

## 1. PRODUCT & COMPANY IDENTIFICATION

1.1	Product Name:	<b>STARKE LIQUID THOR</b>
1.2	Chemical Name:	MIXTURE
1.3	Synonyms:	NA
1.4	Trade Names:	Starke Liquid Thor
1.5	Product Use:	Stain and Spill Treatment
1.6	Distributor's Name:	Starke Yacht Surface Technologies
1.7	Distributor's Address:	17000 Alico Commerce Ct., Suite 101, Fort Myers, FL 33912
1.8	Emergency Phone:	<b>John Watkins +1 (239) 851-6030</b>
1.9	Business Phone / Fax:	+1 (800) 203-5315

## 2. HAZARDS IDENTIFICATION

2.1	Hazard Identification:	Prepared in accordance with UN Globally Harmonized standards. Intended to comply with OSHA 29 CFR 1910.1200. Canadian WHMIS and Australian Work Health and Safety. <b>DANGER! HIGHLY FLAMMABLE LIQUID AND VAPOR. CAUSES SEVERE SKIN BURNS AND EYE DAMAGE. HARMFUL IF SWALLOWED. MAY CAUSE LONG LASTING HARMFUL EFFECTS TO AQUATIC LIFE.</b> <b>Classification:</b> Flam. Liq. 3, Skin Corr. 1B, Acute Tox. 4 (oral), Aquatic Chronic 4
2.2	Label Elements:	<p><b>Hazard Statements (H):</b> H225 – Highly flammable liquid and vapor. H314 – Causes severe skin burns and eye damage. H302 – Harmful if swallowed. H412 – May cause long lasting harmful effects to aquatic life</p> <p><b>Precautionary Statements (P):</b> P210 – Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P233 – Keep container tightly closed. P240 – Ground and bond container and receiving equipment. P241 – Use explosion-proof (electrical/ventilating/lighting) equipment. P242 – Use non-sparking tools. P243 – Take action to prevent static discharges. P233 – Keep container tightly closed. P260 – Do not breathe dust or 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/protective clothing/ eye protection/face protection. P301+P330+P331 – IF SWALLOWED: Rinse mouth. Do not induce vomiting. P363 – Wash contaminated clothing before reuse. P304+P340 – IF INHALED: Remove person to fresh air and keep comfortable for breathing. P316 – Get emergency medical help immediately. 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+P317 – If eye irritation persists: Get medical help. P321 – Specific treatment see section 4 (first aid) of this SDS or container label. P403+P235 – Store in a well-ventilated place. Keep cool. P405 – Store locked up. P501 – Dispose of contents/container to a licensed treatment, storage or disposal facility (TSDf).</p>
2.3	Other Warnings:	<b>KEEP OUT OF REACH OF CHILDREN.</b>




## 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				
					TLV	STEL	ES-TWA	ES-STEL	ES-PEAK	PEL	STEL	IDLH		
DIMETHYL METHYLPHENYL-METHOXYSILOXANE	68952-93-2	NA	NA	30-45	NA	NA	NF	NF	NF	NA	NA	NA		
	Eye Irrit. 2; H319													
METHYLTRIMETHOXYSILANE	1185-55-3	VV4650000	214-685-0	10-25	NA	NA	NF	NF	NF	NA	NA	NA		
	Flam. Liq. 2; H225													
POLYSILAZANE	475645-84-2	NA	NA	5-15	NA	NA	NF	NF	NF	NA	NA	NA		
	Flam. Liq. 2, Skin Corr. 1B; Eye Dam. 1; Acute Tox. 4 (oral); H225, H314, H318, H302													
DI-N-BUTYL ETHER	142-96-1	EK5425000	205-575-3	5-10	NA	NA	NF	NF	NF	NA	NA	NA		
	Flam Liq. 3; Skin Irrit. 2; Eye Irrit. 2, STOT SE 3; Aquatic Chronic 3; H226, H315, H319, H335, H412													
ZINC OXIDE	1314-13-2	NA	233-466-0	1-5	NA	NA	NF	NF	NF	NA	NA	NA		
	Aq. Acute 1, Aq. Chronic 1; H400, H410													
AMMONIA, ANHYDROUS	7664-41-7		231-635-3	0.5-1	25	35	17	24	NF	25	35	NA		
	Skin Corr. 1B; Acute Tox. 3 (inh); Aq. Acute 1; H314, H331, H400													
GRAPHENE	1034343-98-0	NA	801-282-5	0.2-1	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. 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. If irritation, redness or swelling persists, contact a physician immediately.</p> <p><u>Inhalation:</u> Remove victim to fresh air at once.</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.</p> <p><u>Inhalation:</u> None expected.</p>	
4.3	Symptoms of Overexposure:	<p><u>Ingestion:</u> Nausea, intestinal discomfort, vomiting and/or diarrhea.</p> <p><u>Eyes:</u> Overexposure in eyes may cause redness, itching and watering.</p> <p><u>Skin:</u> Symptoms of skin overexposure may include redness, itching, and irritation of affected areas. Product can cause allergic skin reactions (e.g., rashes, welts, dermatitis) in some individuals.</p>	
4.4	Acute Health Effects:	Non-irritating when used as directed. Moderate irritation to eyes and skin near affected areas. Additionally, high concentrations of vapors can cause drowsiness, dizziness, headaches and nausea.	
4.5	Chronic Health Effects:	Non-irritating when used as directed. 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, CNS	
4.7	Medical Conditions Aggravated by Exposure:	Pre-existing dermatitis, other skin conditions, and disorders of the target organs (eyes).	
		<b>HEALTH</b>	<b>3</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>	

**5. FIREFIGHTING MEASURES**

5.1	Fire & Explosion Hazards:	<b>DANGER! HIGHLY FLAMMABLE LIQUID AND VAPOR!</b> Keep away from heat, lit cigarettes, sparks & open flame. Keep container closed. This product is a Class IB flammable liquid. When involved in a fire, this product will ignite readily and decompose to produce carbon oxides. 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:	CO <sub>2</sub> , BC powder, Dry Chemical, Foam, water mist.	
5.3	Firefighting Procedures:	Fight fires according to the surrounding materials. As in any fire, wear an MSHA / NIOSH approved self-contained breathing apparatus (pressurized) and full protective clothing. Keep containers cold long after the fire is out. Use a spray of diffused water to cool the surfaces exposed to the fire and to protect personnel. Fight the fire upstream. Avoid spraying water directly into storage containers due to the danger of overflowing. Prevent runoff from fire control or dilution from entering sewers, drains, potable water supplies or natural waterways. Firefighters must use full response clothing including a NIOSH approved self-contained positive pressure breathing apparatus to protect against potential hazardous combustion or decomposition of products and lack of oxygen.	


**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. <b>CAUTION – may be slippery if spilled.</b></p> <p>For <u>small spills</u> (e.g., &lt; 1 gallon (3.8 L)) wear appropriate personal protective equipment (e.g., goggles, gloves). Maximize ventilation (open doors and windows) and secure all sources of ignition. Remove spilled material with absorbent material and place into appropriate closed container(s) for disposal. Dispose of properly in accordance with local, state and federal regulations. Wash all affected areas and outside of container with plenty of warm water and soap. Remove any contaminated clothing and wash thoroughly before reuse.</p> <p>For <u>large spills</u> (e.g., ≥ 1 gallon (3.8 L)), deny entry to all unprotected individuals. Dike and contain spill with inert material (e.g., sand or earth). Use ONLY non-sparking tools for recovery and cleanup. Transfer liquid to containers for recovery or disposal and solid diking material to separate containers for proper disposal. Remove contaminated clothing promptly and wash affected skin areas with soap and water. Keep spills and cleaning runoffs out of municipal sewers and open bodies of water.</p>
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**7. HANDLING & STORAGE INFORMATION**

7.1	Work & Hygiene Practices:	Do not eat, drink, or smoke when using this product. Wash exposed areas thoroughly with soap and water. Avoid breathing of vapors, mists, or spray. Avoid prolonged or repeated skin contact. Wash hands after handling, and before eating. Avoid breathing of dust created by sanding, grinding, or machining. When polishing with product, keep moist to avoid dust.
7.2	Storage & Handling:	Keep containers sealed at all times, store in well-ventilated area. Store away from areas where product may come into contact with food or pharmaceuticals. Store away from oxidizing agents.
7.3	Special Precautions:	Follow all instructions on product label. Keep container closed when not in use. Keep this and all chemicals out of reach of children.

**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	
		AMMONIA, ANHYDROUS	25	35	17	24	NF	25	35	NA	
8.2	Ventilation & Engineering Controls:	Provide appropriate local exhaust ventilation on open containers. When using keep the product moist at all times. Use in an enclosed process area is recommended. Use in a well-ventilated area. Do not use in a confined area or areas with little or no air movement.									
8.3	Respiratory Protection:	Avoid breathing of vapors, mists or spray. 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:	<b>AVOID EYE CONTACT.</b> Wear safety glasses. If necessary, refer to U.S. OSHA 29 CFR §1910.133, Canadian standards, or the European Standard EN166.									
8.5	Hand Protection:	<b>AVOID SKIN CONTACT.</b> Select and use gloves and/or protective clothing to prevent skin contact based on the results of an exposure assessment. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible materials. Gloves made from the following material(s) are recommended: <u>Nitrile Rubber</u> . 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. If necessary, refer to appropriate standards of Canada, the E.C. member states, or U.S. OSHA.									

**9. PHYSICAL & CHEMICAL PROPERTIES**

9.1	Appearance:	Clear liquid
9.2	Odor:	Ammonia and solvent like
9.3	Odor Threshold:	NA
9.4	pH:	NA
9.5	Melting Point/Freezing Point:	NA
9.6	Initial Boiling Point/Boiling Range:	NA
9.7	Flashpoint:	26 °C (79 °F)
9.8	Upper/Lower Flammability Limits:	NA
9.9	Vapor Pressure:	NA
9.10	Vapor Density:	NA
9.11	Relative Density:	7.53 lbs/gal
9.12	Solubility:	ND
9.13	Partition Coefficient (log P <sub>ow</sub> ):	NA
9.14	Autoignition Temperature:	NA
9.15	Decomposition Temperature:	NA
9.16	Viscosity:	NA
9.17	Other Information:	NA

**10. STABILITY & REACTIVITY**

10.1	Stability:	Stable under ambient conditions when stored properly (see section 7, Storage and Handling)
10.2	Hazardous Decomposition Products:	If exposed to extremely high temperatures, the products of thermal decomposition may include irritation vapors and carbon oxide gases (e.g., CO, CO <sub>2</sub> ), hydrogen fluoride, hydrogen chloride gas.
10.3	Hazardous Polymerization:	Hazardous polymerization will not occur.
10.4	Conditions to Avoid:	High temperatures and incompatible substances.
10.5	Incompatible Substances:	Strong oxidizing agents. May react with water, with certain protic solvents acids and isocyanates.

## 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. There is toxicology data for some components of the product, which are found in scientific literature. Oral LD50 500 mg/kg (oral, rat). Skin irritation, rabbit: severe erythema with signs of necrosis after 1-hour exposure. .		
11.3	Acute Toxicity:	See Section 4.4		
11.4	Chronic Toxicity:	See Section 4.5		
11.5	Suspected Carcinogen:	No.		
11.6	Reproductive Toxicity:	This product is not reported to cause reproductive toxicity in humans.		
	Mutagenicity:	This product is not reported to cause mutagenic effects in humans.		
	Embryotoxicity:	This product is not reported to cause 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:	NA		
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. Avoid release to the environment.

## 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 2. Any disposal practice must be in compliance with local, state, and federal laws and regulations. California State Waste Code: 331
13.2	Special Considerations:	Contact the federal, state or provincial environmental authority to determine suitability for recycling and or proper disposal requirements. U.S. EPA Waste Number: D001 (characteristic - ignitable)

## 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):	UN2924, FLAMMABLE LIQUID, CORROSIVE, N.O.S., (METHYLTRIMETHOXSILANE, POLYSILAZANE), 3, (8) II	
14.2	IATA (AIR):	UN2924, FLAMMABLE LIQUID, CORROSIVE, N.O.S., (METHYLTRIMETHOXSILANE, POLYSILAZANE), 3, (8) II	
14.3	IMDG (OCN):	UN2924, FLAMMABLE LIQUID, CORROSIVE, N.O.S., (METHYLTRIMETHOXSILANE, POLYSILAZANE), 3, (8) II	
14.4	TDGR (Canadian GND):	UN2924, FLAMMABLE LIQUID, CORROSIVE, N.O.S., (METHYLTRIMETHOXSILANE, POLYSILAZANE), 3, (8) II	
14.5	ADR/RID (EU):	UN2924, FLAMMABLE LIQUID, CORROSIVE, N.O.S., (METHYLTRIMETHOXSILANE, POLYSILAZANE), 3, (8) II	
14.6	SCT (MEXICO):	UN2924, FLAMMABLE LIQUID, CORROSIVE, N.O.S., (METHYLTRIMETHOXSILANE, POLYSILAZANE), 3, (8) II	
14.7	ADGR (AUS):	UN2924, FLAMMABLE LIQUID, CORROSIVE, N.O.S., (METHYLTRIMETHOXSILANE, POLYSILAZANE), 3, (8) II	

## 15. REGULATORY INFORMATION



15.1	SARA Reporting Requirements:	This product does not contains a substance subject to SARA Title III (313) reporting and 40 CFR part 373.
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>Ammonia, Anhydrous</u> : 1,000 lbs (454 kg)
15.5	Other Federal Requirements:	This product does not contain any substances identified as Hazardous Air Pollutants (HAPs).
15.6	Other Canadian Regulations:	This product has been classified according to the hazard criteria of the HPR and the MSDS contains all of the information required by the HPR. The components of this product are listed on the DSL/NDSL. None of the components of this product are listed on the Priorities Substances List. WHMIS Class D2B (Other Toxic Effects)



**15. REGULATORY INFORMATION – cont'd**

15.7	State Regulatory Information:	<p><u>DI-N-Butyl Ether</u> is found on the following state criteria list: MA, NJ and PA.</p> <p>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). This product does not contain any chemicals known to the State of California to cause cancer or other reproductive harm. For more information go to <a href="http://www.P65Warnings.ca.gov">www.P65Warnings.ca.gov</a>.</p>
15.8	Other Requirements:	<p>This product is found on the following inventory lists: Australia - AICS, China – IECSC, Europe – ELINCS/EINEC, Japan – ENCS; Korea – KECl; New Zealand – NZIoC; Philippines – PICCS; USA – TSCA.</p>

**16. OTHER INFORMATION**

16.1	Other Information:	<p><b>DANGER! HIGHLY FLAMMABLE LIQUID AND VAPOR. CAUSES SEVERE SKIN BURNS AND EYE DAMAGE. HARMFUL IF SWALLOWED. MAY CAUSE LONG LASTING HARMFUL EFFECTS TO AQUATIC LIFE.</b> Read instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Keep container tightly closed. Ground and bond container and receiving equipment. Use explosion-proof (electrical/ventilating/lighting) equipment. Use non-sparking tools. Take action to prevent static discharges. Keep container tightly closed. Do not breathe dust or mist. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Avoid release to the environment. Wear protective gloves/protective clothing/ eye protection/face protection. IF SWALLOWED: Rinse mouth. Do not induce vomiting. Wash contaminated clothing before reuse. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Get emergency medical help immediately. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical help. Specific treatment see section 4 (first aid) of this SDS or container label. Store in a well-ventilated place. Keep cool. Store locked up.</p> <p><b>KEEP LOCKED UP AND AWAY FROM 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; Starke Yacht Care'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>STARKE YACHT CARE</b> 17000 Alico Commerce Ct. Suite 101 Fort Myers, FL 33912 Tel: +1 (800) 203-5315 <a href="http://www.starkeyachtcare.com">http://www.starkeyachtcare.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:

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

### EXPOSURE LIMITS IN AIR:

<b>ACGIH</b>	American Conference on Governmental Industrial Hygienists
<b>IDLH</b>	Immediately Dangerous to Life and Health
<b>NOHSC</b>	National Occupational Health and Safety Commission (Australia)
<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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### HAZARDOUS MATERIALS IDENTIFICATION SYSTEM: HMIS

#### HEALTH, FLAMMABILITY & REACTIVITY RATINGS:

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

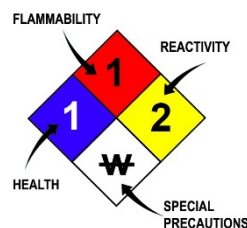
<b>HEALTH</b>
<b>FLAMMABILITY</b>
<b>PHYSICAL HAZARDS</b>
<b>PERSONAL PROTECTION</b>

### 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:

0	Minimal Hazard
1	Slight Hazard
2	Moderate Hazard
3	Severe Hazard
4	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>10</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>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)

### 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

### 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	Protective Apron	Protective Clothing & Full Suit	Dust Respirator
Full Face Respirator	Dust & Vapor Half-Mask Respirator	Full Face Respirator	Airline Hood/Mask or SCBA

### OTHER STANDARD ABBREVIATIONS:

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