

## SAFETY DATA SHEET

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



SDS Revision: 1.0

SDS Revision Date: 12/24/2015

## 1. PRODUCT &amp; COMPANY IDENTIFICATION

1.1	Product Name:	GOOF OFF®
1.2	Chemical Name:	NA
1.3	Synonyms:	P/N 97555
1.4	Trade Names:	Goof Off®
1.5	Product Uses & Restrictions:	Adhesive Remover
1.6	Distributor's Name:	Harbor Freight Tools USA, Inc.
1.7	Distributor's Address:	26541 Agoura Road, Calabasas, CA 91302 USA
1.8	Emergency Phone:	CHEMTREC: +1 (703) 527-3887 / +1 (800) 424-9300 (CCN 676687)
1.9	Business Phone / Fax:	+1 (805) 388-1000

## 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! HIGHLY FLAMMABLE LIQUID AND VAPOR. HARMFUL IF INHALED. HARMFUL IN CONTACT WITH SKIN. CAUSES SKIN IRRITATION. CAUSES SERIOUS EYE IRRITATION. MAY CAUSE DROWSINESS OR DIZZINESS.</b></p> <p><u>Classification:</u> Flam Liq. 2; Acute Tox. 5; Skin Irrit. 2; Eye Irrit 2A; STOT SE 3</p> <p><u>Hazard Statements</u> (H): H225 – Highly flammable liquid and vapor. H312 – Harmful if inhaled. H315 – Causes skin irritation. H319 – Causes serious eye irritation. H332 – Harmful if inhaled. H336 – May cause drowsiness or dizziness.</p> <p><u>Precautionary Statements</u> (P): P210 – Keep away from heat, hot surface, sparks, open flames and other ignition sources. No smoking. P233 – Keep container tightly closed. P280 – Wear protective gloves/protective clothing/ eye protection/ face protection. P303+P361+P353 – IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. P312 – Call a POISON CENTER/doctor if you feel unwell. P332+P313 – If skin irritation occurs: Get medical advice/attention. P362+P364 – Take off contaminated clothing and wash it before reuse. 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 irritations persist: Get medical advice/attention. P370+P378 – in case of fire: Use CO<sub>2</sub>, Dry Chemical, Alcohol foam, Dry Chemical. Use water spray to cool containers. 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 &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		
ACETONE	67-64-1	AL3150000	200-662-2	60-100	1800	NA	1185	2375	NF	2400	NA	2500		
	Flam. Liq. 2; Eye Irrit. 2; STOT SE 3, H225, H319, H336													
XYLENE	1330-20-7	ZE2100000	215-535-7	10-30	100	150	80	350	655	100	150	900		
	Flam. Liq 3; Acute Tox. 4; Skin Irrit. 2; H226, H312+H332, H315													
ETHYLBENZENE	100-41-4	DA0700000	202-849-4	1-5	100	150	100	434	543	100	150	800		
	Flam. Liq. 2; Acute Tox. 4 *: H225, H332													

## 4. FIRST AID MEASURES

4.1	First Aid:	<p><u>Ingestion:</u> If ingested, do not induce vomiting. 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.</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.</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>
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## 4. FIRST AID MEASURES – cont'd

4.2	Effects of Exposure:	<p><u>Ingestion:</u> If product is swallowed, may cause gastrointestinal disturbance.</p> <p><u>Eyes:</u> Exposure to dust may cause eye irritation. 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> Coughing, wheezing, shortness of breath, impaired pulmonary function. Irritation or soreness in throat, nose and respiratory tract. Drowsiness, dizziness, headaches and nausea.</p>															
4.3	Symptoms of Overexposure:	<p><u>Ingestion:</u> If product is swallowed, may cause gastrointestinal disturbance.</p> <p><u>Eyes:</u> Exposure to dust may cause eye irritation. 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> Coughing, wheezing, shortness of breath, impaired pulmonary function. Irritation or soreness in throat, nose and respiratory tract. Additionally, high concentrations of vapors can cause drowsiness, dizziness, headaches and nausea.</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 dust can cause coughing, wheezing, shortness of breath, impaired pulmonary function. Irritation or soreness in throat, nose and respiratory tract.															
4.5	Chronic Health Effects:	Non-irritating when used as directed. Possible allergic dermatitis in some sensitive individuals.															
4.6	Target Organs:	Eyes, Skin, Respiratory System and Central Nervous System (CNS).															
4.7	Medical Conditions Aggravated by Exposure:	Pre-existing dermatitis, other skin conditions, and disorders of the target organs (eyes, skin) or impaired kidney function may be more susceptible to the effects of this substance.															
		<table> <tr> <td colspan="2"><b>HEALTH</b></td><td><b>2</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>X</b></td></tr> <tr> <td><b>EYES</b></td><td><b>SKIN</b></td><td><b>LUNGS</b></td></tr> </table>	<b>HEALTH</b>		<b>2</b>	<b>FLAMMABILITY</b>		<b>3</b>	<b>PHYSICAL HAZARDS</b>		<b>0</b>	<b>PROTECTIVE EQUIPMENT</b>		<b>X</b>	<b>EYES</b>	<b>SKIN</b>	<b>LUNGS</b>
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<b>PROTECTIVE EQUIPMENT</b>		<b>X</b>															
<b>EYES</b>	<b>SKIN</b>	<b>LUNGS</b>															

## 5. FIREFIGHTING MEASURES

5.1	Fire & Explosion Hazards:	This material can burn but will not readily ignite. However, if involved in a fire, this product may decompose at high temperatures to form toxic gases (e.g., CO, CO <sub>x</sub> , Hydrocarbons).	
5.2	Extinguishing Methods:	CO <sub>2</sub> , Dry Chemical, Alcohol Foam, Dry Chemical. Use water spray to cool containers.	
5.3	Firefighting Procedures:	Keep containers cool until well after the fire is out. 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:	<p>Before cleaning any spill or leak, individuals involved in spill cleanup must wear appropriate Personal Protective Equipment.</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 drains, municipal sewers and open bodies of water.</p>
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## 7. HANDLING &amp; STORAGE INFORMATION

7.1	Work & Hygiene Practices:	Do not eat, drink or smoke when handling this product. Handle as to avoid puncturing container(s). Wash unintentional residues with soap and warm water. Keep tightly closed when not in use. Avoid contact with skin and clothing.
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. Avoid breathing vapor.
7.3	Special Precautions:	Clean all spills promptly. Spilled material may present a slipping hazard.

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## 8. EXPOSURE CONTROLS &amp; 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	
		ACETONE	1800	NA	1185	2375	NF	2400	NA	2500	
		XYLENE	100	150	80	350	655	100	150	900	
		ETHYLBENZENE	100	150	100	434	543	100	150	800	
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 mist or vapors 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.									
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. Wear goggles and/or face shield if splashing or spraying is anticipated. Contact lenses pose a special hazard; soft lenses may absorb and concentrate irritants. Have suitable eye wash water available. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).									
8.5	Hand Protection:	Use gloves constructed of chemical-resistant materials such as neoprene or heavy nitrile rubber if frequent or prolonged contact is expected. If necessary, refer to U.S. OSHA 29 CFR §1910.138, the appropriate standards of Canada, or the EU member states.									
8.6	Body Protection:	Avoid prolonged and/or repeated skin contact. Use clean and impervious protective clothing (e.g., neoprene or Tyvek®) if splashing or spraying conditions are present. Protective clothing should include long-sleeves, apron, boots and additional facial protection. If necessary, refer to appropriate standards of Canada, the EU member states, or U.S. OSHA.									

## 9. PHYSICAL &amp; CHEMICAL PROPERTIES

9.1	Appearance:	Liquid, water white to clear
9.2	Odor:	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:	65.5 °C (150 °F)
9.7	Flashpoint:	-20 °C (-4 °F) Setflash
9.8	Upper/Lower Flammability Limits:	NA
9.9	Vapor Pressure:	ND
9.10	Vapor Density:	>1
9.11	Relative Density:	0.797-0.8021
9.12	Solubility:	Slight
9.13	Partition Coefficient (log P <sub>ow</sub> ):	NA
9.14	Autoignition Temperature:	NA
9.15	Decomposition Temperature:	NA
9.16	Viscosity:	< 5 cPs
9.17	Other Information:	VOC: 20% w/w (161 g/L)

## 10. STABILITY &amp; REACTIVITY

10.1	Stability:	Stable under normal conditions; unstable with heat or contamination.
10.2	Hazardous Decomposition Products:	Change in color signifies exposure to ultraviolet light or exceeding shelf life. Will not degrade to unstable products. Discard solution.
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.

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## 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, but is not presented in this document.		
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:	<u>Ethylbenzene</u> : IARC 2B (possible human carcinogen). <u>Xylene</u> : IARC Group 3 (not classifiable as to its carcinogenicity to humans); ACGIH A4 (not classifiable as a human carcinogen).		
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:	There is ample evidence that <u>Xylene</u> produces embryotoxicity and fetotoxicity in mice and rats.		
	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 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:	Dispose of in accordance with federal, state, provincial 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):	UN1263, PAINT RELATED MATERIAL, 3, II, (LTD QTY, IP ≤ 1.0 L) or CONSUMER COMMODITY, ORM-D – until 01/01/2021	
14.2	IATA (AIR)*:	ID8000, CONSUMER COMMODITY, 9 (IP VOL ≤ 0.5 L) UN1263, PAINT RELATED MATERIAL, 3, II (LTD QTY, IP ≤ 1.0 L)	 or 
14.3	IMDG (OCN):	UN1263, PAINT RELATED MATERIAL, 3, II, (LTD QTY, IP VOL ≤ 1.0 L)	
14.4	TDGR (Canadian GND):	UN1263, PAINT RELATED MATERIAL, 3, II, (LTD QTY, IP VOL ≤ 1.0 L); or "LIMITED QUANTITY" or "QUANTITÉ LIMITÉE" or "LTD QTY" or "QUANT LTÉE" (≤ 1.0 L)	
14.5	ADR/RID (EU):	UN1263, PAINT RELATED MATERIAL, 3, II, (LTD QTY, IP VOL ≤ 1.0 L)	
14.6	SCT (MEXICO):	UN1263, PINTURA MATERIAL RELACIONADO, 3, II, (CANTIDAD LIMITADA, IP VOL ≤ 1.0 L)	
14.7	ADGR (AUS):	UN1263, PAINT RELATED MATERIAL, 3, II, (LTD QTY, IP VOL ≤ 1.0 L)	

## 15. REGULATORY INFORMATION

15.1	SARA Reporting Requirements:	This product contains <u>Xylene</u> and <u>Ethylbenzene</u> , 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>Acetone</u> : 2,270 kg (5,000 lbs); <u>Xylene</u> : 45.4 kg (100 lbs); <u>Ethylbenzene</u> : 454 kg (1,000 lbs)
15.5	Other Federal Requirements:	<u>Xylene</u> and <u>Ethylbenzene</u> are listed as Hazardous Air Pollutants (HAPs). <u>Ethylbenzene</u> and <u>Xylene</u> are listed as Toxic Pollutants under the Clean Water Act (CWA). None of the ingredients are listed as Priority Pollutants under the CWA.





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## 15. REGULATORY INFORMATION – cont'd

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/NDL. <u>Xylene</u> is listed on the Priorities Substances List. WHMIS Class B2, D2B (Flammable Liquids, Other Toxic Effects).	 
15.7	State Regulatory Information:	<u>Acetone</u> is found on the following state criteria lists: California OSHA Hazardous Substances List (CA), Delaware Air Quality Management List (DE), Massachusetts Hazardous Substances List (MA), 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). <u>Xylene</u> is found on the following state criteria list: FL, MA, MI, MN, NJ, NY, PA, WA and WI. <u>Ethylbenzene</u> is found on the following state criteria list: CA, FL, MA, MN, PA and 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). <b>WARNING:</b> This product contains <u>Xylene</u> and <u>Ethylbenzene</u> , chemicals known to the State of California to cause cancer, birth defects or other reproductive harm. California law requires this warning be given to customers in the State of California.	
15.8	Other Requirements:	The primary components of this product are listed in Annex I of EU Directive 67/548/EEC: <u>Acetone</u> : Highly Flammable (F+). <u>Risk Phrases</u> (R): 11-36-66-67 – Highly flammable. Irritating to eyes. Repeated exposure may cause skin dryness or cracking. Vapors may cause drowsiness and dizziness. <u>Safety Phrases</u> (S): 9-16-23-33 - Keep container in a well-ventilated place. Keep away from sources of ignition - No smoking. Do not breathe gas, fumes, vapor or spray. Take precautionary measures against static discharges. <u>Xylene</u> : Harmful (XN). <u>Risk Phrases</u> (R): 10-20/21-38 – Flammable. Harmful by inhalation and in contact with skin. Irritating to skin. <u>Safety Phrases</u> (S): 2-25 – Keep out of reach of children. Avoid contact with eyes.	 

## 16. OTHER INFORMATION

16.1	Other Information:	<b>DANGER! HIGHLY FLAMMABLE LIQUID AND VAPOR. HARMFUL IF INHALED. HARMFUL IN CONTACT WITH SKIN. CAUSES SKIN IRRITATION. CAUSES SERIOUS EYE IRRITATION. MAY CAUSE DROWSINESS OR DIZZINESS.</b> Use only as directed. Keep away from heat, hot surface, sparks, open flames and other ignition sources. No smoking. Do not pierce or burn, even after use. Wear protective gloves/protective clothing/ eye protection/ face protection. Use only as directed. Do not breathe fumes. Avoid contact with skin. If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label where possible. Avoid release to the environment. <b>KEEP LOCKED UP AND OUT OF REACH OF CHILDREN.</b> <b>WARNING:</b> This product contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.	
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 & Harbor Freight Tools USA, 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>Harbor Freight Tools USA, Inc.</b> 26541 Agoura Road Calabasas, CA 91302 USA Tel: +1 (805) 388-1000 <a href="http://www.harborfreight.com">http://www.harborfreight.com</a>	<b>HARBOR FREIGHT TOOLS</b> Quality Tools at Ridiculously Low Prices
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>	



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## DEFINITION OF TERMS

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

## GENERAL INFORMATION:

CAS No.	Chemical Abstract Service Number
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## EXPOSURE LIMITS IN AIR:

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

## FIRST AID MEASURES:

CPR	Cardiopulmonary resuscitation - method in which a person whose heart has stopped receives manual chest compressions and breathing to circulate blood and provide oxygen to the body.
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## HMIS-III HEALTH, FLAMMABILITY &amp; REACTIVITY RATINGS:

0	Minimal Hazard	HEALTH
1	Slight Hazard	FLAMMABILITY
2	Moderate Hazard	PHYSICAL HAZARDS
3	Severe Hazard	PERSONAL PROTECTION
4	Extreme Hazard	

## PERSONAL PROTECTION RATINGS:

A		G													
B		H													
C		I													
D		J													
E		K													
F		X	Consult your supervisor or SOPs for special handling directions.												
<table><tr><td> Safety Glasses</td><td> Splash Goggles</td><td> Face Shield &amp; Protective Eyewear</td><td> Gloves</td></tr><tr><td> Boots</td><td> Synthetic Apron</td><td> Protective Clothing &amp; Full Suit</td><td> Dust Respirator</td></tr><tr><td> Full Face Respirator</td><td> Dust &amp; Vapor Half-Mask Respirator</td><td> Full Face Respirator</td><td> Airline Hood/Mask or SCBA</td></tr></table>				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
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:

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

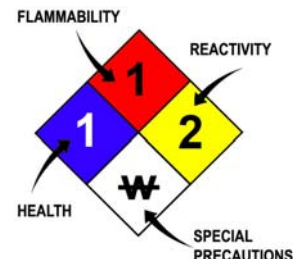
## NATIONAL FIRE PROTECTION ASSOCIATION: NFPA

## 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>0</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
NOHSC	National Occupational Health and Safety Commission (Australia)
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)
HMIS-III	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