



# SAFETY DATA SHEET

Prepared to OSHA, ACC, ANSI, NOHSC, WHMIS, GHS & 1272/2008/EC Standards

SDS Revision: 1.0

SDS Revision Date: 10/25/2018

## 1. PRODUCT & COMPANY IDENTIFICATION

1.1	Product Name:	<b>GUN SCRUBBER™ WIPES</b>
1.2	Chemical Name:	NA
1.3	Synonyms:	33312
1.4	Trade Names:	Gun Scrubber™ Wipes
1.5	Product Use:	Cleaner/Polish
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:	<b>ChemTrec +1 (800) 424-9300 / +1 (703) 527-3887 or Poison Control Center +1 (866) 291-7152</b>
1.9	Business Phone / Fax:	+1 (952) 388-6717

## 2. HAZARDS IDENTIFICATION

2.1	Hazard Identification:	This product is classified as a HAZARDOUS SUBSTANCE but not as DANGEROUS GOODS according to the classification criteria of NOHSC: 1088 (2004) and ADG Code (Australia). <b>DANGER! MAY BE FATAL IF SWALLOWED AND ENTERS AIRWAYS. COMBUSTIBLE LIQUID.</b> Classification: Asp. Tox. 1; Flam. Liq. 4	
2.2	Label Elements:	<p><b>Hazard Statements (H):</b> H304 – May be fatal if swallowed and enters airways. H227 – Combustible liquid.</p> <p><b>Precautionary Statements (P):</b> P210 – Keep away from flames and hot surfaces – no smoking. P233 – Keep container tightly closed. P264 – Wash hands and exposed skin areas with soap and warm water thoroughly after handling. P301+P310 – IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. 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. P370+P378 – In case of fire: Use dry chemical, foam, carbon dioxide, or water spray (fog). P405 – Store locked up. P501 – Dispose of contents/container to licensed treatment, storage, recycling or disposal facility.</p>	
2.3	Other Warnings:	<b>KEEP OUT OF REACH OF CHILDREN.</b>	

## 3. COMPOSITION & INGREDIENT INFORMATION

CHEMICAL NAME(S)	CAS No.	RTECS No.	EINECS No.	%	EXPOSURE LIMITS IN AIR (mg/m <sup>3</sup> )									OTHER
					ACGIH		NOHSC			OSHA				
					ppm		ppm			ppm				
					TLV	STEL	ES-TWA	ES-STEL	ES-PEAK	PEL	STEL	IDLH		
PROPRIETARY	NA	NA	NA	BAL	NA	NA	NF	NF	NF	NA	NA	NA		
NAPHTHA (PETROLEUM), HYDROTREATED HEAVY*	64742-48-9	NA	265-150-3	80-100	400	NA	NF	NF	NF	400	NA	(10)	OIL MIST	

\* < 3% DIMETHYL SULFOXIDE (DMSO) per IP346


## 4. FIRST AID MEASURES

4.1	First Aid:	<p><b>Ingestion:</b> <b>DO NOT INDUCE VOMITING.</b> Contact Poison Control Center +1 (866) 291-7152 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.</p> <p><b>Eyes:</b> 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.</p> <p><b>Skin:</b> Remove contaminated clothing and wash affected areas with soap and water. If irritation persists, seek prompt medical attention. Do not wear contaminated clothing until after it has been properly cleaned.</p> <p><b>Inhalation:</b> Remove victim to fresh air at once. If breathing is difficult, administer supplemental oxygen and seek immediate medical attention. If breathing stops, perform artificial respiration.</p>
4.2	Effects of Exposure:	<p><b>Ingestion:</b> Irritation to the gastrointestinal tract. This material can enter the lungs during swallowing or vomiting and cause lung damage.</p> <p><b>Eyes:</b> Irritation upon direct contact. Symptoms may include stinging, tearing, redness and swelling.</p> <p><b>Skin:</b> Mildly irritating. Prolonged or repeated skin contact can result in defatting, drying of the skin with symptoms of redness, stinging. May be absorbed through the skin in harmful amounts.</p> <p><b>Inhalation:</b> Inhalation may cause irritation to the respiratory tract (nose, throat and lungs).</p>

## 4. FIRST AID MEASURES – cont'd

4.3	Symptoms of Overexposure:	<p><b>Ingestion:</b> Nausea, intestinal discomfort, vomiting and/or diarrhea.</p> <p><b>Eyes:</b> Overexposure in eyes may cause redness, itching and watering.</p> <p><b>Skin:</b> Symptoms of skin overexposure may include redness, itching, and irritation of affected areas. The product can cause allergic skin reactions (e.g., rashes, welts, dermatitis) in some individuals.</p> <p><b>Inhalation:</b> Inhalation of high vapor concentrations may cause central nervous system effects, and symptoms such as headache, dizziness, disorientation.</p>											
4.4	Acute Health Effects:	Non-irritating when used as directed. 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:	None reported by the manufacturer.											
4.6	Target Organs:	Eyes, Skin, Lungs, Liver, Kidney, CNS											
4.7	Medical Conditions Aggravated by Exposure:	Pre-existing skin, eye, respiratory, CNS, bone-marrow disorders, liver or kidney disease.	<table border="1" style="margin: auto; border-collapse: collapse;"> <tr> <td style="background-color: #0000FF; color: white; padding: 2px;"><b>HEALTH</b></td> <td style="text-align: center; padding: 2px;"><b>1</b></td> </tr> <tr> <td style="background-color: #FF0000; color: white; padding: 2px;"><b>FLAMMABILITY</b></td> <td style="text-align: center; padding: 2px;"><b>2</b></td> </tr> <tr> <td style="background-color: #FFA500; color: white; padding: 2px;"><b>PHYSICAL HAZARDS</b></td> <td style="text-align: center; padding: 2px;"><b>0</b></td> </tr> <tr> <td style="background-color: #000000; color: white; padding: 2px;"><b>PROTECTIVE EQUIPMENT</b></td> <td style="text-align: center; padding: 2px;"><b>B</b></td> </tr> <tr> <td style="padding: 2px;"><b>EYES</b></td> <td style="padding: 2px;"><b>SKIN</b></td> </tr> </table>	<b>HEALTH</b>	<b>1</b>	<b>FLAMMABILITY</b>	<b>2</b>	<b>PHYSICAL HAZARDS</b>	<b>0</b>	<b>PROTECTIVE EQUIPMENT</b>	<b>B</b>	<b>EYES</b>	<b>SKIN</b>
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<b>EYES</b>	<b>SKIN</b>												

## 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. <b>Small Spills:</b> 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. <b>Large Spills:</b> 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.
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## 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 <sup>3</sup> )	CHEMICAL NAME(S)	ACGIH		NOHSC			OSHA			OTHER
			TLV	STEL	ES-TWA	ES-STEL	ES-PEAK	PEL	STEL	IDLH	
		NAPHTHA (PETROLEUM), HYDROTREATED HEAVY	400	NA	NF	NF	NF	400	NA	(10)	OIL MIST
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:	Avoid eye contact. Safety glasses with side shields must be used when handling or using this product. A protective face shield is also recommended. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166 (EU).									
8.5	Hand Protection:	Chemical-resistant gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Impervious oil-resistant work gloves recommended under normal conditions of use. When handling large quantities of fluid (e.g., ≥ 1 gallon (3.8 L)), wear rubber, nitrile or impervious plastic gloves. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.									
8.6	Body Protection:	No apron required. Eye wash stations and deluge showers should be available. Upon completion of work activities involving large quantities of this product (fluid), wash any exposed areas thoroughly with soap and water. Avoid prolonged and/or repeated skin contact. Use clean and impervious protective clothing (e.g., neoprene or Tyvek®) if splashing or spraying conditions are present. Protective clothing should include long-sleeves, apron, boots and additional facial protection. Remove oil-contaminated clothing. Launder oil-contaminated clothing before reusing. Contaminated leather goods should be removed promptly and discarded.									

## 9. PHYSICAL & CHEMICAL PROPERTIES

9.1	Appearance:	Clear liquid impregnated in cloth
9.2	Odor:	Essentially odorless
9.3	Odor Threshold:	NA
9.4	pH:	NA
9.5	Melting Point/Freezing Point:	NA
9.6	Initial Boiling Point/Boiling Range:	189 - 209 °C (372 - 408 °F)
9.7	Flashpoint:	> 62 °C (> 144 °F) [ASTM D-93]
9.8	Upper/Lower Flammability Limits:	EUL: 5.3 / LEL 0.7
9.9	Vapor Pressure:	0.041 kPa (0.31 mm Hg) @ 20 °C
9.10	Vapor Density:	5.6 @ 101 kPa
9.11	Relative Density:	0.765 @ 15 °C (60 °F) (6.38 lbs/gal)
9.12	Solubility:	Negligible
9.13	Partition Coefficient (log P <sub>ow</sub> ):	NA
9.14	Autoignition Temperature:	335 °C (635 °F)
9.15	Decomposition Temperature:	NA
9.16	Viscosity:	1.56 cSt (1.56 mm <sup>2</sup> /sec) at 40 °C   2.02 cSt (2.02 mm <sup>2</sup> /sec) at 25 °C
9.17	Other Information:	Evaporation (n-butyl acetate=1) 0.09

## 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 <sub>2</sub> ) 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.



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## 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. Based on animal test results for similar products and materials (available from scientific literature), the acute toxicity of this product is expected to be: <u>Naphtha (Petroleum), Hydrotreated Heavy</u> – LD <sub>50</sub> (oral, rat) > 6,800 mg/kg		
11.3	Acute Toxicity:	Mineral oil mists derived from highly refined oils are reported to have low acute and sub-acute toxicities in animals. Effects from single and short-term repeated exposures to high concentrations of mineral oil mists well above applicable workplace exposure levels include lung inflammatory reaction, lipoid granuloma formation and lipoid pneumonia. In acute and sub-acute studies involving exposures to lower concentrations of mineral oil mists at or near current work place exposure levels produced no significant toxicological effects.		
11.4	Chronic Toxicity:	Prolonged or repeated skin contact can cause mild irritation and inflammation characterized by drying, cracking, (dermatitis) or oil acne.		
11.5	Suspected Carcinogen:	This product can expose you to chemicals including Ethylbenzene, Naphthalene and Toluene, which are known to the State of California to cause cancer, birth defects or reproductive harm. For more information, go to <a href="http://www.P65Warnings.ca.gov">www.P65Warnings.ca.gov</a> .		
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

14.1	49 CFR (GND):	NON-BULK PKG (VOL ≤ 450 L): NOT REGULATED PER 49 CFR §173.150(f)(2) BULK PKG (VOL > 450 L): UN1268, PETROLEUM DISTILLATES, N.O.S., 3, III	
14.2	IATA (AIR):	NOT REGULATED	
14.3	IMDG (OCN):	NON-BULK PKG (VOL ≤ 450 L): NOT REGULATED BULK PKG (VOL > 450 L): UN1268, PETROLEUM DISTILLATES, N.O.S., 3, III	
14.4	TDGR (Canadian GND):	NOT REGULATED	
14.5	ADR/RID (EU):	NOT REGULATED	
14.6	SCT (MEXICO):	NOT REGULATED	
14.7	ADGR (AUS):	NOT REGULATED	



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## 15. REGULATORY INFORMATION

15.1	SARA Reporting Requirements:	This product does not contain any substances subject to SARA Title III, Section 313 reporting requirements.
15.2	SARA TPQ:	NA
15.3	TSCA Inventory Status:	NA
15.4	CERCLA Reportable Quantity:	NA
15.5	Other Federal Requirements:	<u>Clean Water Act (CWA) 311</u> : 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:	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 <a href="http://www.P65Warnings.ca.gov">www.P65Warnings.ca.gov</a> .

## 16. OTHER INFORMATION

16.1	Other Information:	<b>DANGER! MAY BE FATAL IS SWALLOWED AND ENTERS AIRWAYS. COMBUSTIBLE LIQUID.</b> Keep away from flames and hot surfaces – no smoking. Keep container tightly closed. Wash hands and exposed skin areas with soap and warm water thoroughly after handling. IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. In case of fire: Use dry chemical, foam, carbon dioxide, or water spray (fog). Store locked up. <b>KEEP OUT OF REACH OF CHILDREN.</b>
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:	<b>Birchwood Casey, LLC</b> 3260 Winpark Drive New Hope, MN 55427 USA Tel: +1 (952) 388-6717 Email: <a href="mailto:customerservice@birchwoodcasey.com">customerservice@birchwoodcasey.com</a> <a href="http://www.birchwoodCasey.com">http://www.birchwoodCasey.com</a>
16.5	Prepared by:	<b>ShipMate, Inc.</b> P.O. Box 787 Sisters, Oregon 97759-0787 USA Tel: +1 (310) 370-3600 Fax: +1 (310) 370-5700 <a href="http://www.shipmate.com">http://www.shipmate.com</a>







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## 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.
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### HAZARDOUS MATERIALS IDENTIFICATION SYSTEM: HMIS

### HEALTH, FLAMMABILITY & REACTIVITY RATINGS:

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

<b>HEALTH</b>
<b>FLAMMABILITY</b>
<b>PHYSICAL HAZARDS</b>
<b>PERSONAL PROTECTION</b>

### PERSONAL PROTECTION RATINGS:

A	
B	
C	
D	
E	
F	

G	
H	
I	
J	
K	
X	Consult your supervisor or SOPs for special handling directions.

Safety Glasses	Splash Goggles	Face Shield & Protective Eyewear	Gloves
Boots	Protective Apron	Protective Clothing & Full Suit	Dust Respirator
Full Face Respirator	Dust & Vapor Half-Mask Respirator	Full Face Respirator	Airline Hood/Mask or SCBA

### OTHER STANDARD ABBREVIATIONS:

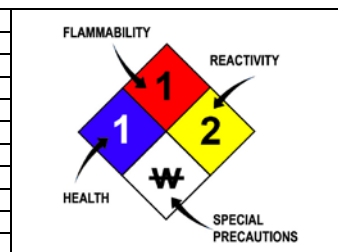
Carc	Carcinogenic
Irrit	Irritant
NA	Not Available
NR	No Results
ND	Not Determined
NE	Not Established
NF	Not Found
SCBA	Self-Contained Breathing Apparatus
Sens	Sensitization
STOT RE	Specific Target Organ Toxicity - Repeat Exposure
STOT SE	Specific Target Organ Toxicity - Single Exposure

### NATIONAL FIRE PROTECTION ASSOCIATION: NFPA

<b>FLAMMABILITY LIMITS IN AIR:</b>	
<b>Autoignition Temperature</b>	Minimum temperature required to initiate combustion in air with no other source of ignition
<b>LEL</b>	Lower Explosive Limit - lowest percent of vapor in air, by volume, that will explode or ignite in the presence of an ignition source
<b>UEL</b>	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 <sub>50</sub>	Lethal Dose (solids & liquids) which kills 50% of the exposed animals
LC <sub>50</sub>	Lethal concentration (gases) which kills 50% of the exposed animal
ppm	Concentration expressed in parts of material per million parts
TD <sub>10</sub>	Lowest dose to cause a symptom
TCLo	Lowest concentration to cause a symptom
TD <sub>10</sub> , LD <sub>10</sub> , & LD <sub>01</sub> or TC, TC <sub>01</sub> , LC <sub>10</sub> , & LC <sub>01</sub>	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 <sub>m</sub>	Median threshold limit
log K <sub>OW</sub> or log K <sub>OC</sub>	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