



# SAFETY DATA SHEET

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



SDS Revision: 3.0

SDS Revision Date: 2/2/2015

## 1. PRODUCT & COMPANY IDENTIFICATION

1.1	Product Name:	<b>CIRCUITSEALER™ (P/N CS100L and CS100L-UV)</b>
1.2	Chemical Name:	NA
1.3	Synonyms:	CircuitSealer™; PN CS100L; CS100L-UV; CircuitSealer: Part No. K-CS100P, PEN Applicator, 7 ml; Part No. K-CS100P-UV, PEN Applicator with UV Tracer, 7 ml; Part No. CS100L-2DB, Brush Applicator, 7.4 ml; Part No. CS100L-2DB-UV, Brush Applicator with UV Tracer, 7.4 ml; Part No. CS100L-12, 354 ml Container; Part No. CS100L-12-UV, 354 ml Container with UV Tracer.
1.4	Trade Names:	CircuitSealer™; CircuitSealer™ UV
1.5	Product Uses & Restrictions:	Conformal Coating for Sealing Various Materials
1.6	Distributor's Name:	CAIG Laboratories, Inc.
1.7	Distributor's Address:	12200 Thatcher Court, Poway, CA 92064-6876 USA
1.8	Emergency Phone:	<b>CHEMTREC: +1 (703) 527-3887 / +1 (800) 424-9300 (CCN XXXXX)</b>
1.9	Business Phone / Fax:	+1 (800) 224-4123

## 2. HAZARDS IDENTIFICATION

2.1	Hazard Identification:	<p>This product is classified as a HAZARDOUS SUBSTANCE as DANGEROUS GOODS according to the classification criteria of NOHSC: 1088 (2004) and ADG Code (Australia).</p> <p><b>DANGER! HIGHLY FLAMMABLE LIQUID AND VAPOR. CAUSES SERIOUS EYE IRRITATION. MAY CAUSE DROWSINESS OR DIZZINESS.</b></p> <p><u>Classification:</u> Flam. Liq. 2; Eye Irrit. 2; STOT SE 3</p> <p><u>Hazard Statements (H):</u> H225 – Highly flammable liquid and vapor. H319 – Causes serious eye irritation. H336 – May cause drowsiness or dizziness.</p> <p><u>Precautionary Statements (P):</u> P210 – Keep away from heat, hot surface, sparks, open flames and other ignition sources. No smoking. P233 – Keep container tightly closed. P261 – Avoid breathing vapors. P264 – Wash thoroughly after handling. P271 – Use only outdoors or in a well-ventilated area. P280 – Wear protective gloves/ eye protection. P303+P361+P353 – IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water (or shower). P304+P340 – IF INHALED: Remove person to fresh air and keep comfortable for breathing. P305+P351+P338 – IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. P337+P313 – If eye irritation persists: Get medical advice/attention. P370+P378 – In case of fire: Use CO<sub>2</sub>, Alcohol foam, Dry Chemical to extinguish. P403+P235 – Store in a well-ventilated place. Keep cool. P501 – Dispose of contents/container to a licensed treatment, storage or disposal facility (TSDF).</p>	 
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## 3. COMPOSITION & INGREDIENT INFORMATION

CHEMICAL NAME(S)	CAS No.	RTECS No.	EINECS No.	%	EXPOSURE LIMITS IN AIR (mg/m <sup>3</sup> )									OTHER
					ACGIH		NOHSC			OSHA				
					ppm	ppm	ppm	ppm	ppm	ppm	IDLH			
METHYL ETHYL KETONE	78-93-3	EL6475000	201-159-0	60-100	TLV	STEL	ES-TWA	ES-STEL	ES-PEAK	PEL	STEL	IDLH		
					200	300	150	445	NF	200	300	3000		
					Flam. Liq. 2; Eye Irrit. 2; STOT SE 3; H225, H319, H336									
ACRYLIC COPOLYMER	NA	NA	NA	15-40	NA	NA	NF	NF	NF	NA	NA	NA		

## 4. FIRST AID MEASURES

4.1	First Aid:	<p><u>Ingestion:</u> If ingested, do not induce vomiting. If product has been swallowed, drink plenty of water or milk IMMEDIATELY. If the patient is vomiting, continue to offer water or milk. Never give water or milk to an unconscious person. Contact the nearest Poison Control Center or local emergency number. Provide an estimate of the time at which the material was ingested and the amount of the substance that was swallowed.</p> <p><u>Eyes:</u> Splashes are not likely; however, if product gets in the eyes, flush with copious amounts of lukewarm water for at least 15 minutes lifting upper and lower lids, occasionally. If irritation persists repeat flushing. Get medical attention.</p> <p><u>Skin:</u> Wash thoroughly with soap and water. In case of contact, immediately flush skin with plenty of water for at least 15 minutes. Treat for frostbite if necessary, be gently warming affected area. If irritation, redness or swelling persists, contact a physician immediately.</p> <p><u>Inhalation:</u> Remove victim to fresh air at once. If breathing difficult, administer oxygen. If breathing stops give artificial respiration. Keep person warm, quiet and get medical attention.</p>
4.2	Effects of Exposure:	<p><u>Ingestion:</u> If product is swallowed, may cause nausea, vomiting and/or diarrhea.</p> <p><u>Eyes:</u> Moderately irritating to the eyes. 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. Repeated exposure may cause dryness and cracking.</p> <p><u>Inhalation:</u> None expected.</p>



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## 4. FIRST AID MEASURES

4.3	Symptoms of Overexposure:	<u>Ingestion:</u> Nausea, intestinal discomfort, vomiting and/or diarrhea. <u>Eyes:</u> Overexposure in eyes may cause redness, itching and watering. <u>Skin:</u> Symptoms of skin overexposure may include redness, itching, and irritation of affected areas. Frostbite like symptoms. The product can cause allergic skin reactions (e.g., rashes, welts, dermatitis) in some individuals.															
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. Frostbite like effect to skin.															
4.5	Chronic Health Effects:	Overexposure may trigger asthma-like symptoms in some sensitive individuals. May also induce skin sensitization and respiratory hypersensitivity. Possible allergic dermatitis.															
4.6	Target Organs:	Eyes, Skin, Respiratory System.															
4.7	Medical Conditions Aggravated by Exposure:	Pre-existing dermatitis, other skin conditions, and disorders of the target organs (eyes, skin, and respiratory system).															
		<table border="1"> <tr><td colspan="2"><b>HEALTH</b></td><td><b>1</b></td></tr> <tr><td colspan="2"><b>FLAMMABILITY</b></td><td><b>3</b></td></tr> <tr><td colspan="2"><b>PHYSICAL HAZARDS</b></td><td><b>0</b></td></tr> <tr><td colspan="2"><b>PROTECTIVE EQUIPMENT</b></td><td><b>B</b></td></tr> <tr><td><b>EYES</b></td><td><b>SKIN</b></td><td></td></tr> </table>	<b>HEALTH</b>		<b>1</b>	<b>FLAMMABILITY</b>		<b>3</b>	<b>PHYSICAL HAZARDS</b>		<b>0</b>	<b>PROTECTIVE EQUIPMENT</b>		<b>B</b>	<b>EYES</b>	<b>SKIN</b>	
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<b>PROTECTIVE EQUIPMENT</b>		<b>B</b>															
<b>EYES</b>	<b>SKIN</b>																

## 5. FIREFIGHTING MEASURES

5.1	Fire & Explosion Hazards:	Level 3 Aerosol (NFPA 30B). Aerosols may burst at temperatures above 120 °F. Cool uninvolved containers to prevent possible bursting. Aerosols may be projectile hazards when bursting. If aerosols are bursting, stay clear until bursting is complete. This product is not flammable. However, if involved in a fire, this product may decompose at high temperatures to form toxic gases (e.g., CO, Hydrogen Fluoride).	
5.2	Extinguishing Methods:	Water, Foam, CO <sub>2</sub> , Dry Chemical. Use water spray to cool unopened containers.	
5.3	Firefighting Procedures:	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:	Before cleaning any spill or leak, individuals involved in spill cleanup must wear appropriate Personal Protective Equipment. Plastic or rubber gloves, respirator, eye protection and apron may be required for clean-up of large spills. <u>Small Spills:</u> Wear appropriate protective equipment including gloves and protective eyewear. Use a non-combustible material such as vermiculite or sand to soak up the product and place into a container for later disposal. Do not use water or a material such as "speedy dry" to soak up material. Sweep up material using non-sparking materials (e.g., plastic brooms, shovels, dustpans) and place into a plastic container or plastic liner within another container. <u>Large Spills:</u> Keep incompatible materials (e.g., organics such as oil) away from spill. Stay upwind and away from spill or release. Isolate immediate hazard area and keep unauthorized personnel out of area. Stop spill or release if it can be done with minimal risk. Wear appropriate protective equipment including respiratory protection as conditions warrant.
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## 7. HANDLING & STORAGE INFORMATION

7.1	Work & Hygiene Practices:	Do not eat, drink or smoke when handling this product. Contents under pressure. Handle as to avoid puncturing container(s). When used as intended, no additional protective equipment is necessary. Use chemical goggles if eye contact is possible. Wash unintentional residues with soap and warm water.
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. To avoid unintentional spraying keep cap in place when not in use.
7.3	Special Precautions:	Clean all spills promptly.

## 8. EXPOSURE CONTROLS & PERSONAL PROTECTION

8.1	Exposure Limits: ppm (mg/m <sup>3</sup> )		ACGIH		NOHSC			OSHA			OTHER
		CHEMICAL NAME(S)	TLV	STEL	ES-TWA	ES-STEL	ES-PEAK	PEL	STEL	IDLH	
		METHYL ETHYL KETONE	200	300	150	445	NF	200	300	3000	
8.2	Ventilation & Engineering Controls:	General mechanical (e.g., fans) or natural ventilation is sufficient when this product is in use. Use local or general exhaust ventilation to effectively remove and prevent buildup of vapors or mist generated from the handling of this product. Ensure appropriate decontamination equipment is available (e.g., sink, safety shower, eye-wash station).									
8.3	Respiratory Protection:	No special respiratory protection is required under typical circumstances of use or handling. In instances where dusts of this product are generated, and respiratory protection is needed, use only protection authorized by 29 CFR §1910.134, applicable U.S. State regulations, or the Canadian CAS Standard Z94.4-93 and applicable standards of Canadian Provinces, EC member States, or Australia.									





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## 8. EXPOSURE CONTROLS & PERSONAL PROTECTION – cont'd

8.4	Eye Protection:	Avoid eye contact. None required under normal conditions of use. Safety glasses could be used when handling or using large quantities of this product.	
8.5	Hand Protection:	None required under normal conditions of use. However, may cause skin irritation in some sensitive individuals. When handling large quantities (e.g., ≥ 1 gallon (3.8 L)), wear rubber, nitrile or impervious plastic gloves.	
8.6	Body Protection:	No apron required when handling small quantities. When handling large quantities (e.g., ≥ 5 lbs), eye wash stations and deluge showers should be available. Upon completion of work activities involving large quantities of this product, wash any exposed areas thoroughly with soap and water.	

## 9. PHYSICAL & CHEMICAL PROPERTIES

9.1	Appearance:	Clear to hazy liquid
9.2	Odor:	Pungent sweet odor
9.3	Odor Threshold:	NA
9.4	pH:	NA
9.5	Melting Point/Freezing Point:	NA
9.6	Initial Boiling Point/Boiling Range:	80 °C ( 176 °F)
9.7	Flashpoint:	-4.5 °C (24 °F) Setaflash Closed Cup
9.8	Upper/Lower Flammability Limits:	UEL 12.0 / LEL 2.0
9.9	Vapor Pressure:	71 mm Hg
9.10	Vapor Density:	NA
9.11	Relative Density:	0.87
9.12	Solubility:	Partial
9.13	Partition Coefficient (log P <sub>ow</sub> ):	NA
9.14	Autoignition Temperature:	NA
9.15	Decomposition Temperature:	NA
9.16	Viscosity:	1700 cPs
9.17	Other Information:	NA

## 10. STABILITY & REACTIVITY

10.1	Stability:	Stable under normal conditions; unstable with heat or contamination.
10.2	Hazardous Decomposition Products:	Oxides of carbon (CO, CO <sub>2</sub> ), nitrogen (NO <sub>x</sub> ) and sulfur (SO <sub>2</sub> ).
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.

## 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: <u>Methyl Ethyl Ketone</u> LD <sub>50</sub> (oral, rat) 2,737		
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:	This material may aggravate any pre-existing skin condition (e.g., dermatitis).		
11.5	Suspected Carcinogen:	No.		
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 cause reproductive effects 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:	There is 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; however, very large releases of this product may be harmful or fatal to overexposed aquatic life.

## 13. DISPOSAL CONSIDERATIONS

13.1	Waste Disposal:	Products covered by this MSDS, in their original form, when disposed as waste, are considered non hazardous waste according to Federal RCRA regulations (40 CFR 261). Disposal should be in accordance with local, state and federal regulations. Dispose of in accordance with federal, state and local regulations.
13.2	Special Considerations:	California Waste Code: 331





## 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):	UN1993, FLAMMABLE LIQUIDS, N.O.S. (METHYL ETHYL KETONE, ACRYLATES COPOLYMER), 3, II, LTD QTY (IP VOL ≤ 1.0 L) CONSUMER COMMODITY, ORM-D (IP VOL ≤ 1.0 L) – until 12/31/2020	    
14.2	IATA (AIR):	ID8000 CONSUMER COMMODITY, 9 (IP VOL ≤ 0.5 L) UN1993, FLAMMABLE LIQUIDS, N.O.S. (METHYL ETHYL KETONE, ACRYLATES COPOLYMER), 3, II, LTD QTY (IP VOL ≤ 1.0 L)	
14.3	IMDG (OCN):	UN1993, FLAMMABLE LIQUIDS, N.O.S. (METHYL ETHYL KETONE, ACRYLATES COPOLYMER), 3, II, LTD QTY (IP VOL ≤ 1.0 L)	
14.4	TDGR (Canadian GND):	UN1993, FLAMMABLE LIQUIDS, N.O.S. (METHYL ETHYL KETONE, ACRYLATES COPOLYMER), 3, II, LTD QTY (IP VOL ≤ 1.0 L); or MARK PACKAGE "LIMITED QUANTITY," "LTD QTY," or "QUANT LTÉE" or "QUANTITÉ LIMITÉE"	
14.5	ADR/RID (EU):	UN1993, FLAMMABLE LIQUIDS, N.O.S. (METHYL ETHYL KETONE, ACRYLATES COPOLYMER), 3, II, LTD QTY (IP VOL ≤ 1.0 L)	
14.6	SCT (MEXICO):	UN1993, LIQUIDOS INFLAMMABLES, N.E.P. (METAL ETIL KETONE, COPOLIMER ACRILATO), 3, II, LTD QTY (IP VOL ≤ 1.0 L)	
14.7	ADGR (AUS):	UN1993, FLAMMABLE LIQUIDS, N.O.S. (METHYL ETHYL KETONE, ACRYLATES COPOLYMER), 3, II, LTD QTY (IP VOL ≤ 1.0 L)	

\* This product may also be shipped as an Excepted Quantity (Inner Package Volume ≤ 30 mL, Total Quantity ≤ 500 mL per Outer Package)

## 15. REGULATORY INFORMATION

15.1	SARA Reporting Requirements:	This product contains <u>Methyl Ethyl Ketone</u> a substance 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.	
15.4	CERCLA Reportable Quantity (RQ):	<u>Methyl Ethyl Ketone</u> : 2,270 kg (5,000 lbs.)	
15.5	Other Federal Requirements:	This product complies with the appropriate sections of the Food and Drug Administration's 21 CFR Subchapter G, (Cosmetics).	
15.6	Other Canadian Regulations:	This product has been classified according to the hazard criteria of the Controlled Products Regulations (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. Class B, Class D2	
15.7	State Regulatory Information:	<u>Methyl Ethyl Ketone</u> can be found on the following state criteria lists: 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), Pennsylvania Right-to-Know List (PA), Washington Permissible Exposures List (WA), Wisconsin Hazardous Substances List (WI). 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).	
15.8	Other Requirements:	The primary components of this product are not listed in Annex I of EU Directive 67/548/EEC: <u>Methyl Ethyl Ketone</u> : Flammable (F); Irritant (Xi) Risk Phrases: (R) 11-36-66-67 – Highly flammable. Irritating to eyes. Repeated exposure may cause skin dryness or cracking. Vapors may cause drowsiness and dizziness. Safety Phrases: (S) 2-9-16 – Keep out of reach of children. Keep container in a well-ventilated place. Keep away from sources of ignition – No Smoking.	 



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## 16. OTHER INFORMATION

16.1	Other Information:	<b>DANGER! HIGHLY FLAMMABLE LIQUID AND VAPOR. CAUSES SERIOUS EYE IRRITATION. MAY CAUSE DROWSINESS OR DIZZINESS.</b> Use only as directed. Irritating to eyes. Repeated exposure may cause skin dryness or cracking. Vapors may cause drowsiness and dizziness. Keep container in a well-ventilated place. Keep away from sources of ignition – No Smoking. <b>KEEP LOCKED UP AND OUT OF REACH OF CHILDREN.</b>	
16.2	Terms & Definitions:	See last page of this Safety Data Sheet.	
16.3	Disclaimer:	This Safety Data Sheet is offered pursuant to OSHA's Hazard Communication Standard, 29 CFR §1910.1200. Other government regulations must be reviewed for applicability to this product. To the best of ShipMate's & CAIG Laboratories, 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:	<b>CAIG Laboratories, Inc.</b> 12200 Thatcher Court Poway, CA 92064-6876 Tel: +1 (800) CAIG-123 (244-4123) Fax: +1 (858) 486-8398 fax <a href="http://www.caig.com/">http://www.caig.com/</a>	
16.5	Prepared by:	<b>ShipMate, Inc.</b> P.O. Box 787 Sisters, Oregon 97759-0787 USA Tel: +1 (310) 370-3600 Fax: +1 (310) 370-5700 <a href="http://www.shipmate.com">http://www.shipmate.com</a>	



## 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:

<b>CAS No.</b>	Chemical Abstract Service Number
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### EXPOSURE LIMITS IN AIR:

<b>ACGIH</b>	American Conference on Governmental Industrial Hygienists
<b>C</b>	Ceiling Limit
<b>ES</b>	Exposure Standard (Australia)
<b>IDLH</b>	Immediately Dangerous to Life and Health
<b>OSHA</b>	U.S. Occupational Safety and Health Administration
<b>PEL</b>	Permissible Exposure Limit
<b>STEL</b>	Short-Term Exposure Limit
<b>TLV</b>	Threshold Limit Value
<b>TWA</b>	Time Weighted Average

### FIRST AID MEASURES:

<b>CPR</b>	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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### HMIS-III HEALTH, FLAMMABILITY & REACTIVITY RATINGS:

<b>0</b>	Minimal Hazard
<b>1</b>	Slight Hazard
<b>2</b>	Moderate Hazard
<b>3</b>	Severe Hazard
<b>4</b>	Extreme Hazard

<b>HEALTH</b>
<b>FLAMMABILITY</b>
<b>PHYSICAL HAZARDS</b>
<b>PERSONAL PROTECTION</b>

### PERSONAL PROTECTION RATINGS:

<b>A</b>		<b>G</b>	
<b>B</b>		<b>H</b>	
<b>C</b>		<b>I</b>	
<b>D</b>		<b>J</b>	
<b>E</b>		<b>K</b>	
<b>F</b>		<b>X</b>	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:

<b>ML</b>	Maximum Limit
<b>mg/m3</b>	milligrams per cubic meter
<b>NA</b>	Not Available
<b>ND</b>	Not Determined
<b>NE</b>	Not Established
<b>NF</b>	Not Found
<b>NR</b>	No Results
<b>ppm</b>	parts per million
<b>SCBA</b>	Self-Contained Breathing Apparatus

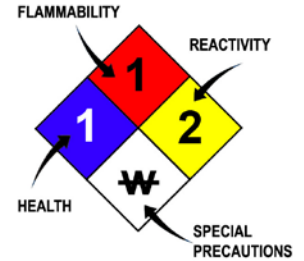
### NATIONAL FIRE PROTECTION ASSOCIATION: NFPA

### FLAMMABILITY LIMITS IN AIR:

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

### HAZARD RATINGS:

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



### TOXICOLOGICAL INFORMATION:

<b>LD<sub>50</sub></b>	Lethal Dose (solids & liquids) which kills 50% of the exposed animals
<b>LC<sub>50</sub></b>	Lethal concentration (gases) which kills 50% of the exposed animal
<b>ppm</b>	Concentration expressed in parts of material per million parts
<b>TD<sub>01</sub></b>	Lowest dose to cause a symptom
<b>TCLo</b>	Lowest concentration to cause a symptom
<b>TD<sub>10</sub>, LD<sub>10</sub>, &amp; LD<sub>01</sub> or TC, TC<sub>01</sub>, LC<sub>10</sub>, &amp; LC<sub>01</sub></b>	Lowest dose (or concentration) to cause lethal or toxic effects
<b>IARC</b>	International Agency for Research on Cancer
<b>NTP</b>	National Toxicology Program
<b>RTECS</b>	Registry of Toxic Effects of Chemical Substances
<b>BCF</b>	Bioconcentration Factor
<b>TL<sub>m</sub></b>	Median threshold limit
<b>log K<sub>ow</sub> or log K<sub>oc</sub></b>	Coefficient of Oil/Water Distribution

### REGULATORY INFORMATION:

<b>WHMIS</b>	Canadian Workplace Hazardous Material Information System
<b>DOT</b>	U.S. Department of Transportation
<b>TC</b>	Transport Canada
<b>EPA</b>	U.S. Environmental Protection Agency
<b>DSL</b>	Canadian Domestic Substance List
<b>NOHSC</b>	National Occupational Health and Safety Commission (Australia)
<b>NDSL</b>	Canadian Non-Domestic Substance List
<b>PSL</b>	Canadian Priority Substances List
<b>TSCA</b>	U.S. Toxic Substance Control Act
<b>EU</b>	European Union (European Union Directive 67/548/EEC)
<b>WGK</b>	Wassergefährdungsklassen (German Water Hazard Class)
<b>HMIS-III</b>	National Paint & Coatings Association Hazardous Materials Identification System

### 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