1. PRODUCT & COMPANY IDENTIFICATION

1.1	Product Name:	**BARRICADE RUST PREVENTIVE LIQUID**
1.2	Chemical Name:	NA
1.3	Synonyms:	33128, 33132
1.4	Trade Names:	Barricade Rust Preventive Liquid
1.5	Product Use:	Rust Preventative
1.6	Distributor's Name:	Birchwood Casey, LLC
1.7	Distributor's Address:	3260 Winpark Drive, New Hope, MN., 55427 USA
1.8	Emergency Phone:	**ChemTrec +1 (800) 424-9300 / +1 (703) 527-3887** or **Poison Control Center +1 (866) 291-7152**
1.9	Business Phone / Fax:	+1 (952) 388-6717

2. HAZARDS IDENTIFICATION

2.1	Hazard Identification:	This product is classified as a HAZARDOUS SUBSTANCE and as DANGEROUS GOODS according to the classification criteria of NOHSC: 1088 (2004) and ADG Code (Australia). **DANGER! MAY BE FATAL IF SWALLOWED AND ENTERS AIRWAYS. MAY CAUSE CANCER. FLAMMABLE LIQUID AND VAPOR. MAY CAUSE AN ALLERGIC SKIN REACTION. CAUSES EYE IRRITATION.** Classification: Asp. Tox. 1, Flam. Liq. 3, Carc. 1A, Skin Sens. 1B, Eye Irrit. 2B
2.2	Label Elements:	Hazard Statements (H): H304 – May be fatal if swallowed and enters airways. H350 – May Cause Cancer. H226 – Flammable liquid and vapor. H317 – May cause an allergic skin reaction. H320 – Causes eye irritation. Precautionary Statements (P): P201 – Obtain special instructions before use. P202 – Do not handle until all safety precautions have been read and understood. P210 – Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P233 – Keep container tightly closed. P261 – Avoid breathing fume/mist/vapors/spray. P272 – Contaminated work clothing should not be allowed out of the workplace. P264 – Wash thoroughly with soap and water after handling. P280 – Wear protective gloves/ eye protection/ face protection. P301+P310 – IF SWALLOWED: Immediately call a POISON CENTER/doctor. P331 – Do NOT induce vomiting. P303+P361+P353 – IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower]. P305+P351+P338 – IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P337+P313 – If eye irritation persists: Get medical advice/attention. P308+P313 – IF exposed or concerned: Get medical advice/ attention. P370+P378 – In case of fire: Use Water, Foam, CO_2, Dry Chemical to extinguish. P403+P235 – Store in a well-ventilated place. Keep cool. P501 – Dispose of contents/container through licensed treatment, storage or disposal facility.
2.3	Other Warnings:	**KEEP OUT OF REACH OF CHILDREN**.

3. COMPOSITION & INGREDIENT INFORMATION

CHEMICAL NAME(S)	CAS No.	RTECS No.	EINECS No.	%	EXPOSURE LIMITS IN AIR (mg/m³) ACGIH ppm TLV	ACGIH ppm STEL	NOHSC ppm ES-TWA	NOHSC ppm ES-STEL	NOHSC ppm ES-PEAK	OSHA ppm PEL	OSHA ppm STEL	OSHA ppm IDLH	OTHER
STODDARD SOLVENT	64742-47-8	OA5504000	265-149-8	55-70	NA	NA	NF	NF	NF	(5)	NA	NA	
	Asp. Tox. 1; H304												
HEAVY PETROLEUM OXYGENATES, BARIUM NEUTRALIZED	NA	NA	NA	15-30	NA	NA	NF	NF	NF	(5)	NA	NA	
SEVERELY HYDROTREATED NAPHTHENIC PETROLEUM OIL *	64742-52-5	NA	265-155-0	5-20	(5)	(10)	(5)	NA	NA	(5)	NA	NA	OIL MIST
	Asp. Tox. 1; H304												
PROPYLENE GLYCOL MONOMETHYL ETHER	107-98-2	UB7700000	203-539-1	1-5	100	150	100	NF	NF	100	150	NA	
	Flam. Liq. 3; STOT SE 3; H226, H336												

* < 3% DIMETHYL SULFOXIDE (DMSO) per IP346

4. FIRST AID MEASURES

4.1	First Aid:	Ingestion: DO NOT INDUCE VOMITING. Contact Poison Control Center +1 (866) 291-7152 or the nearest Poison Control Center or local emergency telephone number for assistance and instructions. Seek immediate medical attention. If vomiting occurs spontaneously, keep victim's head lowered (forward) to reduce the risk of aspiration. Eyes: If product gets in the eyes, flush eyes thoroughly with copious amounts of water for at least 15 minutes, holding eyelid(s) open to ensure complete flushing. If the eyes or face become swollen during or following use, consult a physician or emergency room immediately. Skin: Remove contaminated clothing and wash affected areas with soap and water. If discomfort persists and/or the skin reaction worsens, contact a physician immediately. Do not wear contaminated clothing until after it has been properly cleaned. Inhalation: Remove victim to fresh air at once. Under extreme conditions, if breathing stops, perform artificial respiration. Seek immediate medical attention.

4. FIRST AID MEASURES – cont'd

4.2	Effects of Exposure:	Ingestion: If product is swallowed, may cause nausea, temporary gastrointestinal irritation. Vomiting and/or diarrhea. Eyes: Moderately irritating to the eyes. Symptoms of overexposure may include redness, itching, irritation and watering. Skin: May be irritating to skin. The product can cause allergic skin reactions (e.g., rashes, welts, dermatitis) in some sensitive individuals. Inhalation: None expected.
4.3	Symptoms of Overexposure:	Symptoms of skin overexposure may include redness, itching, and irritation of affected areas. Overexposure in eyes may cause redness, itching and watering. The product can cause allergic skin reactions (e.g., rashes, welts, dermatitis) upon prolonged or repeated exposure.
4.4	Acute Health Effects:	Moderate irritation to eyes and skin near affected areas. Additionally, high concentrations of vapors can cause drowsiness, dizziness, headaches and nausea.
4.5	Chronic Health Effects:	The material may accentuate any pre-existing dermatitis condition.
4.6	Target Organs:	Eyes, Skin, Respiratory System
4.7	Medical Conditions Aggravated by Exposure:	Persons with pre-existing skin disorders, eye problems, or impaired kidney function may be more susceptible to the effects of the substance.

HEALTH	3
FLAMMABILITY	2
PHYSICAL HAZARDS	0
PROTECTIVE EQUIPMENT	B
EYES / SKIN	

5. FIREFIGHTING MEASURES

5.1	Fire & Explosion Hazards:	This material can burn but will not readily ignite. This material will release vapors when heated above the flash point temperature that can ignite when exposed to a source of ignition. In enclosed spaces, heated vapor can ignite with explosive force. Mists or sprays may burn at temperatures below the flash point. Carbon dioxide, carbon monoxide, smoke, fumes, unburned hydrocarbons and trace oxides of sulfur, phosphorus, zinc and nitrogen. Also, depending upon the conditions of use, low concentrations of hydrogen sulfide can be released.
5.2	Extinguishing Methods:	Dry Chemical, Foam, Carbon Dioxide, and Water Fog.
5.3	Firefighting Procedures:	Keep containers cool until well after the fire is out. Fight fires as for surrounding materials. As in any fire, wear MSHA/NIOSH approved self-contained breathing apparatus (pressure-demand) and full protective gear. Keep containers cool until well after the fire is out. Use water spray to cool fire-exposed surfaces and to protect personal. Fight fire upwind. Avoid spraying water directly into storage containers because of danger of boil-over. Prevent runoff from fire control or dilution from entering sewers, drains, drinking water supply, or any natural waterway. Firefighters must use full bunker gear including NIOSH-approved positive pressure self-contained breathing apparatus to protect against potential hazardous combustion or decomposition products and oxygen deficiencies.

6. ACCIDENTAL RELEASE MEASURES

6.1	Spills:	Before cleaning any spill or leak, individuals involved in spill cleanup must wear appropriate Personal Protective Equipment (PPE). Use safety glasses or safety goggles and face shield; use gloves and other protective clothing (e.g., apron, boots, etc.) to prevent skin contact. Small Spills: Wear appropriate protective equipment including gloves and protective eyewear. Use a non-combustible, inert material such as vermiculite or sand to soak up the product and place into a container for later disposal. Large Spills: Keep incompatible materials (e.g., oxidizers, strong acids, alkalis) away from spill. Stay upwind and away from spill or release. Isolate immediate hazard area and keep unauthorized personnel out of area. Wear appropriate protective equipment including respiratory protection as conditions warrant. 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). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product.

7. HANDLING & STORAGE INFORMATION

7.1	Work & Hygiene Practices:	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. Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist.
7.2	Storage & Handling:	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.
7.3	Special Precautions:	Empty containers may contain product residue. Do not pressurize, cut, heat or weld empty containers. Do not reuse empty containers without commercial cleaning or reconditioning.

8. EXPOSURE CONTROLS & PERSONAL PROTECTION

8.1	Exposure Limits: ppm (mg/m^3)	CHEMICAL NAME(S)	ACGIH TLV	ACGIH STEL	NOHSC ES-TWA	NOHSC ES-STEL	NOHSC ES-PEAK	OSHA PEL	OSHA STEL	OSHA IDLH	OTHER
		STODDARD SOLVENT	NA	NA	NF	NF	NF	(5)	NA	NA	
		SEVERELY HYDROTREATED NAPHTHENIC PETROLEUM OIL * contains less than 3% DMSO	(5)	(10)	(5)	NA	NA	(5)	NA	NA	OIL MIST
		PROPYLENE GLYCOL MONOMETHYL ETHER	100	150	100	NF	NF	100	150	NA	

8.2	Ventilation & Engineering Controls:	General mechanical (e.g., fans) or natural ventilation is sufficient when this product is in use. Use local or general exhaust ventilation to effectively remove and prevent buildup of vapors or mist generated from the handling of this product. Ensure appropriate decontamination equipment is available (e.g., sink, safety shower, eye-wash station). Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, vapor controls, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.	
8.3	Respiratory Protection:	No special respiratory protection is required under typical circumstances of use or handling. In instances where mist or vapors of this product are generated, and respiratory protection is needed, use only protection authorized by 29 CFR §1910.134, applicable U.S. State regulations, or the Canadian CAS Standard Z94.4-93 and applicable standards of Canadian Provinces, EC member States, or Australia. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.	
8.4	Eye Protection:	Wear protective eyewear (e.g., safety glasses with side-shield) at all times when handling this product. Always use protective eyewear when cleaning spills or leaks. Contact lenses pose a special hazard; soft lenses may absorb and concentrate irritants.	
8.5	Hand Protection:	If anticipated that prolonged & repeated skin contact will occur during use of this product, wear latex or rubber gloves for routine industrial use. If necessary, refer to U.S. OSHA 29 CFR §1910.138, the appropriate standards of Canada, of the E.C. member states.	
8.6	Body Protection:	No apron required when handling small quantities. When handling large quantities (e.g., ≥ 1 gallon), eye wash stations and deluge showers should be available. Upon completion of work activities involving large quantities of this product, wash any exposed areas thoroughly with soap and water.	

9. PHYSICAL & CHEMICAL PROPERTIES

9.1	Appearance:	Brown liquid impregnated in cloth or in an application pen
9.2	Odor:	Kerosene like odor
9.3	Odor Threshold:	NA
9.4	pH:	NA
9.5	Melting Point/Freezing Point:	NA
9.6	Initial Boiling Point/Boiling Range:	148.8 ºC (300 ºF)
9.7	Flashpoint:	43.8 ºC (111 ºF) CC
9.8	Upper/Lower Flammability Limits:	UEL: 6 / LEL 1
9.9	Vapor Pressure:	NA
9.10	Vapor Density:	>1 (Air = 1)
9.11	Relative Density:	0.825
9.12	Solubility:	Negligible
9.13	Partition Coefficient (log P_{ow}):	NA
9.14	Autoignition Temperature:	335 ºC (635 ºF)
9.15	Decomposition Temperature:	NA
9.16	Viscosity:	1.56 cSt (1.56 mm^2/sec) at 40 ºC | 2.02 cSt (2.02 mm^2/sec) at 25 ºC
9.17	Other Information:	VOC 70%

10. STABILITY & REACTIVITY

10.1	Stability:	This product is stable under normal storage and use conditions.
10.2	Hazardous Decomposition Products:	Oxides of carbon (CO, CO_2) and other unidentified organic compounds.
10.3	Hazardous Polymerization:	Will not occur.
10.4	Conditions to Avoid:	Open flames, high heat and direct sunlight.
10.5	Incompatible Substances:	Strong oxidizing agents (chlorates, nitrates, peroxides etc.), acids or alkalis.

11. TOXICOLOGICAL INFORMATION

11.1	Routes of Entry:	Inhalation:	YES	Absorption:	YES	Ingestion:	NO
11.2	Toxicity Data:	This product has NOT been tested on animals to obtain toxicology data. Toxicology data, found in scientific literature, is available for some of the components of the product and is presented below: $LD_{50,}$ (oral, rat): 5,130 mg/kg (Dipropylene Glycol Monomethyl Ether); 1,720 mg/kg (mono-Ethanolamine)					
11.3	Acute Toxicity:	Moderate irritation to eyes and skin near affected areas. Additionally, high concentrations of vapors can cause drowsiness, dizziness, headaches and nausea.					
11.4	Chronic Toxicity:	This material may aggravate any pre-existing skin condition (e.g., dermatitis).					
11.5	Suspected Carcinogen:	This product does not contain any chemicals known to the State of California to cause cancer, birth defects, or other reproductive harm. For more information go to www.P65Warnings.ca.gov.					
11.6	Reproductive Toxicity:	This product is not reported to produce reproductive toxicity in humans.					
	Mutagenicity:	This product is not reported to produce mutagenic effects in humans.					
	Embryotoxicity:	This product is not reported to produce embryotoxic effects in humans.					
	Teratogenicity:	This product is not reported to cause teratogenic effects in humans.					
	Reproductive Toxicity:	This product is not reported to cause reproductive effects in humans.					
11.7	Irritancy of Product:	See Section 4.2					
11.8	Biological Exposure Indices:	NE					
11.9	Physician Recommendations:	Treat symptomatically.					

12. ECOLOGICAL INFORMATION

12.1	Environmental Stability:	Analysis for ecological effects has not been conducted on this product. However, if spilled, this product and any contaminated soil or water may be harmful to human, animal, and aquatic life. Also, the coating action associated with petroleum and petroleum products can be harmful or fatal to aquatic life and waterfowl.
12.2	Effects on Plants & Animals:	There are no specific data available for this product. An environmental fate analysis has not been conducted on this specific product. However, plants and animals may experience harmful or fatal effects when coated with petroleum-based products. □
12.3	Effects on Aquatic Life:	Petroleum-based (mineral) lube oils will normally float on water. In stagnant or slow-flowing waterways, an oil layer can cover a large surface area. As a result, this oil layer might limit or eliminate natural atmospheric oxygen transport into the water. With time, if not removed, oxygen depletion in the waterway can result in a loss of marine life or create an anaerobic environment. Severe algae growth can reduce oxygen content in the water possibly below levels necessary to support marine life.

13. DISPOSAL CONSIDERATIONS

13.1	Waste Disposal:	Review current local, state and federal laws, codes, statutes and regulations to determine current status and appropriate disposal method for the ingredients listed in Section 3. Any disposal practice must be in compliance with local, state, and federal laws and regulations. Contact the appropriate agency for specific information. Disposal of hazardous waste must be through by a licensed treatment, storage or disposal facility (TSDF).
13.2	Special Considerations:	Contact the federal, state or provincial environmental authority to determine suitability for recycling and or proper disposal requirements

14. TRANSPORTATION INFORMATION

The basic description (ID Number, proper shipping name, hazard class & division, packing group) is shown for each mode of transportation. Additional descriptive information may be required by 49 CFR, IATA/ICAO, IMDG and the CTDGR.

14.1	49 CFR (GND):	CONSUMER COMMODITY, ORM-D – until 12/31/2020; or UN1993, FLAMMABLE LIQUID, N.O.S., (PETROLEUM NAPHTHA), 3, III (LTD QTY, IP VOL ≤ 5.0 L)	
14.2	IATA (AIR)*:	ID8000, CONSUMER COMMODITY, 9 (IP VOL ≤ 0.5 L); or UN1993, FLAMMABLE LIQUID, N.O.S., (PETROLEUM NAPHTHA), 3, III (LTD QTY, IP VOL ≤ 2.5 L)	
14.3	IMDG (OCN):	UN1993, FLAMMABLE LIQUID, N.O.S., (PETROLEUM NAPHTHA), 3, III (LTD QTY, IP VOL ≤ 5.0 L)	
14.4	TDGR (Canadian GND):	UN1993, FLAMMABLE LIQUID, N.O.S., (PETROLEUM NAPHTHA), 3, III (LTD QTY, IP VOL ≤ 5.0 L)	
14.5	ADR/RID (EU):	UN1993, FLAMMABLE LIQUID, N.O.S., (PETROLEUM NAPHTHA), 3, III (LTD QTY, IP VOL ≤ 5.0 L)	
14.6	SCT (MEXICO):	UN1993, LIQUIDOS, INFLAMABLES, N.E.P. (PETROLEUM NAPHTHA), 3, III (CANT LTDA, IP VOL ≤ 5.0 L)	
14.7	ADGR (AUS):	UN1993, FLAMMABLE LIQUID, N.O.S., (PETROLEUM NAPHTHA), 3, III (LTD QTY, IP VOL ≤ 5.0 L)	
14.8	EXCEPTED QUANTITY	This product may also be shipped as an Excepted Quantity (Inner Package Volume ≤ 30 mL, Total Quantity ≤ 500 mL per Outer Package)	

15. REGULATORY INFORMATION

15.1	SARA Reporting Requirements:	This product contains Propylene Glycol Monomethyl Ether, a substance subject to SARA Title III, Section 313 reporting requirements.
15.2	SARA TPQ:	There are no specific Threshold Planning Quantities for the components of this product.
15.3	TSCA Inventory Status:	The components of this product are listed on the TSCA Inventory.
15.4	CERCLA Reportable Quantity:	NA
15.5	Other Federal Requirements:	Clean Water Act (CWA) 311: Discharges or spills which produce a visible sheen on waters of the United States, their adjoining shorelines, or into conduits leading to surface waters must be reported to the EPA's National Response Center at +1 (800) 424-8802.
15.6	Other Canadian Regulations:	This product has been classified according to the hazard criteria of the Controlled Products Regulations (CPR) and the SDS contains all of the information required by the CPR. The components of this product are listed on the DSL/NDSL. None of the components of this product are listed on the Priorities Substances List. WHMIS D2B (Other Toxic Effects).
15.7	State Regulatory Information:	Propylene Glycol Monomethyl Ether is found on the following state criteria lists: FL, MA, MN, PA and WA. No other ingredients in this product, present in a concentration of 1.0% or greater, are listed on any of the following state criteria lists: Florida Toxic Substances List (FL), Massachusetts Hazardous Substances List (MA), Minnesota Hazardous Substances List (MN) & Pennsylvania Right-to-Know List (PA). No other ingredients are found on the following state criteria lists: California Proposition 65 (CA65), Delaware Air Quality Management List (DE), Florida Toxic Substances List (FL), Massachusetts Hazardous Substances List (MA), Michigan Critical Substances List (MI), Minnesota Hazardous Substances List (MN), New Jersey Right-to-Know List (NJ), New York Hazardous Substances List (NY), Pennsylvania Right-to-Know List (PA), Washington Permissible Exposures List (WA), Wisconsin Hazardous Substances List (WI).
15.8	Other Requirements:	This product does not contain any chemicals known to the State of California to cause cancer, birth defects, or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

16. OTHER INFORMATION

16.1	Other Information:	**DANGER! MAY BE FATAL IF SWALLOWED AND ENTERS AIRWAYS. MAY CAUSE CANCER. FLAMMABLE LIQUID AND VAPOR. MAY CAUSE AN ALLERGIC SKIN REACTION. CAUSES EYE IRRITATION.** Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Keep container tightly closed. Avoid breathing fume/mist/vapors/spray. Contaminated work clothing should not be allowed out of the workplace. Wash thoroughly with soap and water after handling. Wear protective gloves/ eye protection/ face protection. IF SWALLOWED: Immediately call a POISON CENTER/doctor. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower]. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. IF exposed or concerned: Get medical advice/ attention. In case of fire: Use Water, Foam, CO_2, Dry Chemical to extinguish. Store in a well-ventilated place. Keep cool. **KEEP LOCKED UP AND OUT OF REACH OF CHILDREN.**
16.2	Terms & Definitions:	See last page of this Safety Data Sheet.
16.3	Disclaimer:	This Safety Data Sheet is offered pursuant to OSHA's Hazard Communication Standard, 29 CFR §1910.1200. Other government regulations must be reviewed for applicability to this product. To the best of ShipMate's & Birchwood Casey, LLC knowledge, the information contained herein is reliable and accurate as of this date; however, accuracy, suitability or completeness is not guaranteed and no warranties of any type, either expressed or implied, are provided. The information contained herein relates only to the specific product(s). If this product(s) is combined with other materials, all component properties must be considered. Data may be changed from time to time. Be sure to consult the latest edition.
16.4	Prepared for:	**Birchwood Casey, LLC** 3260 Winpark Drive New Hope, MN 55427 USA Tel: +1 (952) 388-6717 Email: customerservice@birchwoodcasey.com http://www.birchwoodCasey.com
16.5	Prepared by:	**ShipMate, Inc.** P.O. Box 787 Sisters, Oregon 97759-0787 USA Tel: +1 (310) 370-3600 Fax: +1 (310) 370-5700 http://www.shipmate.com

DEFINITION OF TERMS

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

GENERAL INFORMATION:

CAS No.	Chemical Abstract Service Number
RTECS No.	Registry of Toxic Effects of Chemical Substances Number
EINECS No.	European Inventory of Existing Commercial Chemical Substances Number

EXPOSURE LIMITS IN AIR:

ACGIH	American Conference on Governmental Industrial Hygienists
IDLH	Immediately Dangerous to Life and Health
NOHSC	National Occupational Health and Safety Commission (Australia)
OSHA	U.S. Occupational Safety and Health Administration
PEL	Permissible Exposure Limit
STEL	Short Term Exposure Limit
TLV	Threshold Limit Value
TWA	Time Weighted Average

FIRST AID MEASURES:

CPR	Cardiopulmonary resuscitation - method in which a person whose heart has stopped receives manual chest compressions and breathing to circulate blood and provide oxygen to the body.

HAZARDOUS MATERIALS IDENTIFICATION SYSTEM: HMIS

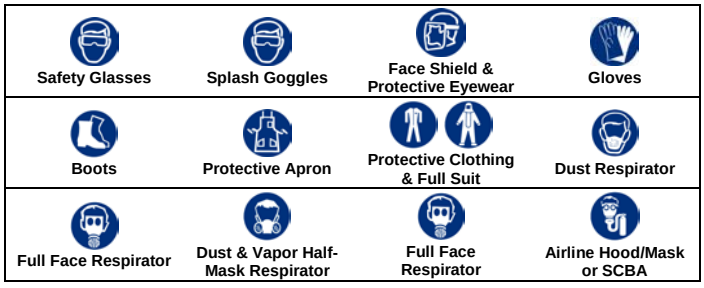
HEALTH, FLAMMABILITY & REACTIVITY RATINGS:

0	Minimal Hazard
1	Slight Hazard
2	Moderate Hazard
3	Severe Hazard
4	Extreme Hazard

HEALTH
FLAMMABILITY
PHYSICAL HAZARDS
PERSONAL PROTECTION

PERSONAL PROTECTION RATINGS:

A	
B	
C	
D	
E	
F	
G	
H	
I	
J	
K	
X	**Consult your supervisor or SOPs for special handling directions.**



OTHER STANDARD ABBREVIATIONS:

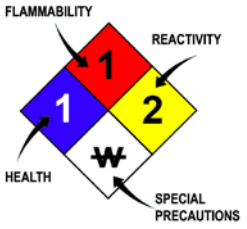
Carc	Carcinogenic
Irrit	Irritant
NA	Not Available
NR	No Results
ND	Not Determined
NE	Not Established
NF	Not Found
SCBA	Self-Contained Breathing Apparatus
Sens	Sensitization
STOT RE	Specific Target Organ Toxicity – Repeat Exposure
STOT SE	Specific Target Organ Toxicity – Single Exposure

NATIONAL FIRE PROTECTION ASSOCIATION: NFPA

FLAMMABILITY LIMITS IN AIR:	
Autoignition Temperature	Minimum temperature required to initiate combustion in air with no other source of ignition
LEL	Lower Explosive Limit - lowest percent of vapor in air, by volume, that will explode or ignite in the presence of an ignition source
UEL	Upper Explosive Limit - highest percent of vapor in air, by volume, that will explode or ignite in the presence of an ignition source

HAZARD RATINGS:

0	Minimal Hazard
1	Slight Hazard
2	Moderate Hazard
3	Severe Hazard
4	Extreme Hazard
ACD	Acidic
ALK	Alkaline
COR	Corrosive
W	Use No Water
OX	Oxidizer
TREFOIL	Radioactive



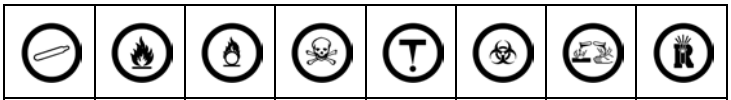
TOXICOLOGICAL INFORMATION:

LD_{50}	Lethal Dose (solids & liquids) which kills 50% of the exposed animals
LC_{50}	Lethal concentration (gases) which kills 50% of the exposed animal
ppm	Concentration expressed in parts of material per million parts
TD_{lo}	Lowest dose to cause a symptom
TCLo	Lowest concentration to cause a symptom
TD_{lo}, LD_{lo}, & LD_o or TC, TC_o, LC_{lo}, & LC_o	Lowest dose (or concentration) to cause lethal or toxic effects
IARC	International Agency for Research on Cancer
NTP	National Toxicology Program
RTECS	Registry of Toxic Effects of Chemical Substances
BCF	Bioconcentration Factor
TL_m	Median threshold limit
log K_{OW} or log K_{OC}	Coefficient of Oil/Water Distribution

REGULATORY INFORMATION:

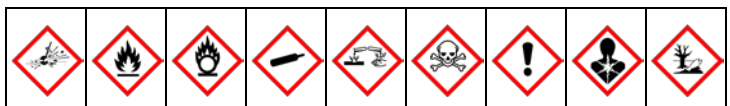
WHMIS	Canadian Workplace Hazardous Material Information System
DOT	U.S. Department of Transportation
TC	Transport Canada
EPA	U.S. Environmental Protection Agency
DSL	Canadian Domestic Substance List
NDSL	Canadian Non-Domestic Substance List
PSL	Canadian Priority Substances List
TSCA	U.S. Toxic Substance Control Act
EU	European Union (European Union Directive 67/548/EEC)
WGK	Wassergefährdungsklassen (German Water Hazard Class)

WORKPLACE HAZARDOUS MATERIALS IDENTIFICATION (WHMIS) SYSTEM:



Class A	Class B	Class C	Class D1	Class D2	Class D3	Class E	Class F
Compressed	Flammable	Oxidizing	Toxic	Irritation	Infectious	Corrosive	Reactive

CLP/GHS (1272/2008/EC) PICTOGRAMS:



GHS01	GHS02	GHS03	GHS04	GHS05	GHS06	GHS07	GHS08	GHS09
Explosive	Flammable	Oxidizer	Pressurized	Corrosive	Toxic	Harmful Irritating	Health Hazard	Environment