SAFETY DATA SHEET

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 PENETRATE**
1.2	Chemical Name:	Aerosol
1.3	Synonyms:	9002
1.4	Trade Names:	Petra Penetrate
1.5	Product Use:	Lubricant
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** and as **DANGEROUS GOODS** according to the classification criteria of WHSR and ADG Code (Australia). **DANGER! EXTREMELY FLAMMABLE AEROSOL. PRESSURIZED CONTAINER: MAY BURST IF HEATED. MAY BE FATAL IF SWALLOWED AND ENTERS AIRWAYS.** Classification: Aerosols 1, Asp. Tox. 1
2.2	Label Elements:	Hazard Statements (H): H222 – Extremely flammable aerosol. H229 - Pressurized container: may burst if heated. H304 – May be fatal if swallowed and enters airways. Precautionary Statements (P): P102 – Keep out of reach of children. P103 – Read label before use. 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. P251 - Pressurized container: Do not pierce or burn, even after use. P301+P310 - If swallowed: Immediately call a poison control center, doctor/physician. P331 – Do NOT induce vomiting. P405 - Store locked up. P410+P403 - Protect from sunlight. Store in a well-ventilated place. P410+P412 - Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F. P501 - Dispose of contents/container to appropriate waste disposal facility, in accordance with local, regional, national, international regulations.
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/m³) ACGIH ppm TLV	ACGIH ppm STEL	NOHSC ppm ES-TWA	NOHSC ppm ES-STEL	NOHSC ppm ES-PEAK	OSHA ppm PEL	OSHA ppm STEL	OSHA ppm IDLH	OTHER
SOLVENT NAPHTHA (PETROLEUM), LIGHT AROMATIC	64742-49-0	WF3400000	265-199-0	45-90	NA	NA	NF	NF	NF	NA	NA	NA	
	Asp. Tox. 1; H304												
SOLVENT NAPHTHA (PETROLEUM) MEDIUM ALIPHATIC	64742-88-7	WJ8930000	265-191-7	7-30	NA	NA	NF	NF	NF	NA	NA	NA	
	Asp. Tox. 1; H304												
PETROLEUM GASES, LIQUEFIED, SWEETENED	67476-85-7	SE7545000	270-704-2	5-45	1000	NA	(1000)	1800	NF	1000	NA	2000	
	Press. Gas; Flam. Gas 1; Carc. 1B; Muta. 1B; H220, H350, H340; HSNO: HSR001009												
SODIUM SULFATE ALKYL ETHER	NA	NA	NA	1-4	NA	NA	NF	NF	NF	NA	NA	NA	

4. FIRST AID MEASURES

4.1	First Aid:	Ingestion: Rinse mouth. 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: Remove contact lenses, if present and easy to do. Continue rinsing. If product gets in the eyes, flush eyes thoroughly with copious amounts of water for at least 15 minutes, holding eyelid(s) open to ensure complete flushing. If the eyes or face become swollen during or following use, consult a physician or emergency room immediately. Skin: Remove contaminated clothing and wash affected areas with soap and water. If discomfort persists and/or the skin reaction worsens, contact a physician immediately. Do not wear contaminated clothing until after it has been properly cleaned. Inhalation: Remove victim to fresh air at once. Under extreme conditions, if breathing stops, perform artificial respiration. Seek immediate medical attention.

4. FIRST AID MEASURES – cont'd

4.2	Effects of Exposure:	Ingestion: 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: Repeated exposure to this material can result in absorption through skin causing significant health hazard. Toxic in contact with skin. Causes skin irritation. Inhalation: Vapors of this product may be moderately irritating to the nose, throat and other tissues of the respiratory system. Symptoms of overexposure can include coughing, wheezing, nasal congestion, and difficulty breathing. Inhalation of concentrated vapors can cause central nervous system depression (e.g., drowsiness, dizziness, headaches, nausea). Odor may give some warning of exposure, but odor fatigue may occur.
4.3	Symptoms of Overexposure:	Ingestion: Nausea, intestinal discomfort, vomiting and/or diarrhea. Eyes: Overexposure in eyes may cause redness, itching and watering. Skin: Symptoms of skin overexposure may include redness, itching, and irritation of affected areas. Inhalation: Shortness of breath. May cause drowsiness or dizziness.
4.4	Acute Health Effects:	Toxic if swallowed. Swallowing a small quantity of this material will result in serious health hazard. 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:	Suspected of damaging fertility or the unborn child. Causes damage to organs.
4.6	Target Organs:	Eyes, Skin, Lungs
4.7	Medical Conditions Aggravated by Exposure:	Pre-existing skin, eye, or respiratory disorders.

HEALTH	1
FLAMMABILITY	4
PHYSICAL HAZARDS	1
PROTECTIVE EQUIPMENT	B
EYES / SKIN / LUNGS	

5. FIREFIGHTING MEASURES

5.1	Fire & Explosion Hazards:	**WARNING! EXTREMELY FLAMMABLE AEROSOL**. Level 1 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. Containers may rupture and release flammable liquids or/or exposed gases if exposed to the heat of fire. Keep containers cool by spraying them with water until the fire has been extinguished. Keep away from heat, lit cigarettes, sparks & open flame. Keep container closed. When exposed to high temperatures, may produce hazardous decomposition products such as oxides of carbon (e.g., CO, CO_2) and nitrogen (e.g., NO_x) and smoke.
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 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. 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. 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. 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.

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. Pressurized container: Do not pierce or burn, even after use. Store containers in a cool, dry location, away from direct sunlight, other light sources, or sources of intense heat. Storage temperature: 32-120 ºF (0-49 ºC). Take precautionary measures against static discharge. Store away from incompatible materials (see Section 10).
7.3	Special Precautions:	Do not breathe fumes/mist/vapors/spray.

8. EXPOSURE CONTROLS & PERSONAL PROTECTION

8.1 Exposure Limits: ppm (mg/m^3)

	ACGIH		NOHSC			OSHA			OTHER
CHEMICAL NAME(S)	TLV	STEL	ES-TWA	ES-STEL	ES-PEAK	PEL	STEL	IDLH	
PETROLEUM GASES, LIQUEFIED, SWEETENED	1000	NA	(1000)	1800	NF	1000	NA	2000	

8.2	Ventilation & Engineering Controls:	When working with large quantities of product, provide adequate ventilation (e.g., local exhaust ventilation, fans), to keep exposure below the airborne exposure limits. Ensure that an eyewash station, sink or washbasin is available in case of exposure to eyes.	
8.3	Respiratory Protection:	No special respiratory protection is required under typical circumstances of use or handling. If necessary, use only respiratory protection authorized per U.S. OSHA's requirement in 29 CFR §1910.134, or applicable U.S. state regulations, or the appropriate standards of Canada, its provinces, E.C. 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 special body protection is required under typical circumstances of use and handling. Wear appropriate protective clothing to prevent skin contact, (boots, lab coat, apron, coveralls) as needed. If necessary, refer to appropriate standards of Canada, the E.C. member states, or U.S. OSHA.	

9. PHYSICAL & CHEMICAL PROPERTIES

9.1	Appearance:	Aerosol. Colorless to dark yellow liquid.
9.2	Odor:	Solvent-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:	150 °C (302 °F)
9.7	Flashpoint:	38 °C (100.4 °F), liquid
9.8	Upper/Lower Flammability Limits:	NA
9.9	Vapor Pressure:	NA
9.10	Vapor Density:	NA
9.11	Relative Density:	0.806
9.12	Solubility:	Immiscible
9.13	Partition Coefficient (log P_{ow}):	NA
9.14	Autoignition Temperature:	NA
9.15	Decomposition Temperature:	NA
9.16	Viscosity:	< 10 cPs
9.17	Other Information:	VOC: 85%

10. STABILITY & REACTIVITY

10.1	Stability:	Extremely flammable aerosol. Contains gas under pressure; may explode if heated. Extreme risk of explosion by shock, friction, fire or other sources of ignition; however, relatively stable under ambient conditions when stored properly.
10.2	Hazardous Decomposition Products:	If exposed to extremely high temperatures, 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 to, or contact with, extreme temperatures, incompatible chemicals, direct sunlight, strong light sources, sparks, flame.
10.5	Incompatible Substances:	Strong oxidizers, peroxides or strong acids or alkalis.

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 and is presented below. Solvent Naphtha (Petroleum), Light Aromatic – LD_{50} (oral, rat): 2,900 mg/kg; Solvent Naphtha (Petroleum) Medium Aliphatic – LD_{50} (oral, rat): 28,710 mg/kg; LD_{50} (dermal, rabbit) > 5,000 mg/kg; LC_{50} (inh, rat, 4h) 15,000 ppm; Sodium Sulfate Alkyl Ether – LD_{50} (oral, rat): > 2,000 mg/kg; Petroleum Gases, Liquefied, Sweetened - LC_{50} (inh, rat, 4h) 658 mg/L.
11.3	Acute Toxicity:	May be fatal if swallowed and enters airways. May be harmful if swallowed and enters airways. May cause respiratory irritation. Irritation of the nasal mucous membranes and respiratory tract. May cause moderate eye and skin irritation.
11.4	Chronic Toxicity:	May cause damage to organs through prolonged or repeated exposure.
11.5	Suspected Carcinogen:	NA
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:	Suspected of damaging fertility or the unborn child.
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:	The mixture consists largely of C_5-C_6 hydrocarbons (principally n-pentane and isohexane), which have estimated Henry's Law constants of 1.29 and 1.71 atm-cu m/mole, respectively. Based on these henry's law constants, the volatilization half-life from a model river (1 m deep, flowing 1 m/sec, wind velocity of 3 m/sec) is estimated as 1 hour. The volatilization half-life from a model lake (1 m deep, flowing 0.05 m/sec, wind velocity of 0.5 m/sec) is estimated as 4 days. Naphtha's representative Henry's Law constants indicate that volatilization from moist soil surfaces may occur. The potential for volatilization of naphtha from dry soil surfaces may exist based upon a vapor pressure range of 211 to 514 mm Hg at 25 deg C.
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.
12.3	Effects on Aquatic Life:	There are no specific data available for this product. An environmental fate analysis has not been conducted on this specific product.

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:	Aerosols may be managed as Universal Waste in some states (e.g., CA, CO, MN, etc.). Contact the federal, state or provincial environmental authority to determine suitability for recycling and or proper disposal requirements. U.S. EPA RCRA Characteristic Waste (Ignitable): 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):	UN1950, AEROSOLS, 2.1 (LTD QTY, IP VOL ≤ 1.0 L); or CONSUMER COMMODITY, ORM-D (IP VOL ≤ 1.0 L) – until 12/31/20	
14.2	IATA (AIR):	UN1950, AEROSOLS, FLAMMABLE, 2.1 (LTD QTY, IP VOL ≤ 500 mL); or ID8000, CONSUMER COMMODITY, 9 (IP VOL ≤ 500 mL)	
14.3	IMDG (OCN):	UN1950, AEROSOLS, 2.1 (LTD QTY, IP VOL ≤ 1.0 L)	
14.4	TDGR (Canadian GND):	UN1950, AEROSOLS, 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); Transport Cat: 2; Tunnel Code: (D)	
14.6	SCT (MEXICO):	UN1950, AEROSOLES, 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

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 B5, D2B (Flammable Aerosol, 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 64742-49-0: Maybe used as a single component chemical under appropriate group standard CAS 64742-88-7: Maybe used as a single component chemical under appropriate group standard CAS 67476-85-7: Maybe used as a single component chemical under appropriate group standard NZIoC Classification: 2.1.2A, 6.9B; Aerosols (Flammable) – HSR002515 Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)

16. OTHER INFORMATION

16.1	Other Information:	**DANGER! EXTREMELY FLAMMABLE AEROSOL. PRESSURIZED CONTAINER: MAY BURST IF HEATED. MAY BE FATAL IF SWALLOWED AND ENTERS AIRWAYS.** Keep out of reach of children. Read label before use. 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. Pressurized container: Do not pierce or burn, even after use. If swallowed: Immediately call a poison control center, doctor/physician. Do NOT induce vomiting. Store locked up. Protect from sunlight. Store in a well-ventilated place. Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F. Dispose of contents/container to appropriate waste disposal facility, in accordance with local, regional, national, international regulations. **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@smartesorting.com https://www.smartersorting.com

DEFINITION OF TERMS

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

GENERAL INFORMATION:

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

EXPOSURE LIMITS IN AIR:

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

FIRST AID MEASURES:

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

HAZARDOUS MATERIALS IDENTIFICATION SYSTEM: HMIS

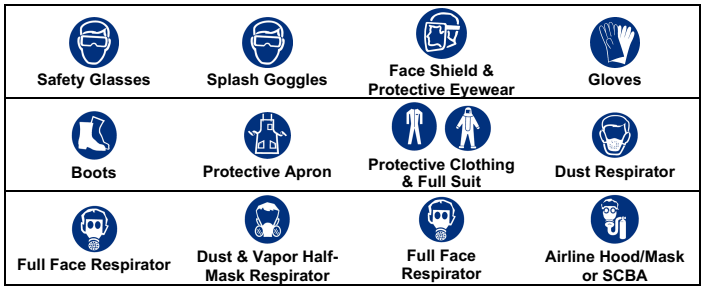
HEALTH, FLAMMABILITY & REACTIVITY RATINGS:

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

HEALTH
FLAMMABILITY
PHYSICAL HAZARDS
PERSONAL PROTECTION

PERSONAL PROTECTION RATINGS:

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



OTHER STANDARD ABBREVIATIONS:

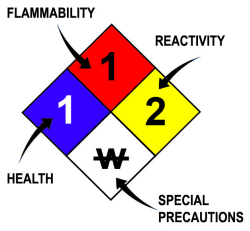
Carc	Carcinogenic
Irrit	Irritant
NA	Not Available
NR	No Results
ND	Not Determined
NE	Not Established
NF	Not Found
SCBA	Self-Contained Breathing Apparatus
Sens	Sensitization
STOT RE	Specific Target Organ Toxicity – Repeat Exposure
STOT SE	Specific Target Organ Toxicity – Single Exposure

NATIONAL FIRE PROTECTION ASSOCIATION: NFPA

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

HAZARD RATINGS:

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



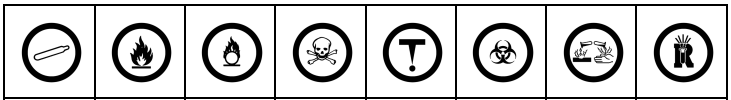
TOXICOLOGICAL INFORMATION:

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

REGULATORY INFORMATION:

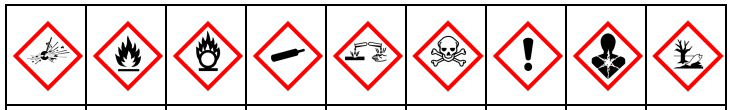
WHMIS	Canadian Workplace Hazardous Material Information System
DOT	U.S. Department of Transportation
TC	Transport Canada
EPA	U.S. Environmental Protection Agency
DSL	Canadian Domestic Substance List
NDSL	Canadian Non-Domestic Substance List
PSL	Canadian Priority Substances List
TSCA	U.S. Toxic Substance 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