



SAFETY DATA SHEET

Prepared to OSHA, ACC, ANSI, NOHSC, WHMIS, GHS & 1272/2008/EC Standards SDS Revision: 4.9 SDS Revision Date: 5/1/2018

1. PRODUCT & COMPANY IDENTIFICATION

1.1	Product Name:	SOLTRON® ENZYME FUEL TREATMENT
1.2	Chemical Name:	Petroleum Distillates
1.3	Synonyms:	SP016, SP001, SP005, SP055
1.4	Trade Names:	Soltron® Enzyme Fuel Treatment
1.5	Product Use:	Fuel Additive
1.6	Distributor's Name:	GTR, Inc.
1.7	Distributor's Address:	2500 Via Cabrillo Marina, Ste. 100, San Pedro, CA 90731 USA
1.8	Emergency Phone:	INFOTRAC: +1 (800) 535-5053
1.9	Business Phone / Fax:	+1 (310) 548-4456 / Technical Support +1 (818) 865-9176
1.10	Other Product Names:	Xbee® Enzyme Fuel Treatment

2. HAZARDS IDENTIFICATION

2.1	Hazard Identification:	<p>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). WARNING! MAY BE HARMFUL IF SWALLOWED AND ENTERS AIRWAYS. MAY CAUSE AN ALLERGIC SKIN REACTION. CAUSES EYE IRRITATION. <u>Classification:</u> Asp. Haz. 2; Skin Sens. 1B; Eye Irrit. 2B</p>	
2.2	Label Elements:	<p>Hazard Statements (H): H305 – May be harmful if swallowed and enters airways. H317 – May cause an allergic skin reaction. H320 – Causes eye irritation. H402 – Harmful to aquatic life. Precautionary Statements (P) P264 - Wash hands and exposed skin areas with soap and warm water thoroughly after handling. P280 – Wear protective gloves/eye protection/face protection. P261 – Avoid breathing fume/mist/vapors/spray. P272 – Contaminated work clothing should not be allowed out of the workplace. P273 – Avoid release to the environment. P280 – Wear protective gloves/protective clothing/eye protection/face protection. P301+P310 – IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. P331 – Do NOT induce vomiting. P302+P352 – IF ON SKIN: Wash with plenty of soap and water. P333+P313 – If skin irritation occurs: Get medical advice/attention. P321 – Specific treatment (see Section 4 of this Safety Data Sheet). 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. P370+P378 – In case of fire: Use Dry Chemical, Foam, Carbon Dioxide, and Water Fog to extinguish. P403 – Store in a well-ventilated place. P405 – Store locked up. P501 – Dispose of contents/container to licensed treatment, storage, recycling or disposal facility.</p>	
2.3	Other Warnings:	<p>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. If medical advice is needed, have product container or label at hand. KEEP OUT OF REACH OF CHILDREN.</p>	

3. COMPOSITION & INGREDIENT INFORMATION

CHEMICAL NAME(S)	CAS No.	RTECS No.	EINECS No.	%	EXPOSURE LIMITS IN AIR (mg/m ³)								
					ACGIH		NOHSC			OSHA			OTHER
					ppm		ppm			ppm			
					TLV	STEL	ES-TWA	ES-STEL	ES-PEAK	PEL	STEL	IDLH	
DISTILLATES (PETROLEUM) HYDROTREATED LIGHT	64742-47-8	OA5504000	265-149-8	>99	(5)	NA	NF	NF	NF	(5)	NA	NA	MIST
PROPRIETARY ORGANIC COMPOUNDS	NA	NA	NA	<1	NA	NA	NF	NF	NF	NA	NA	NA	

4. FIRST AID MEASURES

4.1	First Aid:	<p>Ingestion: DO NOT INDUCE VOMITING. Contact a Poison Control Center or local emergency telephone number for assistance and instructions. Provide an estimate of the time at which the material was ingested and the amount of the substance that was swallowed. Seek immediate medical attention. If vomiting occurs spontaneously, keep victim's head lowered (forward) to reduce the risk of aspiration.</p> <p>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.</p> <p>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 laundered.</p> <p>Inhalation: Remove victim to fresh air at once. Under extreme conditions, if breathing stops, perform artificial respiration. Seek immediate medical attention.</p>
-----	------------	--



SAFETY DATA SHEET

Page 2 of 6
SDS-001

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

SDS Revision: 4.9

SDS Revision Date: 5/1/2018

4. FIRST AID MEASURES – cont'd

4.2	Effects of Exposure:	<p><u>Ingestion:</u> If product is swallowed, may cause gastrointestinal disturbance.</p> <p><u>Eyes:</u> Exposure to dust may cause eye irritation. Symptoms of overexposure may include redness, itching, irritation and watering.</p> <p><u>Skin:</u> May be irritating to skin. The product can cause allergic skin reactions (e.g., rashes, welts, dermatitis) in some sensitive individuals.</p> <p><u>Inhalation:</u> Coughing, wheezing, shortness of breath, impaired pulmonary function. Irritation or soreness in throat, nose and respiratory tract. Drowsiness, dizziness, headaches and 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. The product can cause allergic skin reactions (e.g., rashes, welts, dermatitis) in some individuals.</p> <p><u>Inhalation:</u> Coughing, wheezing, shortness of breath, impaired pulmonary function. Irritation or soreness in throat, nose and respiratory tract. Additionally, high concentrations of vapors can cause drowsiness, dizziness, headaches and nausea.</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 dust can cause coughing, wheezing, shortness of breath, impaired pulmonary function. Irritation or soreness in throat, nose and respiratory tract.																				
4.5	Chronic Health Effects:	Non-irritating when used as directed. Possible allergic dermatitis in some sensitive individuals.																				
4.6	Target Organs:	Eyes, Skin, Respiratory System, Central Nervous System (CNS)																				
4.7	Medical Conditions Aggravated by Exposure:	Pre-existing dermatitis, other skin conditions, and disorders of the target organs (eyes, skin) or impaired kidney function may be more susceptible to the effects of this substance.																				
		<table border="1"> <tr> <td colspan="3">HEALTH</td> <td>1</td> </tr> <tr> <td colspan="3">FLAMMABILITY</td> <td>2</td> </tr> <tr> <td colspan="3">PHYSICAL HAZARDS</td> <td>0</td> </tr> <tr> <td colspan="3">PROTECTIVE EQUIPMENT</td> <td>X</td> </tr> <tr> <td>EYES</td> <td>SKIN</td> <td>LUNGS</td> <td></td> </tr> </table>	HEALTH			1	FLAMMABILITY			2	PHYSICAL HAZARDS			0	PROTECTIVE EQUIPMENT			X	EYES	SKIN	LUNGS	
HEALTH			1																			
FLAMMABILITY			2																			
PHYSICAL HAZARDS			0																			
PROTECTIVE EQUIPMENT			X																			
EYES	SKIN	LUNGS																				

5. FIREFIGHTING MEASURES

5.1	Fire & Explosion Hazards:	This material can burn but will not readily ignite. However, if involved in a fire, this product may decompose at high temperatures to form toxic gases (e.g., CO, CO _x , Hydrocarbons).	
5.2	Extinguishing Methods:	CO ₂ , Dry Chemical, Alcohol Foam. Use water spray to cool containers.	
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:	<p>Before cleaning any spill or leak, individuals involved in spill cleanup must wear appropriate Personal Protective Equipment.</p> <p>For <u>small spills</u> (e.g., < 1 gallon (3.8 L)) wear appropriate personal protective equipment (e.g., goggles, gloves). Maximize ventilation (open doors and windows) and secure all sources of ignition. Remove spilled material with absorbent material and place into appropriate closed container(s) for disposal. Dispose of properly in accordance with local, state and federal regulations. Wash all affected areas and outside of container with plenty of warm water and soap. Remove any contaminated clothing and wash thoroughly before reuse.</p> <p>For <u>large spills</u> (e.g., ≥ 1 gallon (3.8 L)), deny entry to all unprotected individuals. Dike and contain spill with inert material (e.g., sand or earth). Use ONLY non-sparking tools for recovery and cleanup. Transfer liquid to containers for recovery or disposal and solid diking material to separate containers for proper disposal. Remove contaminated clothing promptly and wash affected skin areas with soap and water. Keep spills and cleaning runoffs out of municipal sewers and open bodies of water.</p>
-----	---------	---

7. HANDLING & STORAGE INFORMATION

7.1	Work & Hygiene Practices:	Do not eat, drink or smoke when handling this product. Handle as to avoid puncturing container(s). Wash unintentional residues with soap and warm water. Keep tightly closed when not in use. Avoid contact with skin and clothing.
7.2	Storage & Handling:	Use and store in a cool, dry, well-ventilated location (e.g., local exhaust ventilation, fans) away from heat and direct sunlight. Avoid temperatures above 120 °F. Keep away from incompatible substances. Protect containers from physical damage. Avoid breathing vapor.
7.3	Special Precautions:	Clean all spills promptly. Spilled material may present a slipping hazard.



SAFETY DATA SHEET

Page 3 of 6
SDS-001

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

SDS Revision: 4.9

SDS Revision Date: 5/1/2018

8. EXPOSURE CONTROLS & PERSONAL PROTECTION

8.1	Exposure Limits: ppm (mg/m ³)	CHEMICAL NAME(S)	ACGIH		NOHSC			OSHA			OTHER
			TLV	STEL	ES-TWA	ES-STEL	ES-PEAK	PEL	STEL	IDLH	
		DISTILLATES (PETROLEUM) HYDROTREATED LIGHT	(5)	NA	NF	NF	NF	(5)	NA	NA	MIST
8.2	Ventilation & Engineering Controls:	Use general/dilution or local exhaust ventilation as needed to ensure that occupational exposure limits are not exceeded. Do not use in enclosed spaces. When working with large quantities of product, provide adequate ventilation (e.g., local exhaust ventilation, fans). Ensure that an eyewash station, sink or washbasin is available in case of exposure to eyes.									
8.3	Respiratory Protection:	Vaporization or misting is not expected at ambient temperatures. Therefore, the need for respiratory protection is not anticipated under normal use conditions and with adequate ventilation. If elevated airborne concentrations above applicable workplace exposure levels are anticipated, a NIOSH-approved organic vapor respirator equipped with a dust/mist pre-filter should be used. Protection factors vary depending upon the type of respirator used. Respirators should be used in accordance with OSHA requirements (29 CFR 1910.134).									
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. Wear goggles and/or face shield if splashing or spraying is anticipated. Contact lenses pose a special hazard; soft lenses may absorb and concentrate irritants. Have suitable eye wash water available. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). 									
8.5	Hand Protection:	Use gloves constructed of chemical-resistant materials such as neoprene or heavy nitrile rubber if frequent or prolonged contact is expected. If necessary, refer to U.S. OSHA 29 CFR §1910.138, the appropriate standards of Canada, or the EU member states. 									
8.6	Body Protection:	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. If necessary, refer to appropriate standards of Canada, the EU member states, or U.S. OSHA. 									

9. PHYSICAL & CHEMICAL PROPERTIES

9.1	Appearance:	Colorless transparent liquid.
9.2	Odor:	Characteristic
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°C – 290°C (298°F – 550°F)
9.7	Flashpoint:	> 79 °C (174.2 °F)
9.8	Upper/Lower Flammability Limits:	LEL: 0.6%-0.9% / UEL: 5.5%-6%
9.9	Vapor Pressure:	0.1 mm Hg @ 20 °C
9.10	Vapor Density:	4.5-5.0 (air = 1.0)
9.11	Relative Density:	0.795-0.803g/cm ³ @ 15°C
9.12	Solubility:	Negligible
9.13	Partition Coefficient (log P _{ow}):	NA
9.14	Autoignition Temperature:	215°C-220°C (419°F-428°F)
9.15	Decomposition Temperature:	NA
9.16	Viscosity:	1.8 cSt – 1.92 cSt @ 40°C
9.17	Other Information:	Volatile/volume 100%

10. STABILITY & REACTIVITY

10.1	Stability:	Stable under normal conditions; unstable with heat or contamination.
10.2	Hazardous Decomposition Products:	Change in color signifies exposure to ultraviolet light or exceeding shelf life. Will not degrade to unstable products. Discard solution.
10.3	Hazardous Polymerization:	Will not occur.
10.4	Conditions to Avoid:	Open flames, sparks, high heat, incompatible substances and direct sunlight.
10.5	Incompatible Substances:	Avoid extreme heat and ignition sources. Store away from oxidizers.



SAFETY DATA SHEET

Page 4 of 6
SDS-001

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

SDS Revision: 4.9

SDS Revision Date: 5/1/2018

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 toxicology data. Toxicology data, found in scientific literature, is available for some of the components of the product but is not present in this document.		
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:	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 does not contain any chemicals known to the State of California to cause cancer 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 produce reproductive toxicity in humans.		
11.7	Irritancy of Product:	The product can cause allergic skin reactions (e.g., rashes, welts, dermatitis) upon prolonged or repeated exposure.		
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. Aliphatic Petroleum Distillates: EC ₅₀ (Algae, 72h) > 100 mg/L; LC ₅₀ (Daphnia Magna, 48h) > 100 mg/L; LC ₅₀ (Fish, 96h) > 100 mg/L

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):	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	



SAFETY DATA SHEET

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

SDS Revision: 4.9

SDS Revision Date: 5/1/2018

15. REGULATORY INFORMATION

15.1	SARA Reporting Requirements:	This product does not contain 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:	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 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 Class B3, D2B (Combustible Liquid, Other Toxic Effects).  
15.7	State Regulatory Information:	No 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 (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 or other reproductive harm. For more information go to www.P65Warnings.ca.gov

16. OTHER INFORMATION

16.1	Other Information:	DANGER! MAY BE HARMFUL IF SWALLOWED AND ENTERS AIRWAYS. MAY CAUSE AN ALLERGIC SKIN REACTION. CAUSES EYE IRRITATION. Wash hands and exposed skin areas with soap and warm water thoroughly after handling. Wear protective gloves/eye protection/face protection. Avoid breathing fume/mist/vapors/spray. Contaminated work clothing should not be allowed out of the workplace. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection. IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. Do NOT induce vomiting. IF ON SKIN: Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention. Specific treatment (see Section 4 of this Safety Data Sheet). 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. In case of fire: Use Dry Chemical, Foam, Carbon Dioxide, and Water Fog to extinguish. Store in a well-ventilated place. Store locked up. KEEP 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 & GTR, Inc.'s 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:	GTR, Inc. 2500 Via Cabrillo Marina, Suite 100 San Pedro, CA 90731 USA Tel: +1 (310) 548-4456 Technical Support: +1 (818) 865-9176 www.soltron-gtr.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	 <i>Dangerous Goods Training & Consulting</i>



SAFETY DATA SHEET

Page 6 of 6
SDS-001

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

SDS Revision: 4.9

SDS Revision Date: 5/1/2018

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		G	
B		H	
C		I	
D		J	
E		K	
F		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

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 ₁₀	Lowest dose to cause a symptom
TCLo	Lowest concentration to cause a symptom
TD ₁₀ , LD ₁₀ , & LD ₀₁ or TC, TC ₀₁ , LC ₁₀ , & LC ₀₁	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