation: Move victim to fresh air immediately. If symptoms occur, get medical attention.

Eye Contact: Immediately flush eyes with plenty of water for 15 minutes. If symptoms occur, get medical attention.

Skin Contact: Wash with water and mild soap.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media: CO2, water spray, foam and dry chemical

Extinguishing Media to Avoid: Full water jet

Fire and Explosion Hazards: If dispersed in air, like most finely divided organic powders, may form an explosive mixture.

Protection of Firefighters: Use self-contained breathing apparatus(SCBA).

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions: None

Environmental Precautions: None

Methods for Cleaning Up: Wear personal protective equipment (See Section 8). Vacuum or sweep material and place in a bag and hold for waste disposal. Use vacuum equipped with High Efficiency Particulate Air(HEPA) filter. Vacuum should be electrically bonded and grounded to dispel static electricity. To avoid dust generation, do not sweep dry.

7. HANDLING AND STORAGE

Handling

Technical Measures: None

Precautions: Do not breathe dust. Avoid contact with eyes.

Safe Handling Advice: Try not to disperse the particulates.

Storage

Technical Measures: None

Storage Conditions: Keep container closed. Store in a cool and dry place. Keep out of reach of children.

Incompatible Products: None

Packaging Materials: Bottles or Cartridge designated by Konica Minolta.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Measures

Ventilation: None required with intended use.

Control Parameters(As total dust)

OSHA-PEL(USA): 15mg/m3 ACGIH-TLV(USA): 10mg/m3

DFG-MAK(GER): 4mg/m3 Worksafe-TWA(Austl.): 10mg/m3

Personal Protective Equipment

Not required under normal conditions. For use other than in normal operating procedures (such as in the event of large spill), goggles and respirators may be required.

Hygiene Measures: Wash hands after handling.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Physical State: Solid Color: Black

Form: Powder (mean dia. is 5-10um by volume)

Odor:	Almost oderless
PH	Not applicable
Boiling Point(°C):	Not applicable
Melting Point(°C)/[F]:	Around 125 /[] (Softening Point)
Flash Point(°C):	Not applicable
Ignition Temperature(°C):	No data available
Explosion Properties:	No data available
Vapor Pressure:	Not applicable

Specific Gravity: 1.2
Solubility: Insoluble in water.
Partition Coefficient, n-Octanol/Water: Not applicable

10. STABILITY AND REACTIVITY

Stability: Stable except above 200C(392F).
Hazardous Reactions: Dust explosion, like most finely divided organic powders.
Conditions to avoid: Electric discharge, throwing into fire.
Materials to Avoid: Oxidizing materials.
Hazardous Decomposition Products: CO, CO2, NOx and smoke.
Hazardous Polymerization: Will not occur.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity:

Ingestion(oral), LD50(mg/kg): >2000(Rat) *
Dermal, LD50(mg/kg): No data available
Inhalation, LC50(mg/l): >5.14(Rat,4hour) *
(This was the highest attainable concentration.)
Eye irritation: Minimal irritant(Rabbit) *
Skin irritation: Non irritant(Rabbit) *

Skin sensitizer: Non sensitizer (Guinea pig) *
Local Effects: see Chronic Toxicity or Long term Toxicity
Chronic Toxicity or Long Term Toxicity:

In a two-year inhalation study of chronic toxicity and carcinogenicity using a typical toner in rats, there were no lung changes at all in the lowest exposure level (1mg/m3), the most relevant level to potential human exposures. A minimal to mild degree of fibrosis was noted in 22% of the animals at the middle exposure level (4mg/m3), and a mild to moderate degree of fibrosis was observed in 92% of the rats at the highest exposure level(16mg/m3). The lung changes observed in the higher exposure groups are interpreted in terms of "lung overloading", a series of generic responses to the presence of large quantities of respirable, insoluble and relatively benign dusts retained for extended time periods in the lungs. Lung tumor frequency was unchanged among rats exposed to toner at the three exposure levels, and for air-only control rats.

Carcinogenicity

In 1996 the IARC reevaluated carbon black as a Group 2B carcinogen (possible human carcinogen). This evaluation is given to Carbon Black for which there is inadequate human evidence, but sufficient animal evidence. The latter is based upon the development of lung tumors in rats receiving chronic inhalation exposures to free carbon black at levels that induce particle overload of the lung.
Studies performed in animal models other than rats have not demonstrated an association between carbon black and lung tumors. Moreover, a two-year

cancer bioassay using a typical toner preparation containing carbon black demonstrated no association between toner exposure and tumor development in rats.

Mutagenicity: Negative(AMES test)

(*= Based on data for other Konica Minolta Products with similar ingredients)

12. ECOLOGICAL INFORMATION

No data are available on the adverse effects of this material on the environment.

Ecotoxicity: No data available

Mobility: No data available

Persistence and degradability: No data available

Bioaccumulative potential: No data available

13. DISPOSAL CONSIDERATION

When disposing of the waste or recovered material, consult federal, state and/or local regulations for the proper disposal method.

14. TRANSPORT INFORMATION

Information on Code and Classifications According to International Regulations

UN Classification: None

15. REGULATORY INFORMATION

US Information

Information on the label: Not required

TSCA(Toxic Substances Control Act):

All chemical substances in this product comply with all applicable rules or order under TSCA.

California Proposition 65:

Ingredient carbon black subject to California Proposition 65 is bound in polymer-matrices so that warnings are not required.

EU Information

Information on the label (1999/45/EC and 67/548/EEC): Not required

Article14 (2.1) of Directive 1999/45/EC is not applicable to this product.

16. OTHER INFORMATION

HMIS Rating: The National Paint and Coating Association(USA):

Health: 1 Flammability: 1 Reactivity: 0

Recommended Uses: Toner for Electrophotographic Equipment

Explanation of term: IARC 2B means "possible human carcinogen".

Revision Information: Regular revision on revised date.

Literature References:

ANSI Z400.1-1993
ISO 11014-1
Commission Directive 91/155/EEC
IARC(1996): IARC monographs on the Evaluation of the Carcinogenic Risk of Chemicals to Humans, Vol. 65, Printing Process and Printing Inks, Carbon Black and Some Nitro Compounds, Lyon, pp.149-261

H.Muhle, B.Bellmann, O.Creutzenberg, C.Dasenbrock, H.Ernst, R.Kilpper, J.C.MacKenzie, P.Morrow, U.Mohr, S.Takenaka, and R.Mermelstein(1991) Pulmonary Response to Toner upon Chronic Inhalation Exposure in Rats. Fundamental and Applied Toxicology 17, pp.280-299.

Restrictions:

The above information is believed to be accurate and represents the best information currently available to Our Corporation. However, Our Corporation makes no warranty with respect to such information, and Our Corporation assumes no liability resulting from its use. Users should make their own investigation to determine the suitability of the information for their particular purposes.

turtle wax, inc
625 Willowbrook Ctr Pkwy
Willowbrook, Illinois 60527

Material Safety Data Sheet

1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME	**TURTLE WAX OXY POWER OUT UPHOLSTERY CLEANER**
PRODUCT CODE	**T-246R1**
CHEMICAL FAMILY	Carpet & Upholstery Cleaner
CHEMICAL NAME	Mixture: Water, Surfactant, Silicone, Co-solvent
FORMULA	Mixture

MANUFACTURER

Turtle Wax, Inc.
625 Willowbrook Centre Parkway
Willowbrook, IL 60527
Phone: 630-455-3700
Fax: 630-455-3868

EMERGENCY TELEPHONE NUMBERS

Transportation:
CHEMTREC: 800-424-9300
Medical:
Contact your local Poison Control Center

2. POSITION/INFORMATION ON INGREDIENTS

COMPONENT	CAS NUMBER	CONCENTRATION (wt %)
Isobutane (Liquified Petroleum Gas)	75-28-5	1-3%
Propane (Liquified Petroleum Gas)	74-98-6	1-3%
Petroleum Distillates (Stoddard Solvent)	8052-41-3	1-3%

EXPOSURE LIMITS 8 hrs. TWA(ppm)

	OSHA PEL	ACGIH TLV	CARCINOGEN (OSHA,NPT,IARC)
Isobutane (Liquified Petroleum Gas)	1000ppm	1000ppm	No
Propane (Liquified Petroleum Gas)	1000ppm	1000ppm	No
Petroleum Distillates (Stoddard Solvent)	100ppm	100ppm	No

3. HAZARDS IDENTIFICATION

POTENTIAL HEALTH EFFECTS

INHALATION: Repeated or excessive inhalation of vapor can cause irritation, dizziness, and nausea. Intentional misuse by deliberately concentrating and inhaling vapors, may be harmful or fatal. No chronic effects known.

INGESTION: Can cause digestive system upsets and nausea. Avoid sucking into lungs. No chronic effects known.

SKIN CONTACT: Can cause irritation. No chronic effects known.

EYE CONTACT: Flush with water for 15 minutes. Get medical attention if effects persist.

4. FIRST AID MEASURES

EYE: Flush with water for 15 minutes. Get medical attention if effects persist.

SKIN: Remove contaminated clothing. Wash effected areas thoroughly with soap and water. Launder clothing before re-use.

INHALATION: Remove to fresh air. Use artificial respiration and oxygen if needed.

INGESTION: Rinse mouth. Never give anything orally to someone who is unconscious. Give several large classes of water to drink. Do not induce vomiting. If liquid is sucked into lungs, get prompt medical attention.

5. FIRE FIGHTING MEASURES

FLASH POINT: Sprayed vapors can be ignited with a flame. Flame length 14 – 16 inches or less with no flash back to nozzle by CPSC test [16 CFR 1500.3(b)(6)(viii)] is rated non-flammable.
NFPA 30: Aerosol Level 1

EXTINGUISHING MEDIA: Water Spray, Alcohol Foam, Carbon Dioxide, Dry Chemical

SPECIAL FIRE FIGHTING PROCEDURES: Aerosol cans, under pressure, can explode when heated above 140°F (60°C) and become projectiles. Treat contents as flammable liquid/explosive vapor fire. Keep unignited containers cool with water. Vapors, that are heavier that air, can collect in low areas and may travel to distant source of ignition and flashback. Avoid flow of material to sewers. See Sec. 8 for personal protection.

6. ACCIDENTIAL RELEASE MEASURES

SPILL OR LEAK PROCEDURES: Remove all ignition sources. Provide good ventilation. Take up spills and put into closed containers. Avoid flow to sewers. Floors may be slippery. See Section 8 for other protective measures.

7. HANDLING AND STORAGE

STORAGE TEMPERATURE (MIN./MAX.): 32° F (0° C)/120° F (49° C)

SHELF LIFE: 7 years minimum when the original container is kept tightly closed and properly stored.

SPECIAL SENSITIVITY: None.

HANDLING AND STORAGE PRECAUTIONS: Store in cool and ventilated places, but avoid freezing. Do not store above 120°F (49°C).

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

EYE PROTECTION REQUIREMENTS: Wear goggles. Have convenient eye wash stations.

SKIN PROTECTION REQUIREMENTS: Wear chemical resistant gloves and other clothing as needed to prevent exposure.

RESPIRATOR/VENTILATION REQUIREMENTS: Provide sufficient ventilation to avoid exposure levels above the established TLV.

EXPOSURE LIMITS: Not established for product as whole.

9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL FORM: Pressurized container

COLOR: Clear liquid dispensed as a foam

ODOR: typical

BOILING POINT: n/av

MELT / FREEZE POINT: n/av

PH: 9.8

SOLUBILITY IN WATER: Complete

SPECIFIC GRAVITY: 0.992

% NON-VOLATILE BY WEIGHT: 4.5%

VAPOR PRESSURE: 55 PSIG @ 70ºF

VAPOR DENSITY: n/av

10. REACTIVITY

STABILITY: Stable

HAZARDOUS POLYMERIZATION: .Does not occur

INCOMPATIBILITIES: **DECOMPOSITION PRODUCTS:** When burned: CO, CO2, Hydrocarbons

11. TOXICOLOGICAL INFORMATION

ACUTE INHALATION: Can cause irritation, dizziness, and nausea

CHRONIC INHALATION: None known

ACUTE SKIN CONTACT: Can cause irritation, de-fatting, or dermatitis

CHRONIC SKIN CONTACT: .None known

ACUTE EYE CONTACT: Causes irritation

12. ECOLOGICAL INFORMATION

No data available.

13. DISPOSAL CONSIDERATIONS

RCRA Hazardous Waste: Is not a RCRA hazardous waste.

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

14. TRANSPORT INFORMATION

DOT INFORMATION:

PROPER SHIPPING NAME:	Consumer Commodity
TECHNICAL SHIPPING NAME:	Aerosols (Non-Flammable)
HAZARD CLASS:	2.2 (Non Flammable Gas)
UN NUMBER:	1950
PRODUCT RQ (lbs):	None
LABEL:	Non Bulk Limited Quantity – Total Package Weight not over 34 Kg, Packaged in a DOT-2P Can Bulk Non-Flammable Gas ,2.2, Aerosol Level 1
PLACARD:	Non Bulk Limited Quantity Bulk Non-Flammable Gas ,2.2, Aerosol Level 1
FREIGHT CLASS BULK:	n/av
FREIGHT CLASS PACKAGE:	n/av
PRODUCT LABEL	CAUTION: Eye Irritant. Contents Under Pressure. See Back.

15. REGULATORY INFORMATION

TSCA STATUS:	All ingredients are listed under TSCA.
CERCLA REPORTABLE QUANTITY:	None

SARA TITLE III:

SECTION 302 EXTREMELY HAZARDOUS SUBSTANCES	None

SECTION 311/312 HAZARD CATEGORIES

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

SECTION 313

CHEMICAL NAME	CAS NUMBER	CONCENTRATION
None		

RCRA STATUS: If discarded in its purchased form, this product would be an ignitable waste with an EPA Hazardous Waste Number of D001. However, under RCRA, it is the responsibility of the product user to determine at the time of disposal, whether a material containing the product should be classified as a hazardous waste. (40CFR261.20-24)

CANADIAN STATUS: All materials contained in this product are listed on the Canadian Domestic Substances List.

EUROPEAN UNION: All materials contained in this product are listed on EINECS.

STATE REGULATORY INFORMATION

The following chemicals are specifically listed by individual states; other product specific health and safety data in other sections of the MSDS may also be applicable for state requirements. For details on your regulatory requirements you should contact the appropriate agency in your state.

COMPONENT/ **CAS NUMBER**	**CONCENTRATION**	**STATE CODE**
None		

CA = Material known to the state of California to cause cancer and/or birth defects. (California, Proposition 65).

16. OTHER INFORMATION

HMIS CLASSIFICATION	Health	1
	Flammability	2
	Reactivity	0
	PPI	B
NFPA RATING	Health	1
	Fire	2
	Reactivity	0
	Special	None
REASON FOR ISSUE	Limited Quantity Conversion	
PREPARED BY	James P. Heidel	
TITLE	Technical Director, R&D	
APPROVAL DATE	October 30, 2012	
SUPERCEDES DATE	December 15, 2010	
REVISION NUMBER	A - 5	

This information is to the best of Turtle Wax, Inc.'s knowledge and belief, accurate and reliable. However, no representation, warranty, or guarantee is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitableness and completeness of such information for his own particular use.

Commercial Products Group
CPG TN 6
2 Procter & Gamble Plaza
Cincinnati, OH 45202

HMIS®
Health 1
Flammability 0
Reactivity 0

MATERIAL SAFETY DATA SHEET

Issue Date: 2/99

SECTION I

Emergency Telephone Number: Procter & Gamble Operator 1-513-983-1100
Identity: **MR. CLEAN All-Purpose Cleaner**
Ingredients/Chemical Name: Cleaning agents (nonionic and anionic surfactants), quality control agents, perfume, colorant and water.
Other: N.A.

SECTION II - HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

Hazardous Ingredients as defined by OSHA, 29 CFR 1910. 1200.

Chemical Name	Common Name	CAS No.	ACGIH TLV	OSHA PEL	Other Limits Recommended
alcohol ethoxylates	nonionic surfactant		see Section V - Health and Safety Data		

DOT Classification: Not regulated

SECTION III - PHYSICAL/CHEMICAL CHARACTERISTICS

Boiling point: N.A.
Vapor Pressure (mm Hg): N.A.
Vapor Density (Air=1): N.A.
Solubility in Water: Complete

pH: 9.0 10.0

Specific Gravity (H_2O=1): 1.048 g/cc
Percent Volatile by Volume (%): N.A.
Evaporation Rate (nBuOAc=1): N.A.
Appearance and Odor: Clear yellow liquid with lemon fragrance

SECTION IV - FLAMMABILITY AND REACTIVITY

Flash Point (Method Used): over 200°F (cc)
Explosive Limits: *LEL*: N.A. *UEL*: N.A.
Extinguishing Media: Use CO_2, water, dry chemical or "alcohol" foam.
Special Fire Fighting Procedures: Use water to keep fire exposed containers cool.
Unusual Fire Hazards: None Known
Stability *Unstable*: *Conditions to Avoid*: None Known
Stable: X
Incompatibility (Materials to avoid): None Known
Hazardous Decomposition/By Products: None Known
Hazardous Polymerization *May Occur*: *Conditions to Avoid*: None
Will Not Occur: X

SECTION V - HEALTH AND SAFETY DATA

Route(s) of Entry: Skin contact, eye contact, ingestion and inhalation.
Health Hazards (Acute and Chronic): Mild skin and eye irritant. May be harmful if swallowed.
Signs and Symptoms of Exposure: Instillation into the eyes may result in transient superficial effects similar to those produced by mild toilet soaps and detergents. Ingestion may result in transient nervous system effects (ataxia and muscle weakness) and/or gastrointestinal irritation with nausea, vomiting or diarrhea. This product contains alcohol ethoxylates. Large ingestions (>2ml/kg) may also cause symptoms of alcohol-like intoxications, incoordination, drowsiness, inarticulateness or ataxia. Alcohol ethoxylates may contribute to Central Nervous System symptoms.
Medical Conditions Generally Aggravated by Exposure: Use on irritated or extremely dry skin may aggravate the existing conditions.
Emergency and First Aid Procedures: ***Eye Contact***: Flush thoroughly with water. ***Ingestion***: Dilute with fluids and call a physician. ***Skin Irritation***: Rinse exposed area and discontinue use. Remove contaminated clothing.
Other: N.A.

SECTION VI - PRECAUTIONS FOR SAFE HANDLING AND USE

Precautions to be Taken in Handling and Storing: Store in a cool, dry, well ventilated area.
Other precautions: None required
Steps to Be Taken in Case Material is Released or Spilled: Use water spray to dilute and/or wash away spills to avoid exposure and to protect persons working to stop/repair leak.
Waste Disposal Method: Do not landfill. Small (household) quantities may be disposed of via sewer. Incineration is preferred where permitted by federal, state and local regulations. Disposal is to be performed in compliance with all regulations.

SECTION VII - SPECIAL PROTECTION INFORMATION

Respiratory Protection (Specify Type): None required.
Ventilation *Local Exhaust*: None required
Mechanical (General): Acceptable
Special: None
Other: None
Eye Protection: None required with normal use. If splash is possible use goggles.
Protective Gloves: None required with normal use.
Other Protective Equipment: None required; in industrial setting eye wash fountain desirable.

*N.A. - Not Applicable *N.K. - Not Known

The submission of this MSDS may be required by law, but this is not an assertion that the substance is hazardous when used in accordance with proper safety practices and normal handling procedures. Data supplied is for use only in connection with occupational safety and health.

Safety Data Sheet

1 – Product Identifier & Identity for the Chemical

Manufacturer: WD-40 Company Australia Pty Ltd **Address:** **41 Rawson Street (Level 2, Suite 23) Epping NSW, 2121, Australia** **Telephone:** **Information: +61 2 9868 2200** **Emergency only: 1800 024 973** **Poisons Information Centre:** **Australia:** 13 11 26 **New Zealand:** 0800 764 766 **New Zealand Contact Details:** **Name:** **Eproducts New Zealand Limited** **Address:** **7D Orbit Drive Albany New Zealand** **Telephone:** **Information:** 09 916 6750	**Product Name: WD-40 Aerosol** **Chemical Name:** Mixture **Product Use:** Lubricant, Penetrant, Drives Out Moisture, Removes and Protects Surfaces From Corrosion **Restriction on Use:** None Identified **SDS Date Of Preparation:** 23 July 2015

2 – Hazards Identification

Classification of the Hazardous Chemical (in accordance with WHS Regulation)

Health	Environmental	Physical
Aspiration Toxicity Category 1 Eye Irritant Category 2A Skin Irritant Category 2	Aquatic Acute Toxicity Category 3 Aquatic Chronic Toxicity Category 3	Flammable Aerosol Category 1 Gas Under Pressure: Compressed Gas

Label Elements

Contains: Naphtha (petroleum), hydrodesulfurized heavy; 1,2,4-Trimethyl benzene; 1,3,5-Trimethyl benzene; Xylene, Mixed Isomers; and Surfactant

Danger!
H222 Extremely flammable aerosol.
H280 Contains gas under pressure: may explode if heated.
H304 May be fatal if swallowed and enters airways.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H412 Harmful to aquatic life with long lasting effects.

Prevention
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.
P264 Wash thoroughly after handling.
P273 Avoid release to the environment.
P280 Wear protective gloves and eye protection.
Response
P302+P352 IF ON SKIN: Wash with plenty of soap and water.
P332+P313 If skin irritation occurs: Get medical attention.
P362 Take off contaminated clothing and wash it before reuse.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313 If eye irritation persists: Get medical attention.
P301+P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor or physician.
P331 Do NOT induce vomiting.
Storage
P410+P412 Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F.
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 and national regulations.

Other Hazards that do not Result in Classification: None

3 - Composition/Information on Ingredients

Ingredient	CAS #	Weight Percent	Substance Classification
Naphtha (petroleum), hydrodesulfurized heavy	64742-82-1	>60%	Flam. Liq. Cat 3 (H226) Asp. Tox. Cat 1 (H304)
Distillates, Hydrotreated Heavy Paraffinic (contains <3% DMSO)	64742-54-7	10-20%	Not Hazardous
Non-Hazardous Ingredients	Mixture	>10%	Not Hazardous
1,2,4-Trimethyl benzene	95-63-6	<10%	Flam. Liq. Cat 3 (H226) Acute Tox. Cat 4 (H332) Eye Irrit. Cat 2 (H319) Skin Irrit. Cat 2 (H315) STOT SE Cat 3 (H335) Aq. Chronic Cat 2 (H411)
1,3,5-Trimethyl benzene	108-67-8	<10%	Flam. Liq. Cat 3 (H226) STOT SE Cat 3 (H335) Aq. Chronic Cat 2 (H411)
Xylene, Mixed Isomers	1330-20-7	<10%	Flam. Liq. Cat 3 (H226) Acute Tox. Cat 4 (H312) Acute Tox. Cat 4 (H332) Skin Irrit. Cat 2 (H315)
Carbon Dioxide	124-38-9	2-4%	Not Hazardous
Surfactant	Proprietary	<1%	Eye Dam. Cat 1 (H318) Skin Irrit. Cat 2 (H315)

See Section 16 for full text of GHS Classification and H phrases

4 – First Aid Measures

Ingestion (Swallowed): Aspiration Hazard. DO NOT induce vomiting. Call a Poisons Information Center (phone 13 11 26 from anywhere in Australia or 0800 764 766 in New Zealand) immediately.
Eye Contact: Flush thoroughly with water. Remove contact lenses if present after the first 5 minutes and continue flushing for several more minutes. Get medical attention if irritation persists.
Skin Contact: Wash with soap and water. If irritation develops and persists, get medical attention.
Inhalation (Breathing): If irritation is experienced, move to fresh air. Get medical attention if irritation or other symptoms develop and persist.
Most Important Symptoms: May cause eye, skin, and respiratory irritation. Prolonged skin contact may cause drying of the skin. Inhalation may cause headache, dizziness, nausea and other symptoms of central nervous system depression. Accidental ingestion may cause gastrointestinal effects with irritation, nausea, vomiting, dizziness, coma and death. Aspiration into the lungs during ingestion or vomiting may cause lung damage.
Indication of Immediate Medical Attention and Special Treatment, if Needed: Immediate medical attention is required for ingestion.

5 – Fire Fighting Measures

Suitable Extinguishing Media: Use water fog, dry chemical, carbon dioxide or foam. Do not use water jet or flooding amounts of water. Burning product will float on the surface and spread fire.
Specific Hazards Arising from the Chemical: Extremely flammable aerosol. Contents under pressure. Keep away from ignition source and open fire. Exposure of containers to extreme heat and flames can cause them to rupture often with violent force. Vapors are heavier than air and may travel along surfaces to remote ignition sources and flash back. A vapor and air mixture can create an explosion hazard in confined spaces.
Special Protective Equipment and Precautions for Fire-Fighters: Firefighters should always wear positive pressure self-contained breathing apparatus and full protective clothing. Use shielding to protect against bursting containers. Cool fire-exposed containers with water.

6 – Accidental Release Measures

Personal Precautions, Protective Equipment and Emergency Procedures: Wear appropriate protective clothing (see Section 8). Eliminate all sources of ignition and ventilate area.
Environmental Precautions: Avoid releases to the environment. Report spills to authorities as required.
Methods and Materials for Containment/Cleanup: Leaking cans should be placed in a plastic bag or open pail until the pressure has dissipated. Contain and collect liquid with an inert absorbent and place in a container for disposal. Clean spill area thoroughly.

7 – Handling and Storage

Precautions for Safe Handling: Avoid contact with eyes and skin. Avoid breathing vapors or aerosols. Intentional misuse by deliberately concentrating vapors and inhaling can be harmful or fatal. Use only with adequate ventilation. Keep away from heat, sparks, pilot lights, hot surfaces and open flames. Unplug electrical tools, motors and appliances before spraying or bringing the can near any source of electricity. Electricity can burn a hole in the can and cause contents to burst into flames. To avoid serious burn injury, do not let the can touch battery terminals, electrical connections on motors or appliances or any other source of electricity. Wash thoroughly with soap and water after handling. Keep containers closed when not in use. Keep out of the reach of children. Do not puncture, crush or incinerate containers, even when empty.
Conditions for Safe Storage, including any incompatibilities: Store in a cool, dry ventilated area away from incompatible materials. Protect from physical damage. Do not store in direct sunlight, near open flames or above temperatures greater than 50°C.

8 – Exposure Controls /Personal Protection

Chemical	Occupational Exposure Limits	Biological Limit Value
Naphtha (petroleum), hydrodesulfurized heavy	350 mg/m3 TWA (manufacturer recommended) 5 mg/m3 TWA AU OEL (as oil mist, refined mineral) 5 mg/m3 TWA, 10 mg/m3 STEL NZ OEL (as oil mist, mineral) 5 mg/m3 TWA ACGIH TLV (inhalable) (as mineral oil)	None Established
Distillates, Hydrotreated Heavy Paraffinic	5 mg/m3 TWA AU OEL (as oil mist, refined mineral) 5 mg/m3 TWA, 10 mg/m3 STEL NZ OEL (as oil mist, mineral) 5 mg/m3 TWA ACGIH TLV (inhalable) (as mineral oil)	None Established
Non-Hazardous Ingredients	None Established	None Established
1,2,4-Trimethyl benzene	25 ppm TWA ACGIH TLV/AU/NZ OEL (as Trimethyl benzene, all isomers)	None Established
1,3,5-Trimethyl benzene	25 ppm TWA ACGIH TLV/AU/NZ OEL (as Trimethyl benzene, all isomers)	None Established
Xylene, Mixed Isomers	80 ppm TWA, 150 ppm STEL AU OEL 50 ppm TWA NZ OEL 100 ppm TWA, 150 ppm STEL ACGIH TLV	Methylhippuric acids in urine, End of shift, 1.5 g/g creatinine.
Carbon Dioxide	5000 ppm TWA, 30000 ppm STEL ACGIH TLV/AU/NZ OEL	None Established
Surfactant	None Established	None Established

The Following Controls are Recommended for Normal Consumer Use of this Product
Appropriate Engineering Controls: Use in a well-ventilated area.
Personal Protection:
Eye Protection: Avoid eye contact. Always spray product away from your face.
Skin Protection: Avoid prolonged or repeated skin contact. Chemical resistant gloves recommended for operations where skin contact is likely.
Respiratory Protection: None needed for normal use with adequate ventilation.

For Bulk Processing or Workplace Use the Following Controls are Recommended
Appropriate Engineering Controls: Use adequate general and local exhaust ventilation to maintain exposure levels below that occupational exposure limits.
Personal Protection:
Eye Protection: Safety goggles recommended where eye contact is possible.
Skin Protection: Wear chemical resistant gloves.
Respiratory Protection: None required if ventilation is adequate. If the occupational exposure limits are exceeded, wear an 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: Eye wash facilities should be available. Wash hands after handling.
Other Protective Equipment: None required.

9 – Physical and Chemical Properties

Appearance and Odor:	Aerosol spray. Pleasant odor.	Partition Coefficient of n-octanol/water:	Not determined
Odor Threshold:	Not determined	Auto-ignition temperature:	Not determined
pH:	Not determined	Decomposition Temperature:	Not determined
Melting/Freezing Point:	Not applicable	Viscosity:	Not determined
Boiling Point / Range:	162-192°C (324-378°F) (Concentrate)	Specific Heat Value:	Not determined
Flash Point:	41-42°C (106-108°F) (Concentrate)	Particle Size:	Not applicable
Evaporation Rate (Butyl Acetate = 1):	Not determined	VOC:	49.5%
Flammability (solid, gas):	Not applicable	Percent Volatile:	78%
Flammable Limits:	LEL 0.7% UEL 7.0% (Concentrate)	Saturated Vapor Concentration:	Not determined
Vapor Pressure:	724 kPa @ 21°C (69.8°F)	Release of invisible flammable vapors and gases:	Yes
Vapor Density (air = 1):	>1	Aerosol Protection Level (NFPA 30B):	3
Relative Density (Water = 1):	Not determined	Solubility:	Insoluble in water

10 – Stability and Reactivity

Reactivity: Non-reactive
Chemical Stability: Stable under normal storage conditions.
Possibility of Hazardous Reactions: Will not occur.
Conditions to Avoid: Avoid extreme heat, flames and other sources of ignition. Avoid physical damage to aerosol can.
Incompatible Materials: Strong oxidizers.
Hazardous Decomposition Products: Carbon monoxide and carbon dioxide.

11 – Toxicological Information

Health Hazards:
Ingestion: Swallowing is an unlikely route of exposure for an aerosol product. Swallowing large amounts may produce gastrointestinal irritation, nausea, vomiting and diarrhea. This product is an aspiration hazard. If swallowed, can enter the lungs and may cause chemical pneumonitis, severe lung damage and death.
Eye Contact: Liquid sprayed into eyes may cause irritation. May cause redness, stinging, swelling, and tearing.
Skin Contact: May produce mild irritation. Prolonged and/or repeated contact may cause defatting with possible dermatitis.
Inhalation: Mist or vapor can irritate the throat and lungs. High concentrations may cause nasal and respiratory irritation and central nervous system effects such as headache, dizziness and nausea. Intentional abuse may be harmful or fatal.
Chronic Exposure: None known.
Medical Conditions Aggravated by Exposure: Preexisting eye, skin and respiratory conditions may be aggravated by exposure.

Acute Toxicity Values:
Naphtha (petroleum), hydrodesulfurized heavy: Oral rat LD50- >5000 mg/kg; Skin rabbit LD50- >3160 mg/kg.
Distillates, Hydrotreated Heavy Paraffinic: Oral rat LD50->15 gm/kg
Non-Hazardous Ingredients: No toxicity data available
1, 2, 4-Trimethyl benzene: Oral rat LD50 3400-6000 mg/kg; Skin rabbit LD50 - >3160 mg/kg

1, 3, 5-Trimethyl benzene: Inhalation rat LC50- 24000 mg/m3/4hr
Xylene, Mixed Isomers: Oral rat LD50 – 4300 mg/kg; Inhalation rat LC50 – 6350 ppm/4hr; Skin rabbit LD50- 1700 mg/kg
Surfactant: Oral rat LD50->3000 mg/kg

Skin Corrosion/Irritation: No data available for mixture. Based on the ingredients, 1, 2, 4-Trimethyl benzene and Xylene, this product is classified as a skin irritant.
Serious Eye Damage/Irritation: No data available for mixture. Based on the ingredients, 1, 2, 4-Trimethyl benzene and Surfactant, this product is classified as an eye irritant.
Respiratory or Skin Sensitization: This product is not expected to cause sensitization.
Germ Cell Mutagenicity: None of the components have been found to be mutagenic.
Carcinogenicity: None of the components are listed as a carcinogen or suspected carcinogen by IARC, NTP, ACGIH, US OSHA or the EU CLP.
Reproductive Toxicity: None of the components are known to cause adverse reproductive effects.
Specific Target Organ Toxicity:
Single Exposure: No data available.
Repeated Exposure: No data available.
Aspiration Hazard: No data available. Based on the ingredients, this product is expected to present an aspiration hazard and may be harmful if the contents are swallowed.

12 – Ecological Information

Ecotoxicity:
Naphtha (petroleum), hydrodesulfurized heavy: 96 hr LC50 Fathead minnow – 8.2 mg/L; 96 hr LC50 Crangon Crangon – 4.3 mg/L
1, 2, 4-Trimethyl benzene: 96 hr LC50 Fathead minnows – 7.72 mg/L; 48 hr EC50 Daphnia magna – 6.14 mg/L
1, 3, 5-Trimethyl benzene: 96 hr LC50 Goldfish - 12.52 mg/L; 48 hr LC50 Daphnia magna- 6.0 mg/L
Xylene, Mixed Isomers: 96 hr LC50 Goldfish- 36.81 mg/L; 96 hr LC50 Rainbow trout – 13.5 mg/L

This product has been classified as harmful to the aquatic environment with long lasting effects based on the components. Releases to the environment should be avoided.

Persistence and Degradability: No data available.
Bioaccumulative Potential: No data available.
Mobility in Soil: No data available.
Other Adverse Effects: None Known

13 - Disposal Considerations

Safe Handling and Disposal Method: Aerosol containers should not be punctured, compacted in home trash compactors or incinerated.
Disposal of Contaminated Packaging: Empty containers may be disposed of through normal waste management options.
Environmental Regulations: Dispose of all waste product, absorbents, and other materials in accordance with applicable Federal, state and local regulations.

14 – Transportation Information

IMDG Shipping Name: Aerosols
IMDG Hazard Class: 2.1
UN Number: UN1950
Marine Pollutant: No

IATA Shipping Name: Aerosols, Flammable
IATA Hazard Class: 2.1

UN Number: UN1950

ADG Shipping Name: Aerosols
ADG Hazard Class: 2.1
UN Number: UN1950
Hazchem (Emergency Action) Code: 2YE

Special Precautions for User: WD-40 Company does not test aerosol cans to assure that they meet the pressure and other requirements for transport by air. We do not recommend that our aerosol products be transported by air.

15 – Regulatory Information

Montreal Protocol (Ozone Depleting Substances): None present
The Stockholm Convention (Persistent Organic Pollutants): None present
The Rotterdam Convention (Prior Informed Consent): Not applicable
Basel Convention: Not applicable
International Convention for the Prevention of Pollution from Ships (MARPOL): 1, 2, 4-Trimethyl benzene and 1, 3, 5-Trimethyl benzene are listed.
Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP): Not applicable

Australian Inventory of Chemical Substances: All of the components of this product are listed on the AICS inventory.

New Zealand:
HSNO Approval Number: HSR002515
Considered a Hazardous Substance according to the criteria of the New Zealand Hazardous Substances New Organisms legislation. Classified as Dangerous Good for transport purposes.

HSNO Hazard Classes: 2.1.2A, 6.1E, 6.3A, 6.4A, 9.1C, 9.1D

New Zealand Inventory: All the ingredients comply with the HSNO regulations.

16 – Other Information

REVISION DATE: 23 July 2015 SUPERSEDES: 11 July 2014

Prepared By: Industrial Health & Safety Consultants, Inc.

Full Text of GHS Classification and H Phrases from Section 3:
Acute Tox. Cat 4 Acute Toxicity Category 4
Aq. Chronic Cat 2 Aquatic Chronic Toxicity Category 2
Asp. Tox. Cat 1 Aspiration Toxicity Category 1
Eye Dam. Cat 1 Eye Damage Category 1
Eye Irrit. Cat 2 Eye Irritant Category 2
Flam. Liq. Cat 3 Flammable Liquid Category 3
Skin Irrit. Cat 2 Skin Irritant Category 2
STOT SE Cat 3 Specific Target Organ Toxicity Single Exposure Category 3
H226 Flammable liquid and vapor.
H304 May be fatal if swallowed and enters airways.
H312 Harmful in contact with skin.
H315 Causes skin irritation.
H318 Causes serious eye damage.
H319 Causes serious eye irritation.
H332 Harmful if inhaled.

H335 May cause respiratory irritation.
H411 Toxic to aquatic life with long lasting effects.

List of Abbreviations or Acronyms:
ACGIH American Conference of Industrial Hygienists
ADG Australian Dangerous Goods
AICS Australian Inventory of Chemical Substances
AU Australia
EC Effective Concentration
EU European Union
GHS Globally Harmonized System of Classification and Labelling of Chemicals
HSNO Hazardous Substances and New Organisms
IARC International Agency of Research on Cancer
IATA International Air Transport Association
IMDG International Maritime Dangerous Goods
LC Lethal Concentration
LD Lethal Dosage
LEL Lower Explosive Limit
NTP National Toxicology Program
OEL Occupational Exposure Limits
US OSHA United States Occupational Safety and Health Administration
PEL Permissible Exposure Limit
SDS Safety Data Sheet
STEL Short Term Exposure Limit
TWA Time-Weighted Average
UEL Upper Explosive Limit
VOC Volatile Organic Compounds
WHS Work Health and Safety

REVIEWED BY: *I. Kowalski* TITLE: Manager Regulatory Affairs

This SDS complies with Australian guidelines for SDS. 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 SDS 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.

1018100 / No.0096102

WINDSHIELD WASH -45°C

SECTION 1. IDENTIFICATION

Product Identifier	WINDSHIELD WASH -45°C
Other Means of Identification	15-403SLV, 15-403SLV-PRO, 15-404, 15-408, 35-208SO, 35-306GP, 35-309OPW-1K, 35-404BMW, 35-404E, 35-404LIFE, 35-404MER, 35-404PC, 35-404REF, 35-404U/N, 35-404UFA, 35-408HUS, 35-408SL, 35-404CT
Recommended Use	Please refer to Product label.
Restrictions on Use	None known.
Manufacturer / Supplier	Recochem Inc., 850 Montee de Liesse, Montreal, QC, H4T 1P4, Compliance and Regulatory Department, 905-878-5544, www.recochem.com
Emergency Phone No.	CANUTEC, 613-996-6666, 24 Hours
SDS No.	1575

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Flammable liquid - Category 3; Acute toxicity (Oral) - Category 3; Acute toxicity (Dermal) - Category 3; Acute toxicity (Inhalation) - Category 3; Specific target organ toxicity (single exposure) - Category 1

GHS Label Elements

Signal Word:
Danger

Hazard Statement(s):

H226	Flammable liquid and vapour.
H301	Toxic if swallowed.
H311	Toxic in contact with skin.
H331	Toxic if inhaled.
H370	Causes damage to organs (eyes) if swallowed.

Precautionary Statement(s):
Prevention:

P210	Keep away from heat, sparks, open flames, and hot surfaces. – No smoking.
P233	Keep container tightly closed.
P240	Ground/bond container and receiving equipment.
P241	Use explosion-proof electrical, ventilating, lighting, and other equipment.
P242	Use only non-sparking tools.
P243	Take precautionary measures against static discharge.
P260	Do not breathe fume, mist, vapours, spray.
P264	Wash hands and skin thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.

P271 Use only outdoors or in a well-ventilated area.
P280 Wear protective gloves/protective clothing.

Response:
P301 + P310 IF SWALLOWED: Immediately call a POISON CENTRE/doctor.
P330 Rinse mouth.
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P312 Call a POISON CENTRE/doctor if you feel unwell.
P363 Wash contaminated clothing before reuse.
P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P312 Call a POISON CENTRE/doctor if you feel unwell.
P321 Specific treatment (see supplemental first aid instruction on this label).
P370 + P378 In case of fire: Use appropriate foam, carbon dioxide, dry chemical powder, water spray or fog to extinguish.

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

Disposal:
Dispose of contents/container in accordance with applicable regional, national and local laws and regulations.

Other Hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Mixture:

Chemical Name	CAS No.	%	Other Identifiers
Methanol	67-56-1	30-60	

Notes

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

SECTION 4. FIRST-AID MEASURES

First-aid Measures

Inhalation

Take precautions to ensure your own safety before attempting rescue (e.g. wear appropriate protective equipment). Remove source of exposure or move to fresh air. Keep at rest in a position comfortable for breathing. If breathing has stopped, trained personnel should begin rescue breathing. If the heart has stopped, trained personnel should start cardiopulmonary resuscitation (CPR) or automated external defibrillation (AED). Avoid mouth-to-mouth contact by using a barrier device. Get medical advice/attention if you feel unwell or are concerned.

Skin Contact

Avoid direct contact. Wear chemical protective clothing if necessary. Take off immediately contaminated clothing, shoes and leather goods (e.g. watchbands, belts). Wash gently and thoroughly with lukewarm, gently flowing water and mild soap for 5 minutes. Get medical advice/attention if you feel unwell or are concerned. Thoroughly clean clothing, shoes and leather goods before reuse or dispose of safely.

Eye Contact

Avoid direct contact. Wear chemical protective gloves if necessary. Immediately rinse the contaminated eye(s) with lukewarm, gently flowing water for at least 30 minutes, while holding the eyelid(s) open. If eye irritation persists, get medical advice/attention.

Ingestion

Rinse mouth with water. Never give anything by mouth if victim is rapidly losing consciousness, or is unconscious or convulsing. Do not induce vomiting. If vomiting occurs naturally, lie on your side in the recovery position. Rinse mouth with water again. If breathing has stopped, trained personnel should immediately begin rescue breathing. If the heart has stopped, trained personnel should start cardiopulmonary resuscitation (CPR) or automated external defibrillation (AED). Avoid mouth-to-mouth contact by using a barrier device. Immediately call a Poison Centre or doctor. Treatment is urgently required.

Most Important Symptoms and Effects, Acute and Delayed

No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Immediate Medical Attention and Special Treatment

Target Organs

Eyes, liver, nervous system.

Special Instructions

Acute exposure to methanol, either through ingestion or breathing high airborne concentrations can result in symptoms appearing between 40 minutes and 72 hours after exposure. Symptoms and signs are usually limited to CNS, eyes and gastrointestinal tract. Because of the initial CNS's effects of headache, vertigo, lethargy and confusion, there may be an impression of ethanol intoxication. Blurred vision, decreased acuity and photophobia are common complaints. Treatment with ipecac or lavage is indicated in any patient presenting within two hours of ingestion. A profound metabolic acidosis occurs in severe poisoning and serum bicarbonate levels are a more accurate measure of severity than serum methanol levels. Treatment protocols are available from most major hospitals and early collaboration with appropriate hospitals is recommended.

Medical Conditions Aggravated by Exposure

Respiratory conditions.

SECTION 5. FIRE-FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media

Carbon dioxide, dry chemical powder or appropriate foam. Special "alcohol resistant fire-fighting foams".

Unsuitable Extinguishing Media

Water is not effective for extinguishing a fire. It may not cool product below its flash point.

Specific Hazards Arising from the Chemical

Highly flammable liquid and vapour. Can ignite at room temperature. Releases vapour that can form explosive mixture with air. Can be ignited by static discharge. Can accumulate static charge by flow, splashing or agitation. Even dilute solutions in water may be flammable. May travel a considerable distance to a source of ignition and flash back to a leak or open container. See Section 9 (Physical and Chemical Properties) for flash point and explosive limits. Burns with an invisible flame. May accumulate in hazardous amounts in low-lying areas especially inside confined spaces, resulting in a fire hazard.
In a fire, the following hazardous materials may be generated: toxic chemicals; very toxic carbon monoxide, carbon dioxide; very toxic, flammable formaldehyde.

Special Protective Equipment and Precautions for Fire-fighters

Review Section 6 (Accidental Release Measures) for important information on responding to leaks/spills.
See Skin Protection in Section 8 (Exposure Controls/Personal Protection) for advice on suitable chemical protective materials.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment, and Emergency Procedures

Evacuate the area immediately. Isolate the hazard area. Keep out unnecessary and unprotected personnel. Evacuate downwind locations. Use the personal protective equipment recommended in Section 8 of this safety data sheet. Increase ventilation to area or move leaking container to a well-ventilated and secure area. Eliminate all ignition

sources. Use grounded, explosion-proof equipment. May accumulate in hazardous amounts in low-lying areas especially inside confined spaces, if ventilation is not sufficient. Distant ignition and flashback are possible.

Environmental Precautions

Do not allow into any sewer, on the ground or into any waterway.

Methods and Materials for Containment and Cleaning Up

Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see section 13). Use spark-proof tools and explosion-proof equipment. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see section 1 for emergency contact information and section 13 for waste disposal.

SECTION 7. HANDLING AND STORAGE

Precautions for Safe Handling

Put on appropriate personal protective equipment (see section 8). 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. Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapour or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use non-sparking tools. Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. Empty containers retain product residue and can be hazardous. Do not reuse container.

Conditions for Safe Storage

Store in accordance with local regulations. Store in a segregated and approved area. 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. Eliminate all ignition sources. Separate from oxidizing materials. 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

	ACGIH TLV®		OSHA PEL		AIHA WEEL	
Chemical Name	**TWA**	**STEL**	**TWA**	**Ceiling**	**8-hr TWA**	**TWA**
Methanol	200 ppm	250 ppm	200 ppm	250 ppm		

Appropriate Engineering Controls

General ventilation is usually adequate. For large scale use of this product: do not allow product to accumulate in the air in work or storage areas, or in confined spaces. Use local exhaust ventilation, if general ventilation is not adequate to control amount in the air. Use non-sparking ventilation systems, approved explosion-proof equipment and intrinsically safe electrical systems in areas where this product is used and stored. Control static electricity discharges which includes bonding of equipment to ground. Use only non-combustible, compatible materials for walls, floors, ventilation system, air cleaning devices, pallets, shelving. Provide safety shower in work area, if contact or splash hazard exists.

Individual Protection Measures

Eye/Face Protection

Wear chemical safety goggles.

Skin Protection

Wear chemical protective clothing e.g. gloves, aprons, boots.
Nitrile rubber.

Respiratory Protection

Not normally required if product is used as directed. For non-routine or emergency situations: wear a NIOSH approved air-purifying respirator with an organic vapour cartridge.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Basic Physical and Chemical Properties

Appearance	Clear Purple liquid.
Odour	Pungent
Odour Threshold	Not available
pH	8 - 11 (100% solution)
Melting Point/Freezing Point	Not available (melting); -45 °C (-49 °F) (freezing)
Initial Boiling Point/Range	Not available
Flash Point	27.7 °C (81.9 °F) (closed cup)
Evaporation Rate	Not available
Flammability (solid, gas)	Not applicable
Upper/Lower Flammability or Explosive Limit	Not available (upper); Not available (lower)
Vapour Pressure	Not available
Vapour Density (air = 1)	Not available
Relative Density (water = 1)	0.90 - 0.97 at 20 °C
Solubility	Soluble in water; Soluble in all proportions in alcohols (e.g. ethanol).
Partition Coefficient, n-Octanol/Water (Log Kow)	Not available
Auto-ignition Temperature	Not available
Decomposition Temperature	Not available
Viscosity	Not available (kinematic); Not available (dynamic)

Other Information

Physical State	Liquid
Molecular Weight	Not available

SECTION 10. STABILITY AND REACTIVITY

Reactivity

None known.

Chemical Stability

Normally stable.

Possibility of Hazardous Reactions

None known.

Conditions to Avoid

Heat. Open flames, sparks, static discharge, heat and other ignition sources.

Incompatible Materials

Slightly reactive or incompatible with the following materials: oxidizing agents (e.g. peroxides), strong acids (e.g. hydrochloric acid), strong bases (e.g. sodium hydroxide).
Not corrosive to metals.

Hazardous Decomposition Products

Very toxic carbon monoxide, carbon dioxide; very toxic, flammable formaldehyde.

SECTION 11. TOXICOLOGICAL INFORMATION

Likely Routes of Exposure

Ingestion; eye contact; skin contact; inhalation.

Acute Toxicity

Chemical Name	LC50	LD50 (oral)	LD50 (dermal)
Methanol	83867.5 mg/m3 (rat) (4-hour exposure)	5628 mg/kg (rat)	15800 mg/kg (rabbit)

LC50: Not applicable.

LD50 (oral): Not applicable.

LD50 (dermal): Not applicable.

Skin Corrosion/Irritation

Human experience shows very mild irritation.

Serious Eye Damage/Irritation

Animal tests show serious eye irritation.

STOT (Specific Target Organ Toxicity) - Single Exposure

Inhalation

At high concentrations severe nose and throat irritation.

Skin Absorption

May be harmful based on animal tests.

Ingestion

Toxic, can cause death depression of the central nervous system, impaired vision and blindness. In some cases, there may be delayed effects on the nervous system. Symptoms may include headache, nausea, vomiting, dizziness, drowsiness and confusion. A severe exposure may cause stomach pain, muscle pain, difficult breathing and coma. Vision can be impaired and permanent blindness can result. There may be other permanent effects on the nervous system e.g. tremor, seizures.

Aspiration Hazard

Not known to be an aspiration hazard.

STOT (Specific Target Organ Toxicity) - Repeated Exposure

If swallowed: liver function tests may show abnormal results.

Respiratory and/or Skin Sensitization

Not known to be a respiratory sensitizer. Not known to be a skin sensitizer.

Carcinogenicity

Chemical Name	IARC	ACGIH®	NTP	OSHA
Methanol	Not Listed	Not designated	Not Listed	Not Listed

May cause cancer based on animal studies.

Reproductive Toxicity

Development of Offspring

Animal studies show effects on the offspring. If inhaled: known to cause: decreased weight, birth defects. Teratogenic(external, soft tissue and skeletal defects) embryotoxic (late resorptions).

Sexual Function and Fertility

Not known to cause effects on sexual function or fertility.

Effects on or via Lactation

No information was located.

Germ Cell Mutagenicity

Conclusions cannot be drawn from the limited studies available.

Interactive Effects

No information was located.

SECTION 12. ECOLOGICAL INFORMATION

Toxicity

Acute Aquatic Toxicity

Chemical Name	LC50 Fish	EC50 Crustacea	ErC50 Aquatic Plants	ErC50 Algae
Methanol	15400 mg/L (Lepomis macrochirus (bluegill); 96-hour)	10000 mg/L (Daphnia magna (water flea); 48-hour)		

Chronic Aquatic Toxicity

Chemical Name	NOEC Fish	EC50 Fish	NOEC Crustacea	EC50 Crustacea
Methanol	7900 mg/L (Lepomis macrochirus (bluegill); 200-hrs)			

Persistence and Degradability

Degrades rapidly based on quantitative tests.

Bioaccumulative Potential

This product and its degradation products are not expected to bioaccumulate.

Mobility in Soil

No information was located.

Other Adverse Effects

There is no information available.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal Methods

The generation of waste should be avoided or minimized wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe way. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. 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. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14. TRANSPORT INFORMATION

Regulation	UN No.	Proper Shipping Name	Transport Hazard Class(es)	Packing Group
Canadian TDG	1986	ALCOHOLS, FLAMMABLE, TOXIC, N.O.S. (Methanol)	3 (6.1)	III
US DOT	1986	ALCOHOLS, FLAMMABLE, TOXIC, N.O.S. (Methanol)	3 (6.1)	III

Environmental Hazards Not applicable

Special Precautions for User Please note: In containers of 450L or less, this product meets the requirements for exemption under TDG regulation special provisions, part 1, section 1.36b: Class 3, Flammable liquids: Alcohol Exemption.

In containers of 5 L (5Kg) capacity or less this product is classified as a "Consumer Commodity" under DOT regulations.

Transport in Bulk According to Annex II of MARPOL 73/78 and the IBC Code

SECTION 15. REGULATORY INFORMATION

Safety, Health and Environmental Regulations

Canada

Domestic Substances List (DSL) / Non-Domestic Substances List (NDSL)

All ingredients are listed on the DSL/NDSL.

USA

Toxic Substances Control Act (TSCA) Section 8(b)

All ingredients are listed on the TSCA Inventory.

Additional USA Regulatory Lists

California Proposition 65: WARNING: This product contains chemicals known to the State of California to cause birth defects.

SECTION 16. OTHER INFORMATION

SDS Prepared By	Compliance and Regulatory Department
Phone No.	905-878-5544
Date of Preparation	October 19, 2015
Additional Information	We are committed to uphold the Industry Consumer Ingredient Communication Voluntary Initiative. Please send us your request by visiting our website at www.recochem.com. Ingredients present (intentionally added ingredients) at a concentration of greater than one percent (1%) shall be listed in descending order of predominance. Ingredients present at a concentration of not more than one percent shall be listed but may be disclosed without respect to order of predominance.
Disclaimer	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

Issuing Date: 09-Jul-2021 **Revision date** 09-Jul-2021 **Revision Number** 1

1. IDENTIFICATION

Product Name	Swiffer Dry Pad
Product Identifier	91940018_RET_NG
Product Type:	Finished Product - Retail
Recommended use	Wipes.
Restrictions on use	Use only as directed on label.
Synonyms	Swiffer Dry Gain – 91971207 Swiffer Dry L&V – 91940236 Swiffer HD Dry – 91701721 Swiffer HD Dry Gain – 91957409 Swiffer Duster 180 PET – 99406267 Swiffer Duster 180 GAIN – 92061411 Swiffer Duster 180 LV&C – 99406263 Swiffer Duster 360 PET – 91598194
Details of the supplier of the safety data sheet	PROCTER & GAMBLE - Fabric and Home Care Division Ivorydale Technical Centre 5289 Spring Grove Avenue Cincinnati, Ohio 45217-1087 USA Procter & Gamble Inc. P.O. Box 355, Station A Toronto, ON M5W 1C5 1-800-331-3774
E-mail Address	pgsds.im@pg.com
Emergency Telephone	Transportation (24 HR) CHEMTREC - 1-800-424-9300 (U.S./ Canada) or 1-703-527-3887 Mexico toll free in country: 800-681-9531

2. HAZARD IDENTIFICATION

"Consumer Products", as defined by the US Consumer Product Safety Act and which are used as intended (typical consumer duration and frequency), are exempt from the OSHA Hazard Communication Standard (29 CFR 1910.1200). This SDS is being provided as a courtesy to help assist in the safe handling and proper use of the product.

This product is classified under 29CFR 1910.1200(d) and the Canadian Hazardous Products Regulation as follows:.

This material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Hazard Category

Signal word	None
Hazard statements	None

Hazard pictograms	None
Precautionary Statements	None
Precautionary Statements - Response	None
Precautionary Statements - Storage	None
Precautionary Statements - Disposal	None

3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients are listed according to 29CFR 1910.1200 Appendix D and the Canadian Hazardous Products Regulation

Additional information	Actual substance concentrations fall within the ranges stated. Maximum values do not necessarily represent the values present in the formula.

4. FIRST AID MEASURES

Description of first aid measures

Eye contact	Rinse with plenty of water. Immediately call a doctor.
Skin contact	Rinse with plenty of water. Call a physician if irritation develops and persists.
Ingestion	Drink 1 or 2 glasses of water. Do NOT induce vomiting. Get medical attention immediately if symptoms occur.
Inhalation	IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. Call a physician or poison control center immediately.

Indication of any immediate medical attention and special treatment needed

Notes to Physician	Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media	Dry chemical, CO2, alcohol-resistant foam or water spray.
Unsuitable Extinguishing Media	None.
Special hazard	None known.
Special protective equipment for fire-fighters	As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.
Specific hazards arising from the chemical	None.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions	Use personal protective equipment as required. Do not get in eyes, on skin, or on clothing.

Advice for emergency responders Use personal protective equipment as required.

Environmental precautions Should not be released into the environment

Methods and material for containment and cleaning up

Methods for containment Prevent dust cloud. Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Sweep up and shovel into suitable containers for disposal. Dispose of in accordance with local regulations.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling Use personal protective equipment as required. Keep container closed when not in use. Never return spills in original containers for re-use. Keep out of the reach of children.

Conditions for safe storage, including any incompatibilities

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

Incompatible products None known.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines No exposure limits noted for ingredient(s).

Appropriate engineering controls

Engineering Measures

Distribution, Workplace and Household Settings:
Ensure adequate ventilation

Product Manufacturing Plant (needed at Product-Producing Plant ONLY):
Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction

Personal Protective Equipment

Eye Protection

Distribution, Workplace and Household Settings:
No special protective equipment required

Product Manufacturing Plant (needed at Product-Producing Plant ONLY):
Use appropriate eye protection

Hand Protection

Distribution, Workplace and Household Settings:
No special protective equipment required

Product Manufacturing Plant (needed at Product-Producing Plant ONLY):
Protective gloves

Skin and Body Protection

Distribution, Workplace and Household Settings:
No special protective equipment required

Product Manufacturing Plant (needed at Product-Producing Plant ONLY):
Wear suitable protective clothing

Respiratory Protection

Distribution, Workplace and Household Settings:
No special protective equipment required

Product Manufacturing Plant (needed at Product-Producing Plant ONLY):
In case of inadequate ventilation wear respiratory protection

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	Solid
Appearance	white
Odor	Mild, Perfumes
Odor threshold	No information available

Property	Values	Remarks
pH	6 - 8	
Melting point / freezing point	No information available	
Initial boiling point and boiling range	No information available	
Flash point	No information available	
Evaporation rate	No information available	
Flammability	No information available	
Flammability Limit in Air		
Upper flammability or explosive limits	No information available	
Lower flammability or explosive limits	No information available	
Vapor pressure	No information available	
Relative vapor density	No information available	
Relative density	No information available	
Water solubility	No information available	
Partition coefficient	No information available	
Autoignition temperature	No information available	
Decomposition temperature	No information available	
Viscosity	No information available	
VOC Content (%)	Products comply with US state and federal regulations for VOC content in consumer products.	

10. STABILITY AND REACTIVITY

Reactivity	None under normal use conditions.
Stability	Stable under normal conditions.
Hazardous polymerization	Hazardous polymerization does not occur.
Hazardous Reactions	None under normal processing.
Conditions to Avoid	None under normal processing.
Incompatible materials	None in particular.
Hazardous decomposition products	None under normal use conditions.

11. TOXICOLOGICAL INFORMATION

Product Information
Information on likely routes of exposure

Inhalation	No known effect.
Skin contact	No known effect.
Ingestion	No known effect.
Eye contact	No known effect.

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

Acute toxicity	No known effect.
Skin corrosion/irritation	No known effect.
Serious eye damage/eye irritation	No known effect.
Skin sensitization	No known effect.
Respiratory sensitization	No known effect.
Germ cell mutagenicity	No known effect.
Reproductive toxicity	No known effect.
Developmental toxicity	No known effect.
STOT - single exposure	No known effect.
STOT - repeated exposure	No known effect.
Aspiration hazard	No known effect.
Carcinogenicity	No known effect.

12. ECOLOGICAL INFORMATION

Ecotoxicity

The product is not expected to be hazardous to the environment.

Persistence and degradability	No information available.
Bioaccumulative potential	No information available.
Mobility	No information available.
Other adverse effects	No information available.

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Waste from Residues/Unused Products	Disposal should be in accordance with applicable regional, national and local laws and regulations.
Contaminated packaging	Disposal should be in accordance with applicable regional, national and local laws and regulations.
California Hazardous Waste Codes (non-household setting)	331

14. TRANSPORT INFORMATION

DOT	Not regulated
IMDG	Not regulated
IATA	Not regulated

15. REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS

CERCLA
This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 61)
This product does not contain any substances regulated as hazardous air pollutants (HAPS) under Section 112 of the Clean Air Act Amendments of 1990.

Clean Water Act
This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

U.S. State Regulations (RTK)
This product does not contain any substances regulated by state right-to-know regulations.

California Proposition 65
This product is not subject to warning labeling under California Proposition 65.

International Inventories

United States
All intentionally-added components of this product(s) are listed on the US TSCA Inventory

Canada
This product is in compliance with CEPA for import by P&G

Legend
United States Toxic Substances Control Act Section 8(b) Inventory (TSCA)
CEPA - Canadian Environmental Protection Act

16. OTHER INFORMATION

HMIS

NFPA

Issuing Date: 09-Jul-2021
Revision date 09-Jul-2021
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

X-PURE

1. IDENTIFICATION

Product name : **X-PURE**

Product code : **09-12455**

Other means of identification : Not available.

Supplier : Wood Wyant
A division of Sani-Marc Group
42, rue de l'Artisan
Victoriaville, Québec
G6P 7E3
1-819-758-1541

Manufacturer : Wood Wyant
A division of Sani-Marc Group
42, rue de l'Artisan
Victoriaville, Québec
G6P 7E3
1-819-758-1541

Identified uses : Special: Hand Sanitizer

Uses advised against : Only use this product as directed. Read label before using.

Date of issue (YYYY-MM-DD) : **2020-03-20**

In case of emergency : Emergency phone: CANUTEC (613) 996-6666 (Collect calls accepted)

2. HAZARDS IDENTIFICATION

Information in this section only concerns the product as supplied. Contact your account manager to get more information on diluted form hazards identification.

Product Classification : **FLAMMABLE LIQUIDS - Category 2**
EYE IRRITATION - Category 2B

Signal word : **Danger**

Hazard pictograms :

Hazard statements : Highly flammable liquid and vapors.
Causes eye irritation.

Precautionary statements

General : Highly flammable liquid and vapors. Handle with care. Read label before use. Keep out of reach of children.

Prevention : Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use only in a well-ventilated area. Specific protective equipment is suggested for this product. See section 8 for details.

Response : Rinse with water. IF IN EYES: Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention.

Storage : Highly flammable liquid and vapors. Store away from combustibles, extreme heat and oxidizing agents. See section 7 for more informations.

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

Supplemental label elements : Percentage of the mixture consisting of ingredient(s) of unknown oral toxicity: 21.8%
Percentage of the mixture consisting of ingredient(s) of unknown dermal toxicity: 21.8%
Percentage of the mixture consisting of ingredient(s) of unknown inhalation toxicity: 21.8%

Other hazards which do not result in classification : None known.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance/mixture : Mixture

Name	CAS number	% (w/w)
ethanol	64-17-5	30 - 60
Isopropyl alcohol	67-63-0	30 - 60

Occupational exposure limits, if available, are listed in Section 8.

4. FIRST AID MEASURES

Description of required first aid measures

Eye contact In case of contact with eyes, flush with fresh water. Check for and remove any contact lenses. Continue rinsing. If irritation persists, get medical attention.

Skin contact In case of irritation, rinse with water. Get medical attention if irritation persist.

Ingestion Rinse mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

Inhalation Move victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if adverse health effects persist or are severe. Maintain an open airway.

Most important symptoms/effects, acute and delayed

Eye contact Adverse symptoms may include the following:
irritation
watering
redness

Skin contact No specific symptoms under normal use conditions.

Ingestion No specific symptoms under normal use conditions.

Inhalation No specific symptoms under normal use conditions.

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

See toxicological information (Section 11)

5. FIRE-FIGHTING MEASURES

Extinguishing media

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

Unsuitable extinguishing media Do not use water jet.

Specific hazards arising from the chemical Highly flammable liquid and vapors. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Runoff to sewer may create fire or explosion hazard.

Hazardous thermal decomposition products Decomposition products may include the following materials:
carbon dioxide
carbon monoxide

Special fire-fighting procedures Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action should be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Special protective equipment for fire-fighters Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions 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. Initiate spill response procedures if required.

Personal protection Put on appropriate personal protective equipment (see Section 8).

Cleaning method 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). Use a water rinse for final clean-up.

7. HANDLING AND STORAGE

Handling

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 Section 8 for additional information on hygiene measures.

Storage and Incompatibility

Store in accordance with local regulations. Store in a segregated and approved area. Eliminate all ignition sources. Separate from oxidizing materials. 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. Keep out of reach of children. Store away from incompatible materials (see Section 10).

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational exposure limits

Ingredient name	Exposure limits
Ethyl alcohol	**CA Alberta Provincial (Canada, 4/2009).** 8 hrs OEL: 1000 ppm 8 hours. 8 hrs OEL: 1880 mg/m³ 8 hours. **CA Quebec Provincial (Canada, 1/2014).** TWAEV: 1000 ppm 8 hours. TWAEV: 1880 mg/m³ 8 hours. **CA British Columbia Provincial (Canada, 6/2017).** STEL: 1000 ppm 15 minutes. **CA Ontario Provincial (Canada, 7/2015).** STEL: 1000 ppm 15 minutes. **CA Saskatchewan Provincial (Canada, 7/2013).** STEL: 1250 ppm 15 minutes. TWA: 1000 ppm 8 hours.
propan-2-ol	**CA Alberta Provincial (Canada, 4/2009).** 15 min OEL: 984 mg/m³ 15 minutes. 8 hrs OEL: 200 ppm 8 hours. 15 min OEL: 400 ppm 15 minutes. 8 hrs OEL: 492 mg/m³ 8 hours. **CA British Columbia Provincial (Canada, 6/2017).** TWA: 200 ppm 8 hours. STEL: 400 ppm 15 minutes. **CA Ontario Provincial (Canada, 7/2015).** TWA: 200 ppm 8 hours. STEL: 400 ppm 15 minutes. **CA Quebec Provincial (Canada, 1/2014).** TWAEV: 400 ppm 8 hours. TWAEV: 983 mg/m³ 8 hours. STEV: 500 ppm 15 minutes. STEV: 1230 mg/m³ 15 minutes. **CA Saskatchewan Provincial (Canada, 7/2013).** STEL: 400 ppm 15 minutes. TWA: 200 ppm 8 hours.

Appropriate engineering controls

For manufacturing or industrial uses it can be appropriate to: 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 ventilating equipment.

Individual protection measures

Eye/face protection

Continued or intense exposures might required to wear safety glasses.

Hands and Body protection

No specific protective equipment required under normal use conditions. Prolonged or severe exposures might require to wear chemical-resistant gloves.
No special protective clothing is required.

Respiratory protection

No specific protective equipment required under normal use conditions.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	Liquid.	**pH**	Not available.	**Flash point**	Closed cup: 20°C (68°F) [Pensky-Martens.]
Color	Colorless.	**Relative density**	Not available.	**Melting point**	Not available.
Odor	Alcohol-like.	**Viscosity**	Not available.	**Boiling point**	Not available.
Odor threshold	Not available.	**Vapor pressure**	Not available.	**Fire point** :	Not available.
Solubility in water :	Not available.	**Vapor density** :	Not available.	**Evaporation rate** :	Not available.

Decomposition temperature	: Not available.	**Auto-ignition temperature**	: Not available.
Partition coefficient: n-octanol/ water	: Not available.	**Flammability (solid, gas)**	: Not available.
Lower and upper explosive (flammable) limits	: Not available.		

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.

Incompatible materials Reactive or incompatible with the following materials:
oxidizing materials

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.

Possibility of hazardous reactions Under normal conditions of storage and use, hazardous reactions will not occur.

Hazardous decomposition products Under normal conditions of storage and use, hazardous decomposition products should not be produced.

11. TOXICOLOGICAL INFORMATION

Route of exposure Not available.

	Potential acute health effects	Symptoms
Eye contact	May cause eye irritation.	Adverse symptoms may include the following: irritation watering redness
Skin contact	No known significant effects or critical hazards.	No specific symptoms under normal use conditions.
Ingestion	No known significant effects or critical hazards.	No specific symptoms under normal use conditions.
Inhalation	No known significant effects or critical hazards.	No specific symptoms under normal use conditions.

Toxicity data

Product/ingredient name	Result	Species	Dose	Exposure
Ethyl alcohol	LC50 Inhalation Vapor	Rat	124700 mg/m³	4 hours
	LD50 Dermal	Rabbit	>20000 mg/kg	-
	LD50 Oral	Rat	7 g/kg	-
propan-2-ol	LD50 Dermal	Rabbit	12800 mg/kg	-
	LD50 Oral	Rat	5000 mg/kg	-

Information on toxicological effects

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.

Sensitization Not available.

Carcinogenicity No known significant effects or critical hazards.

12. ECOLOGICAL INFORMATION

Ecotoxicity data

Product/ingredient name	Result	Species	Exposure

Ethyl alcohol	Acute EC50 17.921 mg/l Marine water	Algae - Ulva pertusa	96 hours
	Acute EC50 2000 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 25500 µg/l Marine water	Crustaceans - Artemia franciscana - Larvae	48 hours
	Acute LC50 42000 µg/l Fresh water	Fish - Oncorhynchus mykiss	4 days
	Chronic NOEC 4.995 mg/l Marine water	Algae - Ulva pertusa	96 hours
	Chronic NOEC 100 ul/L Fresh water	Daphnia - Daphnia magna - Neonate	21 days
	Chronic NOEC 0.375 ul/L Fresh water	Fish - Gambusia holbrooki - Larvae	12 weeks
propan-2-ol	Acute EC50 10100 mg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 1400000 µg/l Marine water	Crustaceans - Crangon crangon	48 hours
	Acute LC50 4200 mg/l Fresh water	Fish - Rasbora heteromorpha	96 hours

Persistence and degradability : Unknown **Bioaccumulative potential** : Unknown **Mobility in soil** : Unknown **Other adverse effects** : Unknown

13. DISPOSAL CONSIDERATIONS

Disposal methods Dispose content and container in accordance with local, regional and national regulation in force.

14. TRANSPORT INFORMATION

	UN number	UN proper shipping name	Transport hazard class (es)	Packing group	TDG Placard
TDG Classification	UN1993	1993 Flammable liquid, n.o.s. (ethanol)	3	II	

Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2.18-2.19 (Class 3).

Additional information: See shipping documents for specific information on DOT, IMDG or IATA

15. REGULATORY INFORMATION

Canadian lists

Canadian NPRI The following components are listed: Isopropyl alcohol; Ethanol

CEPA Toxic substances None of the components are listed.

Canada inventory All components are listed or exempted.

International lists

United States All components are listed or exempted.

16. OTHER INFORMATION

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

Health Hazard	0
Fire Hazard	0
Reactivity	0
Personal Protection	

Date of issue/Date of revision (YYYY-MM-DD) : 2020-03-20

Prepared by : **Regulatory Affairs Department**

Wood Wyant
A division of Sani-Marc Group
42, rue de l'Artisan
Victoriaville, Québec
G6P 7E3
1-819-758-1541

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.