





# SAFETY DATA SHEET

Prepared to OSHA, ACC, ANSI, NOHSC, WHMIS, GHS & 1272/2008/EC Standards SDS Revision: 2.2 SDS Revision Date: 11/29/2018

## 1. PRODUCT & COMPANY IDENTIFICATION

1.1	Product Name:	<b>HOPPER SPIT®</b>	NZ DISTRIBUTOR Steve's Wholesale Ltd. Units 5 – 7 / 408 The Esplanade Island Bay Wellington 6023
1.2	Chemical Name:	Aerosol Petroleum Based Rust Preventative	team@steveswholesale.nz
1.3	Synonyms:	33240	Emergency Contact: Steve Collings
1.4	Trade Names:	Hopper Spit®	0800 303 303
1.5	Product Use:	Aerosol Corrosion Preventative Compound	0274 905 708
1.6	Distributor's Name:	Birchwood Casey	Poison Control 0800 POISON (0800 764 766)
1.7	Distributor's Address:	7887 Fuller Road, Suite #100, Eden Prairie, MN 55344 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 and as DANGEROUS GOODS according to the classification criteria of NOHSC: 1088 (2004) and ADG Code (Australia). <b>DANGER! EXTREMELY FLAMMABLE AEROSOL. PRESSURIZED CONTAINER: MAY BURST IF HEATED. HARMFUL IF SWALLOWED. MAY CAUSE AN ALLERGIC SKIN REACTION. CAUSES SERIOUS EYE IRRITATION. MAY CAUSE DROWSINESS OR DIZZINESS..</b> Classification: Aerosol 1; Acute Tox. 4, Skin Sens. 1, Eye Irrit. 2, STOT SE 3	
2.2	Label Elements:	<p><b>Hazard Statements (H):</b> H222 – Extremely flammable aerosol. H229 – Pressurized container may burst if heated. H302 – Harmful if swallowed. H317 – May cause an allergic skin reaction. H319 – Causes serious eye irritation. H335 – May cause drowsiness or dizziness.</p> <p><b>Precautionary Statements (P)</b> 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. P211 – Do not spray on an open flame or other ignition source. P243 – Take action to prevent static discharge. P251 – Do not pierce or burn, even after use. P261 – Avoid breathing fume/vapors/spray. P264 – Wash with soap and water thoroughly after handling. P271 - Use only outdoors or in a well-ventilated area. P272 – Contaminated work clothing may not be allowed out of the workplace. P280 – Wear protective gloves/ eye protection/ protective clothing. P273 – Avoid release to the environment. P301+P310 – IF SWALLOWED: Immediately call a POISON CENTER/doctor. P331 – Do NOT induce vomiting. P302+P352 – IF ON SKIN: Wash with plenty of water. P333+P313 – If skin irritation or rash occurs: Get medical advice/attention. P321 – Specific treatment see section 4 of this SDS. P304+P340 – IF INHALED: Remove person to fresh air and keep comfortable for breathing. P305+P351+P338 – IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P337+P313 – If eye irritation persists: Get medical advice/attention. P362+P364 – Take off contaminated clothing and wash it before reuse. P370+P378 - In case of fire use Water Fog, Foam, Dry Chemical, CO<sub>2</sub> to extinguish. P403+P235 – Store in a well-ventilated place. Keep cool. P233 – Keep container tightly closed. P405 - P501 – Dispose of contents/container to a licensed treatment, storage or disposal facility (TSDF).</p>	 
2.3	Other Warnings:	<b>KEEP OUT OF REACH OF CHILDREN.</b> In the event of an exposure or medical inquiry involving this product, please contact a physician or local poison control center, who may seek advice from the U.S. manufacturer, and show them this SDS.	

## 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				
					TLV	STEL	ppm	ppm	ppm	PEL	STEL	IDLH		
PROPRIETARY SOLVENT	NA	NA	NA	60-100	100	NA	NF	NF	NF	100	NA	NA		
HYDROCARBON PROPELLANT	68476-86-8	NA	270-705-8	1-25	NA	NA	NF	NF	NF	5	NA	NA	MIST	

Flam. Liq. 2; Skin Sens. 1; Eye Irrit. 2; STOT SE 3; H225, H317, H319, H335, H336  
Flam. Gas 1; Liq. Gas 1; Acute Tox. 4; H220, H280, H332



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## 4. FIRST AID MEASURES

4.1	First Aid:	<p><u>Ingestion:</u> 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.</p> <p><u>Eyes:</u> 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><u>Skin:</u> 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.</p> <p><u>Inhalation:</u> Remove victim to fresh air at once. Under extreme conditions, if breathing stops, perform artificial respiration. Seek immediate medical attention.</p>																				
4.2	Effects of Exposure:	<p><u>Ingestion:</u> If product is swallowed, may cause nausea, vomiting and/or diarrhea and central nervous system depression.</p> <p><u>Eyes:</u> Irritating to the eyes. Symptoms of overexposure may include redness, itching, irritation and watering.</p> <p><u>Skin:</u> May be irritating to skin in some sensitive individuals, especially after prolonged and/or repeated contact.</p> <p><u>Inhalation:</u> Vapors of this product may be slightly irritating to the nose, throat and other tissues of the respiratory system. Symptoms of overexposure can include coughing, wheezing, nasal congestion, and difficulty breathing. Deliberate inhalation of vapors can cause central nervous system depression (e.g., drowsiness, dizziness, headaches, nausea).</p>																				
4.3	Symptoms of Overexposure:	<p><u>Ingestion:</u> Nausea, intestinal discomfort, vomiting and/or diarrhea.</p> <p><u>Eyes:</u> Overexposure in eyes may cause redness, itching and watering.</p> <p><u>Skin:</u> Symptoms of skin overexposure may include redness, itching, and irritation of affected areas. Frostbite like symptoms. The product can cause allergic skin reactions (e.g., rashes, welts, dermatitis) in some individuals.</p> <p><u>Inhalation:</u> High concentrations of vapors can cause drowsiness, dizziness, headaches and nausea or loss of consciousness.</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																				
4.7	Medical Conditions Aggravated by Exposure:	Pre-existing dermatitis, other skin conditions, and disorders of the target organs (eyes).																				
		<table border="1"> <tr> <td colspan="3"><b>HEALTH</b></td> <td><b>2</b></td> </tr> <tr> <td colspan="3"><b>FLAMMABILITY</b></td> <td><b>4</b></td> </tr> <tr> <td colspan="3"><b>PHYSICAL HAZARDS</b></td> <td><b>0</b></td> </tr> <tr> <td colspan="3"><b>PROTECTIVE EQUIPMENT</b></td> <td><b>B</b></td> </tr> <tr> <td><b>EYES</b></td> <td><b>SKIN</b></td> <td><b>LUNGS</b></td> <td></td> </tr> </table>	<b>HEALTH</b>			<b>2</b>	<b>FLAMMABILITY</b>			<b>4</b>	<b>PHYSICAL HAZARDS</b>			<b>0</b>	<b>PROTECTIVE EQUIPMENT</b>			<b>B</b>	<b>EYES</b>	<b>SKIN</b>	<b>LUNGS</b>	
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## 5. FIREFIGHTING MEASURES

5.1	Fire & Explosion Hazards:	<b>EXTREMELY FLAMMABLE AEROSOL.</b> Level 3 Aerosol (NFPA 30B). Aerosols may burst at temperatures above 120 °F. Cool uninvolved containers to prevent possible bursting. Aerosols may be projectile hazards when bursting. If aerosols are bursting, stay clear until bursting is complete. Do not use in presence of open flames or sparks. Do not place in hot water or near radiators, stoves or other sources of heat. Exposure to heat or sunlight may cause cans to burst and propel contents. Water from fog nozzles may be helpful in cooling un-ruptured containers to prevent build-up.	
5.2	Extinguishing Methods:	CO <sub>2</sub> , Halon (if permitted), Dry Chemical, Foam, as authorized.	
5.3	Firefighting Procedures:	This product is a Class IB flammable liquid. When involved in a fire, this product will ignite readily and decompose to produce carbon oxides. Vapors of this product are heavier than air and may travel to a source of ignition and flash back to a leaking or open container. First responders should wear eye protection. Structural firefighters must wear SCBAs and full protective equipment. Use a water spray or fog to reduce or direct vapors. Water may not be effective in actually extinguishing a fire involving this product.	

## 6. ACCIDENTAL RELEASE MEASURES

6.1	Spills:	<p>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.</p> <p><u>Small Spills:</u> Wear appropriate protective equipment including gloves and protective eyewear. Use a non-sparking shovel and broom to pick up the product and place into a container for later disposal.</p> <p><u>Large Spills:</u> Keep incompatible materials (e.g., organics such as oil, oxidizers) away from spill. Stay upwind and away from spill or release. Isolate immediate hazard area and keep unauthorized personnel out of area. Stop spill or release if it can be done with minimal risk. Wear appropriate protective equipment including respiratory protection as conditions warrant. Recover as much free solid as possible and collect in acid-resistant container. Avoid discharging material directly into a sewer or surface waters.</p>
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## 7. HANDLING & STORAGE INFORMATION

7.1	Work & Hygiene Practices:	Avoid breathing mists or spray. Avoid eye and skin contact. Wear protective equipment when handling product. Keep out of the reach of children. Do not eat, drink or smoke when handling this product. Wash thoroughly after handling. Do not expose to heat and flame. Use only in ventilated areas. Keep out of the reach of children. Immediately clean-up and decontaminate any spills or residues.
7.2	Storage & Handling:	Keep this material away from heat, sparks and open flame. Open containers slowly on a stable surface. Keep container closed tightly when not in use. Empty container may contain residual amounts of this product; therefore, empty containers should be handled with care. Store containers in a cool, dry location, away from direct sunlight, other light sources, or sources of intense heat. Storage temperature: 32-120 °F (0-49 °C). Take precautionary measures against static discharge. Store away from incompatible materials (See Section 10).
7.3	Special Precautions:	Keep container tightly closed when not in use. Empty containers may contain residual amounts of this product; therefore, empty containers should be handled with care.

## 8. EXPOSURE CONTROLS & PERSONAL PROTECTION

8.1	Exposure Limits: ppm (mg/m <sup>3</sup> )	ACGIH		NOHSC			OSHA			OTHER
		TLV	STEL	ES-TWA	ES-STEL	ES-PEAK	PEL	STEL	IDLH	
		CHEMICAL NAME(S)								
		100	NA	NF	NF	NF	100	NA	NA	
		NA	NA	NF	NF	NF	5	NA	NA	MIST
8.2	Ventilation & Engineering Controls:	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).								
8.3	Respiratory Protection:	In instances where vapors or sprays 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.								
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:	Aerosol, Amber liquid
9.2	Odor:	Slight solvent odor
9.3	Odor Threshold:	NA
9.4	pH:	NA
9.5	Melting Point/Freezing Point:	NA
9.6	Initial Boiling Point/Boiling Range:	NA
9.7	Flashpoint:	> 38 °C (> 100 °F)
9.8	Upper/Lower Flammability Limits:	NA
9.9	Vapor Pressure:	2 mmHg
9.10	Vapor Density:	> 1.0 (Air = 1.0)
9.11	Relative Density:	0.85
9.12	Solubility:	Negligible
9.13	Partition Coefficient (log P <sub>ow</sub> ):	NA
9.14	Autoignition Temperature:	NA
9.15	Decomposition Temperature:	NA
9.16	Viscosity:	NA
9.17	Other Information:	Volatiles, % by weight: 59. VOC, method EPA 24, lb/gal 2.9; 24, g/L 348.

## 10. STABILITY & REACTIVITY

10.1	Stability:	Stable at normal temperatures.
10.2	Hazardous Decomposition Products:	Carbon dioxide, carbon monoxide, aldehydes, hydrocarbons and ammonia.
10.3	Hazardous Polymerization:	Will not occur.
10.4	Conditions to Avoid:	Excessive heat exposure to incompatible material (see 10.5).
10.5	Incompatible Substances:	Strong oxidizing agents, hypochlorites and Chlorine



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## 11. TOXICOLOGICAL INFORMATION

11.1	Routes of Entry:	Inhalation: YES	Absorption: YES	Ingestion: YES
11.2	Toxicity Data:	This product has not been tested on animals to obtain toxicological data. There are toxicology data for the components of this product, which are found in the scientific literature. This data has not been presented in this document.		
11.3	Acute Toxicity:	See Section 4.4		
11.4	Chronic Toxicity:	See Section 4.5		
11.5	Suspected Carcinogen:	No.		
11.6	Reproductive Toxicity:	This product is not reported to cause 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 contains nickel sulfate, which is 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:	There are no specific data available for this product.
12.2	Effects on Plants & Animals:	There are no specific data available for this product.
12.3	Effects on Aquatic Life:	Avoid release to the environment.

## 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 2. Any disposal practice must be in compliance with local, state, and federal laws and regulations. Contact the appropriate agency for specific information. Treatment, transport, storage and disposal of hazardous waste must be provided by a licensed facility or waste hauler.
13.2	Special Considerations:	U.S. EPA Hazardous Waste – Characteristic - Flammable (D001)

## 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 (IP VOL ≤ 1.0 L) – until 12/31/20 UN1950, AEROSOLS, 2.1 (LTD QTY, IP VOL ≤ 1.0 L)	
14.2	IATA (AIR)*:	CONSUMER COMMODITY, 9, ID8000 (IP VOL ≤ 0.5 L) UN1950, AEROSOLS, FLAMMABLE, 2.1 (LTD QTY, IP VOL ≤ 0.5 L)	
14.3	IMDG (OCN):	UN1950, AEROSOLS, 2.1 (LTD QTY, IP VOL ≤ 1.0 L)	
14.4	TDGR (Canadian GND):	MARK PACKAGE ("LIMITED QUANTITY" or "QUANTITÉ LIMITÉE" or "LTD QTY" or "QUANT LTÉE" (IP VOL ≤ 1.0 L) or UN1950, AEROSOLS, FLAMMABLE, 2.1 (LTD QTY, IP VOL ≤ 1.0 L)	
14.5	ADR/RID (EU):	UN1950, AEROSOLS, 2.1 (LTD QTY, IP VOL ≤ 1.0 L)	
14.6	SCT (MEXICO):	UN1950, AEROSOLS, 2.1 (CANT. LTDA., IP VOL ≤ 1.0 L)	
14.7	ADGR (AUS):	UN1950, AEROSOLS, 2.1 (LTD QTY, IP VOL ≤ 1.0 L)	

## 15. REGULATORY INFORMATION

HSR002515

15.1	SARA Reporting Requirements:	This product does not contain any substance subject to 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:	This material does not contain any hazardous air pollutants. None of the components in this product are listed as priority pollutants under the CWA. None of the components in this product are listed as toxic pollutants under the CWA.
15.6	Other Canadian Regulations:	This product has been classified according to the hazard criteria of the CPR and the Safety Data Sheet contains all of the information required by the CPR. The components of this product are listed on the DSL/NDL. None of the components of this product are listed on the Priorities Substances List. WHMIS B2, D2B (Flammable Liquid, Other Toxic Effects)





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## 15. REGULATORY INFORMATION – cont'd

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: California Proposition 65 (CA), 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 or other reproductive harm. For more information go to <a href="http://www.P65Warnings.ca.gov">www.P65Warnings.ca.gov</a>

## 16. OTHER INFORMATION

SW revised 30.12.2020

16.1	Other Information:	<b>DANGER! HIGHLY FLAMMABLE LIQUID AND VAPOR. PRESSURIZED CONTAINER AMY BURST IF HEATED. MAY CAUSE AN ALLERGIC SKIN REACTION. CAUSES SERIOUS EYE IRRITATION. MAY CAUSE RESPIRATORY IRRITATION. MAY CAUSE DROWSINESS OR DIZZINESS.</b> 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. Do not spray on an open flame or other ignition source. Take action to prevent static discharge. Do not pierce or burn, even after use. Avoid breathing fume/vapors/spray. Wash with soap and water thoroughly after handling. Use only outdoors or in a well-ventilated area. Contaminated work clothing may not be allowed out of the workplace. Wear protective gloves/ eye protection/ protective clothing. Avoid release to the environment. IF SWALLOWED: Immediately call a POISON CENTER/doctor. Do NOT induce vomiting. IF ON SKIN: Wash with plenty of water. If skin irritation or rash occurs: Get medical advice/attention. Specific treatment see section 4 of this SDS. IF INHALED: Remove person to fresh air and keep comfortable for breathing. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. Take off contaminated clothing and wash it before reuse. In case of fire use Water Fog, Foam, Dry Chemical, CO <sub>2</sub> to extinguish. Store in a well-ventilated place. Keep cool. Keep container tightly closed. <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>	 <i>Dangerous Goods Training &amp; Consulting</i>





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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:

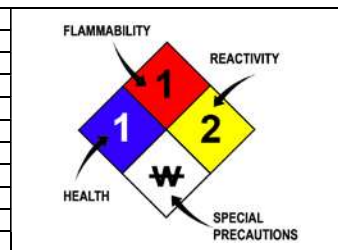
Carc	Carcinogenic
Irrit	Irritant
NA	Not Available
NR	No Results
ND	Not Determined
NE	Not Established
NF	Not Found
SCBA	Self-Contained Breathing Apparatus
Sens	Sensitization
STOT RE	Specific Target Organ Toxicity – Repeat Exposure
STOT SE	Specific Target Organ Toxicity – Single Exposure

### 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>0</sub> or TC, TC <sub>0</sub> , LC <sub>10</sub> , & LC <sub>0</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