



SAFETY DATA SHEET

Page 1 of 6
POC-3002

Prepared to OSHA, ACC, ANSI, WHSR, WHMIS, GHS & EU Standards

SDS Revision: 1.1

SDS Revision Date: 12/14/2019

1. PRODUCT & COMPANY IDENTIFICATION

1.1	Product Name:	PETRA DIESEL FUEL SYSTEM CLEANER
1.2	Chemical Name:	Petroleum Distillates
1.3	Synonyms:	3002
1.4	Trade Names:	Petra Diesel Fuel System Cleaner
1.5	Product Use:	Diesel Fuel System Treatment
1.6	Distributor's Name:	Petra Oil NZ
1.7	Distributor's Address:	50 Jacobs Lane, Ngaruawahia 3792, New Zealand
1.8	Emergency Phone:	NZ NATIONAL POISONS CENTRE (0800) 764 766
1.9	Business Phone / Fax:	Tel: +64 (21) 771 703

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 WHSR and ADG Code (Australia). DANGER! COMBUSTIBLE LIQUID. MAY BE FATAL IF SWALLOWED AND ENTERS AIRWAYS. CAUSES SKIN IRRITATION. Classification: Flam. Liq. 4, Asp. Tox. 1, Skin Irrit. 2	
2.2	Label Elements:	Hazard Statements (H): H227 – Combustible liquid. H304 – May be fatal if swallowed and enters airways. H315 – Causes skin irritation. Precautionary Statements (P): P264 – Wash hands and exposed skin areas with soap and warm water thoroughly after handling. P270 – Wear protective gloves/eye protection. P301+P310 – IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. P302+P352 – IF ON SKIN: Wash with plenty of soap and water. P321 – Specific treatment: See Section 4.1 of the Safety Data Sheet. P331 – Do NOT induce vomiting. P305+P351+P338 – IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P332+P313 – If skin irritation occurs: Get medical advice/attention. P362 – Take off contaminated clothing. P370+P378 – In case of fire: Use CO ₂ , foam, dry powder or water spray for extinction. P403+P235 – Store in a well-ventilated place. Keep cool. P405 – Store locked up. P501 – Dispose of contents/container to licensed treatment, storage, recycling or disposal facility.	
2.3	Other Warnings:	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.	

3. COMPOSITION & INGREDIENT INFORMATION

CHEMICAL NAME(S)	CAS No.	RTECS No.	EINECS No.	%	EXPOSURE LIMITS IN AIR (mg/m ³)									OTHER
					ACGIH		NOHSC			OSHA				
					ppm		ppm			ppm				
					TLV	STEL	ES-TWA	ES-STEL	ES-PEAK	PEL	STEL	IDLH		
DISTILLATES (PETROLEUM), HYDROTREATED HEAVY PARAFFINIC	64742-47-8	NA	265-149-8	60-100	(5)	(10)	(5)	NF	NF	(5)	NA	NA	OIL MIST	
Asp. Tox. 1; H304														
NAPHTHA, HEAVY AROMATIC	64742-94-5	WF3100000	926-273-4	60-100	(5)	(10)	(5)	NF	NF	(5)	NA	NA	OIL MIST	
Asp. Tox. 1; H304														

4. FIRST AID MEASURES

4.1	First Aid:	Ingestion: DO NOT INDUCE VOMITING. Contact Poison Control Center or local emergency telephone number for assistance and instructions. If you feel unwell, seek medical advice (show the label where possible). 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.
4.2	Effects of Exposure:	Ingestion: Irritation to the gastrointestinal tract. This material can enter the lungs during swallowing or vomiting and cause lung damage. Eyes: Irritation upon direct contact. Symptoms may include stinging, tearing, redness and swelling. Skin: Mildly irritating. Prolonged or repeated skin contact can result in defatting, drying of the skin with symptoms of redness, stinging. Inhalation: Inhalation may cause irritation to the respiratory tract (nose, throat and lungs). May be fatal if swallowed and enters airways.



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4. FIRST AID MEASURES – cont'd

4.3	Symptoms of Overexposure:	<p>Ingestion: Nausea, intestinal discomfort, vomiting and/or diarrhea.</p> <p>Eyes: Overexposure in eyes may cause redness, itching and watering.</p> <p>Skin: 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>Inhalation: May cause irritation or asthma-like symptoms.</p>															
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:	None reported by the manufacturer.															
4.6	Target Organs:	Eyes, Skin															
4.7	Medical Conditions Aggravated by Exposure:	Pre-existing skin, eye, or respiratory disorders.															
		<table border="1"> <tr> <td colspan="2">HEALTH</td> <td>2</td> </tr> <tr> <td colspan="2">FLAMMABILITY</td> <td>2</td> </tr> <tr> <td colspan="2">PHYSICAL HAZARDS</td> <td>0</td> </tr> <tr> <td colspan="2">PROTECTIVE EQUIPMENT</td> <td>B</td> </tr> <tr> <td>EYES</td> <td>SKIN</td> <td></td> </tr> </table>	HEALTH		2	FLAMMABILITY		2	PHYSICAL HAZARDS		0	PROTECTIVE EQUIPMENT		B	EYES	SKIN	
HEALTH		2															
FLAMMABILITY		2															
PHYSICAL HAZARDS		0															
PROTECTIVE EQUIPMENT		B															
EYES	SKIN																

5. FIREFIGHTING MEASURES

5.1	Fire & Explosion Hazards:	WARNING! Keep away from heat, hot surface, sparks, open flames and other ignition sources. No smoking. If involved in a fire, this product may decompose at high temperatures to form toxic gases (e.g., CO, CO _x , hydrocarbons). 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.	
5.2	Extinguishing Methods:	For small fires, use dry chemical, carbon dioxide, water spray or alcohol-resistant foam. Use water spray to cool fire-exposed containers. Water may be ineffective. For large fires, use water spray, fog or alcohol-resistant foam. Do NOT use straight streams of water.	
5.3	Firefighting Procedures:	As with any fire, firefighters should wear appropriate protective equipment including a MSHA/NIOSH approved or equivalent self-contained breathing apparatus (SCBA) and protective clothing. Treat as hot oil. Hazardous decomposition products may be released. Thermal degradation may produce oxides of carbon, and/or nitrogen, hydrocarbons and/or derivatives. Fire should be fought from a safe distance. 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. Prevent runoff from fire control or dilution from entering sewers, drains, drinking water supply, or any natural waterway.	

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 small spills (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 large spills (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>
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7. HANDLING & STORAGE INFORMATION

7.1	Work & Hygiene Practices:	Avoid prolonged contact with the product. Avoid breathing vapors of this product. Use in a well-ventilated location (e.g., local exhaust ventilation, fans). After use, wash hands and exposed skin with soap and water. Do not eat, drink or smoke while handling product.
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. Store away from incompatible materials (See Section 10).
7.3	Special Precautions:	Open containers slowly on a stable surface. 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.



SAFETY DATA SHEET

Page 3 of 6
POC-3002

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SDS Revision: 1.1

SDS Revision Date: 12/14/2019

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 HEAVY PARAFFINIC	(5)	(10)	(5)	NA	NA	(5)	NA	NA	OIL MIST
		NAPHTHA, HEAVY AROMATIC	(5)	(10)	(5)	NA	NA	(5)	NA	NA	OIL 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. 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®). 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 to pale yellow liquid
9.2	Odor:	Petroleum-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:	> 204.4 °C (> 400 °F)
9.7	Flashpoint:	> 68.3 °C (> 155 °F)
9.8	Upper/Lower Flammability Limits:	NA
9.9	Vapor Pressure:	NA
9.10	Vapor Density:	NA
9.11	Relative Density:	0.79 @ 70 F
9.12	Solubility:	Poorly soluble in water.
9.13	Partition Coefficient (log P _{ow}):	NA
9.14	Autoignition Temperature:	> 287.8 °C (> 550 °F)
9.15	Decomposition Temperature:	NA
9.16	Viscosity:	NA
9.17	Other Information:	NA

10. STABILITY & REACTIVITY

10.1	Stability:	Relatively stable under ambient conditions when stored properly.
10.2	Hazardous Decomposition Products:	If exposed to <u>extremely high temperatures</u> , products of thermal decomposition may include irritating vapors and toxic gases (e.g., oxides of carbon & nitrogen).
10.3	Hazardous Polymerization:	Will not occur.
10.4	Conditions to Avoid:	Exposure or contact to extreme temperatures, incompatible chemicals, strong light sources, sparks, flame.
10.5	Incompatible Substances:	Strong oxidizers, peroxides or strong acids or alkalis.



SAFETY DATA SHEET

Page 4 of 6
POC-3002

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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. <u>Naphtha, Heavy Aromatic</u> – LD ₅₀ (oral, rat) > 5,000 mg/kg; LD ₅₀ (dermal, rabbit) > 2,000 mg/kg; LC ₅₀ (inh, rat, 4h) > 5.53 mg/L		
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 workplace 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:	<u>Petroleum Distillates, Hydrotreated Heavy Paraffinic</u> is listed on the ACGIH A2 list (Suspected Human Carcinogen); however, product contains less than 3% Dimethyl Sulfoxide (DMSO) per IP346.		
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:	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. Not readily biodegradable in water. <u>Naphtha, Heavy Aromatic</u> : Log P _{ow} 2.9-6.1
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. <u>Petroleum Distillates, Hydrotreated Heavy Paraffinic</u> - LC ₅₀ (Oncorhynchus mykiss, 96h): 5,000 mg/L; LC ₅₀ (Pimephales promelas, 96h): 100 mg/L; EC ₅₀ (Daphnia magna, 48h): 1,000 mg/L; NOEL (Pseudokirchneriella subcapitata (algae), 72h): 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. Dispose of in accordance with local, state, provincial and federal laws and regulations. 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 CTDFGR.

14.1	49 CFR (GND):	NOT REGULATED
14.2	IATA (AIR):	NOT REGULATED
14.3	IMDG (OCN):	NOT REGULATED
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

Page 5 of 6
POC-3002

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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:	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:	NA
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 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:	All components are either listed on the U.S. TSCA inventory or are not regulated under TSCA under 40 CFR § 720.30. Listed on AICS (Australian Inventory of Chemical Substances) Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China) Listed on KECI (Korean Existing Chemicals Inventory) New Zealand Inventory of Chemicals (NZIoC) Registration Status: CAS 64742-54-7: May be used as a single component chemical under an appropriate group standard CAS 64742-94-5: May be used as a single component chemical under an appropriate group standard NZIoC Classification: 6.1E, N.O.S. (Subsidiary Hazard) – HSR002624 Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)

16. OTHER INFORMATION

16.1	Other Information:	DANGER! COMBUSTIBLE LIQUID. MAY BE FATAL IF SWALLOWED AND ENTERS AIRWAYS. CAUSES SKIN IRRITATION. Wash hands and exposed skin areas with soap and warm water thoroughly after handling. Wear protective gloves/eye protection. IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. IF ON SKIN: Wash with plenty of soap and water. Specific treatment: See Section 4.1 of the Safety Data Sheet. Do NOT induce vomiting. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing. In case of fire: Use CO ₂ , foam, dry powder or water spray for extinction. Store in a well-ventilated place. Keep cool. 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, Smarter Sorting's & Petra Oil Company'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:	Petra Oil Company 50 Jacobs Lane Ngaruawahia 3792, New Zealand Tel: +64 (21) 771 703 Email: agacita@petraoilco.com	
16.5	Prepared by:	Smarter Sorting 2900 E. Cesar Chavez Street Austin, TX 78702 USA Tel: +1 (512) 593-2594 E-mail: support@smarterorting.com https://www.smarterorting.com	



SAFETY DATA SHEET

Page 6 of 6
POC-3002

Prepared to OSHA, ACC, ANSI, WHSR, WHMIS, GHS & EU Standards

SDS Revision: 1.1

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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

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:

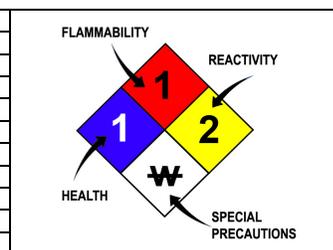
Carc	Carcinogenic
Irrit	Irritant
NA	Not Available
NR	No Results
ND	Not Determined
NE	Not Established
NF	Not Found
SCBA	Self-Contained Breathing Apparatus
Sens	Sensitization
STOT RE	Specific Target Organ Toxicity – Repeat Exposure
STOT SE	Specific Target Organ Toxicity – Single Exposure

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 ₁₀	Lowest dose to cause a symptom
TCLo	Lowest concentration to cause a symptom
TD ₁₀ , LD ₁₀ , & LD ₅₀ or TC, TC ₁₀ , LC ₁₀ , & LC ₅₀	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 Kow or log Koc	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