

Prepared to OSHA, ACC, ANSI, NOHSC, WHMIS, 2001/58 &amp; 1272/2008/EC Standards


SDS Revision: 6.1

SDS Revision Date: 2/8/2016

## 1. PRODUCT &amp; COMPANY IDENTIFICATION

1.1	Product Name:	<b>OPI SPA COMPLETE DISINFECTANT</b>
1.2	Chemical Name:	Mixture
1.3	Synonyms:	NA
1.4	Trade Names:	SD-189, SD-184; EPA REGISTRATION No. 6836-77-70397
1.5	Product Use:	Professional Use Only
1.6	Distributor's Name:	OPI Products, Inc.
1.7	Distributor's Address:	13034 Saticoy Street, No. Hollywood, CA 91605 USA
1.8	Emergency Phone:	<b>CHEMTREC: +1 (703) 527-3887 / +1 (800) 424-9300 (CCN 16377)</b>
1.9	Business Phone / Fax:	+1 (818) 759-2400 / +1 (818) 759-5776

## 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).</p> <p><b>DANGER! HARMFUL IF SWALLOWED. CAUSES SEVERE SKIN BURNS AND EYE DAMAGE.</b></p> <p><u>Classification:</u> Acute Tox. 3; Skin Irrit. 1B; Aquatic Chronic 1</p> <p><u>Hazard Statements (H):</u> H302 - Harmful if swallowed. H314 - Causes severe skin burns and eye damage. H400 - Very toxic to aquatic life.</p> <p><u>Precautionary Statements (P):</u> P260 – Do not breathe mist. P264 – Wash thoroughly after handling. P270 – Do not eat, drink or smoke when using this product. P273 – Avoid release to the environment. P280 - Wear protective gloves/ eye protection. P301 + P312 – IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell. P330 – Rinse mouth. P303 + P361 + P353 – IF ON SKIN: Take off immediately all contaminated clothing. Rinse skin with water. 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. P391 – Collect spillage. P405 – Store locked up. P501 – Dispose of contents/container to a licensed treatment, storage or disposal facility (TSDF).</p>	
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## 3. COMPOSITION &amp; INGREDIENT INFORMATION

CHEMICAL NAME(S)	CAS No.	RTECS No.	EINECS No.	%	EXPOSURE LIMITS IN AIR (mg/m <sup>3</sup> )									OTHER
					ACGIH		NOHSC			OSHA				
					ppm		ppm			ppm				
					TLV	STEL	ES-TWA	ES-STEL	ES-PEAK	PEL	STEL	IDLH		
WATER	7732-18-5	ZC0110000	231-791-2	60-100	NA	NA	NF	NF	NF	NA	NA	NA		
DICAPRYL/ DICAPRYL DIMONIUM CHLORIDE	68424-95-3	UZ2995000	270-331-5	3.0-7.0	NA	NA	NF	NF	NF	NA	NA	NA		
	Acute Tox.4; Skin Corr.1B; Aquatic Acute1, H302, H312, H314, H400													
LINEAR ALKYL ALCOHOL (C <sub>12</sub> - C <sub>15</sub> ) ETHOXYLATES	68131-39-5	AZ08822221	500-195-7	1.0-5.0	NA	NA	NF	NF	NF	NA	NA	NA		
	Skin Irrit.2; Eye Dam.1; Aquatic Acute 1, H315, H318, H400													
SECONDARY ALCOHOL ETHOXYLATES (C <sub>11</sub> - C <sub>15</sub> )	84133-50-6	NA	NA	1.0-5.0	NA	NA	NF	NF	NF	NA	NA	NA		
	Skin Irrit.2; Eye Dam.1, H315, H318													
NONYLPHENOL (BRANCHED) ETHOXYLATES	9016-45-9	MD0900000	500-024-6	1.0-5.0	NA	NA	NF	NF	NF	NA	NA	NA		
	Acute Tox.4; Skin Irrit.2; Eye Irrit.2; Aquatic Chronic 2, H302, H315, H319, H411													
BENZALKONIUM CHLORIDE	68424-85-1	UZ2995000	270-325-2	1.0-5.0	NA	NA	NF	NF	NF	NA	NA	NA		
	Acute Tox. 3; Acute Tox.4; Skin Corr. 1C; Eye Dam. 1; Aquatic Acute. 1; H301+H331, H302, H311, H314, H318,H400													
TETRASODIUM EDTA	64-02-8	NA	200-573-9	1.0-5.0	NA	NA	NF	NF	NF	NA	NA	NA		
	Acute Tox. 4 *; Eye Dam. 1; H302, H318													
ETHANOL	64-17-5	KQ6300000	200-578-6	1.0-5.0	1000	1900	1880	NF	NF	1000	1900	3300		
	Flam. Liq.2, H225													

## 4. FIRST AID MEASURES

4.1	First Aid:	<p><u>Ingestion:</u> DO NOT INDUCE VOMITING! If ingested, immediately give 3-4 glasses of milk (if unavailable, give water). If vomiting occurs, give fluids again. Consult physician immediately or contact the nearest Poison Control Center or local emergency number. Provide an estimate of the time and amount of the substance that was swallowed. Do not give anything by mouth to a convulsing or unconscious person.</p> <p><u>Eyes:</u> If product gets in the eyes, flush with copious amounts of lukewarm water for at least 15 minutes. If irritation occurs, contact a physician.</p> <p><u>Skin:</u> If irritation occurs and product is on the skin, rinse thoroughly with lukewarm water, followed by a thorough washing of the affected area with soap and water for at least 15 minutes. Get immediate medical attention. If irritation persists, contact a physician immediately.</p> <p><u>Inhalation:</u> Remove victim to fresh air. If not breathing, clear victim's airway and start artificial respiration. If victim is having trouble breathing, give supplemental oxygen, if available. Seek immediate medical attention.</p>
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**4. FIRST AID MEASURES – cont'd**

4.2	Effects of Exposure:	<p><b>Ingestion:</b> If product is swallowed, immediate burning in mouth, throat and abdomen and severe swelling of the larynx, skeletal muscle paralysis affecting the ability to breathe, circulatory shock and convulsions.</p> <p><b>Eyes:</b> It is anticipated that this material will be corrosive to the eyes upon direct or prolonged contact. Irritating to the eyes direct contact can produce severe eye damage.</p> <p><b>Skin:</b> It is anticipated that this material will be corrosive to the skin upon direct or prolonged contact. Irritating to skin in (especially in some sensitive individuals), direct or prolonged contact can produce severe irritation to the skin especially after prolonged and/or repeated contact.</p> <p><b>Inhalation:</b> Inhalation vapors and mist of products can produce irritation of mucous membranes; however, inhalation of vapors in excess of the levels listed in Section 3 (Composition and Ingredient Information) can cause central nervous system depression (e.g., drowsiness, dizziness, headaches, nausea).</p>																				
4.3	Symptoms of Overexposure:	Overexposure may aggravate existing conditions. Exposure to Ethyl Alcohol concentrations over 1,000 ppm can cause headache, irritation of the eyes, nose and throat, and, if long continued, drowsiness and lassitude, loss of appetite, and inability to concentrate.																				
4.4	Acute Health Effects:	Olfactory fatigue may occur. Contact with the eyes may cause permanent damage. Harmful by inhalation, ingestion and through skin contact. Corrosive - causes burns. May cause CNS depression.																				
4.5	Chronic Health Effects:	None known.																				
4.6	Target Organs:	Eyes, Skin, Respiratory System																				
4.7	Medical Conditions Aggravated by Exposure:	May aggravate pre-existing skin conditions																				
		<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>0</b></td> </tr> <tr> <td colspan="3"><b>PHYSICAL HAZARDS</b></td> <td><b>1</b></td> </tr> <tr> <td colspan="3"><b>PROTECTIVE EQUIPMENT</b></td> <td><b>X</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>0</b>	<b>PHYSICAL HAZARDS</b>			<b>1</b>	<b>PROTECTIVE EQUIPMENT</b>			<b>X</b>	<b>EYES</b>	<b>SKIN</b>	<b>LUNGS</b>	
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**5. FIREFIGHTING MEASURES**

5.1	Fire & Explosion Hazards:	This product is non-flammable. When exposed to high temperatures, may produce hazardous decomposition products such as oxides of carbon and nitrogen, and smoke. Thermal decomposition may also produce toxic vapors/fumes or amines and other organic materials.	
5.2	Extinguishing Methods:	Use extinguishing agent suitable for the surrounding fire.	
5.3	Firefighting Procedures:	First responders should wear eye protection. Structural firefighters must wear SCBAs and full protective equipment. Prevent runoff from fire control or dilution from entering sewers, drains, drinking water supply, or any natural waterway. Firefighters should wear full-face, self-contained breathing apparatus (MSHA/NIOSH approved or the equivalent) and impervious clothing.	

**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 <b>small spills</b> (e.g., &lt; 1 gallon (3.8 L)) wear appropriate personal protective equipment (e.g., goggles, gloves). Maximize ventilation (open doors and windows). 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 <b>large spills</b> (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). 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 drains, municipal sewers and open bodies of water.</p>
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**7. HANDLING & STORAGE INFORMATION**



7.1	Work & Hygiene Practices:	Do not ingest. Do not get in eyes, on skin, on clothing. Avoid breathing vapor/ spray/ mist. Avoid prolonged contact with the product. 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 out of reach of children. Do not store above 50 °C (122 °F). Keep containers closed until used. 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. Keep product from entering sewers, drains, drinking water supply, or any natural waterway. 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, Stability and Reactivity). Material should be stored in secondary containers as appropriate.
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.

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**8. EXPOSURE CONTROLS & PERSONAL PROTECTION**

8.1	Exposure Limits: ppm (mg/m <sup>3</sup> )	CHEMICAL NAME(S)	ACGIH		NOHSC			OSHA			OTHER
			TLV	STEL	ES-TWA	ES-STEL	ES-PEAK	PEL	STEL	IDLH	
		ETHANOL	1000	1900	1880	NF	NF	1000	1900	3300	
8.2	Ventilation & Engineering Controls:	Use only with adequate ventilation, local exhaust ventilation or other engineering controls to keep worker exposure below any recommended or statutory limits. When working with large quantities of product, provide adequate ventilation (e.g., local exhaust ventilation, fans). In process where TLV may be exceeded, or mist and or vapors may be generated proper ventilation must be provided. Ensure that an eyewash station, sink, washbasin and safety shower are available in case of exposure to eyes and/or skin.									
8.3	Respiratory Protection:	No special respiratory protection is required under typical circumstances of use or handling. Where mist or vapors are generated by the process or if recommended TWA/TLV for ethyl alcohol is exceeded, 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, EU member states, or Australia.									
8.4	Eye Protection:	Wear chemical splash goggles where there is a potential for eye contact. Use safety glasses with side shields under normal use conditions. If necessary, refer to U.S. OSHA 29 CFR §1910.133, Canadian standards, or the European Standard EN166.									
8.5	Hand Protection:	Rubber or neoprene, when needed especially if it is anticipated that prolonged & repeated skin contact will occur during use of this product for routine industrial use. 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:	No special body protection is required under typical circumstances of use and handling. Wear appropriate protective clothing, long sleeves, coveralls or other as needed. If necessary, refer to appropriate standards of Canada, the EU member states, or U.S. OSHA.									

**9. PHYSICAL & CHEMICAL PROPERTIES**

9.1	Appearance:	Clear liquid (varies if dye added)
9.2	Odor:	NA
9.3	Odor Threshold:	Varies if fragrance added
9.4	pH:	12.9
9.5	Melting Point/Freezing Point:	Not known
9.6	Initial Boiling Point/Boiling Range:	Not known
9.7	Flashpoint:	ND
9.8	Upper/Lower Flammability Limits:	ND
9.9	Vapor Pressure:	Not known
9.10	Vapor Density:	NA
9.11	Relative Density:	1.01 @ 25 °C
9.12	Solubility:	Soluble
9.13	Partition Coefficient (log P <sub>ow</sub> ):	NA
9.14	Autoignition Temperature:	ND
9.15	Decomposition Temperature:	NA
9.16	Viscosity:	≤ 100 cPs @ 25 °C
9.17	Other Information:	ND

**10. STABILITY & REACTIVITY**

10.1	Stability:	Stable
10.2	Hazardous Decomposition Products:	Thermal decomposition may produce toxic vapors/fumes or amines and other organic materials and oxides of carbon and 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, strong acids or alkalis.

**11. TOXICOLOGICAL INFORMATION**

11.1	Routes of Entry:	Inhalation: YES	Absorption: YES	Ingestion: YES
11.2	Toxicity Data:	This product was not tested on animals. Toxicity data is available in scientific literature but is not presented in this document.		
11.3	Acute Toxicity:	See Section 4.4		
11.4	Chronic Toxicity:	See Section 4.5		
11.5	Suspected Carcinogen:	This product does not contain any substances classified as carcinogens in a quantity of 0.1% or more.		

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## 11. TOXICOLOGICAL INFORMATION – cont'd

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 is not reported to cause teratogenic effects in humans.
	Reproductive Toxicity:	This product does not contain any reproductive toxins in a quantity of 0.1% or more.
11.7	Irritancy of Product:	See Section 4.3
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:	There are no specific data available for this product.

## 13. DISPOSAL CONSIDERATIONS


13.1	Waste Disposal:	Waste disposal must be in accordance with appropriate federal, state, and local regulations.
13.2	Special Considerations:	NA

## 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 (IP VOL ≤ 5.0 L) UN1903, DISINFECTANTS, LIQUID, CORROSIVE, N.O.S (QUATERNARY AMMONIUM CHLORIDE, BENZALKONIUM CHLORIDE), 8, III, LTD QTY (IP VOL ≤ 5.0 L)	
14.2	IATA (AIR):	UN1903, DISINFECTANTS, LIQUID, CORROSIVE, N.O.S (QUATERNARY AMMONIUM CHLORIDE, BENZALKONIUM CHLORIDE), 8, III, LTD QTY (IP VOL ≤ 0.5 L)	
14.3	IMDG (OCN):	UN1903, DISINFECTANTS, LIQUID, CORROSIVE, N.O.S (QUATERNARY AMMONIUM CHLORIDE, BENZALKONIUM CHLORIDE), 8, III, LTD QTY (IP VOL ≤ 5.0 L)	
14.4	TDGR (Canadian GND):	UN1903, DISINFECTANTS, LIQUID, CORROSIVE, N.O.S (QUATERNARY AMMONIUM CHLORIDE, BENZALKONIUM CHLORIDE), 8, III, LTD QTY (IP VOL ≤ 5.0 L)	
14.5	ADR/RID (EU):	UN1903, DISINFECTANTS, LIQUID, CORROSIVE, N.O.S (QUATERNARY AMMONIUM CHLORIDE, BENZALKONIUM CHLORIDE), 8, III, LTD QTY (IP VOL ≤ 5.0 L)	
14.6	SCT (MEXICO):	UN1903, DESINFECTANTES, CORROSIVOS, LIQUIDOS, N.E.P. (AMMONIO CLORO, CLORO DE BENZALCONIO), 8, III, CANTIDAD LIMITADA (IP VOL ≤ 5.0 L)	
14.7	ADGR (AUS):	UN1903, DISINFECTANTS, LIQUID, CORROSIVE, N.O.S (QUATERNARY AMMONIUM CHLORIDE, BENZALKONIUM CHLORIDE), 8, III, LTD QTY (IP VOL ≤ 5.0 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 Threshold Planning Quantity:	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 or are otherwise exempt.
15.4	CERCLA Reportable Quantity (RQ):	<u>Ethanol</u> : 2,270 kg; 5,000 lbs
15.5	Other Federal Requirements:	This is an EPA registered pesticide (EPA Registration No. 6836-77) This material can only be used commercially in the EPA registered application(s) noted on the product label.
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. 
15.7	State Regulatory Information:	<u>Tetrasodium EDTA</u> is found on the following state criteria list: NJ, PA. <u>Ethanol</u> is found on the following state criteria list: FL, MA, MN, PA, WA 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 (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).

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## 15. REGULATORY INFORMATION – cont'd

15.8	Other Requirements:	<p>The primary components of this product are listed in Annex I of EU Directive 67/548/EEC:  <b>WARNING! CAUSES SERIOUS EYE IRRITATION.</b>  <u>Tetrasodium EDTA</u>: Harmful (Xn), Irritant (Xi); <u>Risk Phrases</u> (R) 22-41 Harmful if swallowed. Risk of serious eye damage. <u>Safety Phrases</u> (S) 2-26-39-46 Keep out of reach of children. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear eye face protection. If swallowed, seek medical advice immediately and show this container or label.  <u>Ethanol</u>: Flammable (F); <u>Risk Phrases</u> (R) 11 Highly flammable. <u>Safety Phrases</u> (S) 2-7-16 Keep out of reach of children. Keep container tightly closed. Keep away from sources of ignition, no smoking.</p>	
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## 16. OTHER INFORMATION

16.1	Other Information:	<p><b>DANGER! HARMFUL IF SWALLOWED. CAUSES SEVERE SKIN BURNS AND EYE DAMAGE.</b> Use only as directed. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear eye face protection. If swallowed, seek medical advice immediately and show this container or label. Irritating to skin in (especially in some sensitive individuals), direct or prolonged contact can produce severe irritation to the skin especially after prolonged and/or repeated contact. Do not take internally. Keep tightly closed until ready to use.  <b>KEEP OUT OF REACH OF CHILDREN.</b></p>	
16.2	Terms & Definitions:	See last page of this Safety Data Sheet.	
16.3	Disclaimer:	<p>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 &amp; OPI'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.</p>	
16.4	Prepared for:	<p><b>OPI Products, Inc.</b>  13034 Saticoy Street  No. Hollywood, CA 91605 USA  Tel: +1 (818) 759-2400  Fax: +1 (818) 759-5776  <a href="http://www.opi.com">http://www.opi.com</a></p>	
16.5	Prepared by:	<p><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></p>	

## 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
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### EXPOSURE LIMITS IN AIR:

ACGIH	American Conference on Governmental Industrial Hygienists
TLV	Threshold Limit Value
OSHA	U.S. Occupational Safety and Health Administration
PEL	Permissible Exposure Limit
IDLH	Immediately Dangerous to Life and Health

### 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	Synthetic 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:

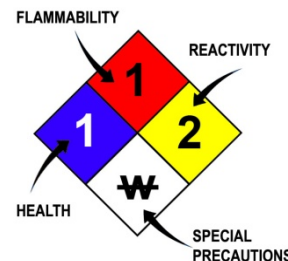
NA	Not Available
NR	No Results
NE	Not Established
ND	Not Determined
ML	Maximum Limit
SCBA	Self-Contained Breathing Apparatus
Flam.	Flammable
Liq.	Liquid
Sol.	Solid
Tox.	Toxicity
Irrit.	Irritation
Sens.	Sensitization
Ox.	Oxidizing
Corr.	Corrosion
Repr.	Reproductive (Harm)
Asp.	Aspiration
Inh.	Inhalation
Dam.	Damage
STOT SE	Specific Target Organ Toxicity – Single Exposure
STOT RE	Specific Target Organ Toxicity – Repeated 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 <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>01</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

### EC (67/548/EEC) INFORMATION:

C	E	F	N	O	T	Xi	Xn
Corrosive	Explosive	Flammable	Harmful	Oxidizing	Toxic	Irritant	Harmful

### 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