

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



SDS Revision: 1.0

SDS Revision Date: 3/5/2015

1. PRODUCT & COMPANY IDENTIFICATION

1.1	Product Name:	12 V 10 Ah LEAD ACID GEN BATTERY
1.2	Chemical Name:	Sealed Maintenance-Free Lead-Acid Motorcycle Battery (Non-Spillable)
1.3	Synonyms:	P/N 62586
1.4	Trade Names:	Thunderbolt Magnum
1.5	Product Uses & Restrictions:	Electric Storage Battery
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>DANGER! CAUSES SEVERE SKIN BURNS AND EYE DAMAGE. HARMFUL IF SWALLOWED. TOXIC TO AQUATIC LIFE WITH LONG LASTING EFFECTS.</p> <p>Hazard Statements (H): H314 – Causes severe skin burns and eye damage. H302 – Harmful if swallowed. H411 – Toxic to aquatic life with long lasting effects.</p> <p>Precautionary Statements (P): P260 - Do not breathe fumes/mist/vapor/spray. P264 - Wash hands and exposed skin areas with soap and warm water thoroughly after handling. P273 – Avoid release to the environment. P280 – Wear protective gloves/eye protection. P301+P330+P331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. P303+P361+P353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. P363 - Wash contaminated clothing before reuse. P304+P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. P310 - Immediately call a POISON CENTER or doctor/physician. P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing. P405 – Store locked up. P501 - Dispose of contents/container to licensed treatment, storage and 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 ³)									OTHER
					ACGIH		NOHSC			OSHA				
					ppm		ppm			ppm				
					TLV	STEL	ES-TWA	ES-STEL	ES-PEAK	PEL	STEL	IDLH		
INORGANIC LEAD COMPOUND														
LEAD	7439-92-1	OF7525000	231-100-4	60-100	(0.05)	NA	NF	(0.15)	NF	NA	100	(100)		
	Acute Tox. 4; Acute Tox. 4; Repr. 1A; STOT RE 2; Aquatic Acute 1; Aquatic Chronic 1; H302, H332, H360, H373, H400, H410													
LEAD DIOXIDE	1309-60-0	OG0700000	215-174-5	1-5	(0.05)	NA	(0.05)	NF	NF	(0.05)	NA	NA		
	Ox. Sol. 3; Acute Tox. 4; Acute Tox. 4; Repr. 1A; STOT RE 2; Aq. Acute 1; Aq. Chronic 1; H272, H302, H332, H360, H373, H400, H410													
LEAD SULFATE				1-5	(0.05)	NA	(0.05)	NF	NF	(0.05)	NA	NA		
	Ox. Sol. 3; Acute Tox. 4; Acute Tox. 4; Repr. 1A; STOT RE 2; Aq. Acute 1; Aq. Chronic 1; H272, H302, H332, H360, H373, H400, H410													
TIN	7440-31-5	XP7320000	231-100-4	0.1-1	(2)	NA	(2)	NF	NF	NA	NA	(100)	(2) NIOSH	
CALCIUM	7440-70-2	EV8040000	231-179-5	0-0.1	NA	NA	NF	NF	NF	NA	NA	NA		
	Water React. 2; H261													
ELECTROLYTE														
SULFURIC ACID	7664-93-9	WS5600000	231-639-5	10-30	(0.2)	(2)	(1)	(2)	NF	(1)	NA	(15)		
	Skin Corr. 1A; H314													
FIBERGLASS SEPARATOR														
FIBERGLASS	NA	NA	NA	1-5	NA	NA	NF	NF	NF	NA	NA	NA		
PLASTIC CASE														
POLYPROPYLENE (PP)	9003-07-0	NA	NA	1-5	NA	NA	NF	NF	NF	NA	NA	NA		
ACRYLONITRILE BUTADIENE STYRENE (ABS)	9003-56-9	NA	NA	1-5	NA	NA	NF	NF	NF	NA	NA	NA		

4. FIRST AID MEASURES

4.1	First Aid:	<p><u>Ingestion:</u> Give large quantities of water, but do NOT induce vomiting. Never give anything by mouth to an unconscious person. Contact the nearest Poison Control Center or local emergency telephone number for assistance and instructions. Seek immediate medical attention. If vomiting occurs spontaneously, keep victim's head lowered (forward) to reduce the risk of aspiration.</p> <p><u>Eyes:</u> If product gets in the eyes, flush eyes thoroughly with copious amounts of water for at least 15 minutes, holding eyelid(s) open to ensure complete flushing. If the eyes or face become swollen during or following use, consult a physician or emergency room immediately.</p> <p><u>Skin:</u> If an open battery cell: Remove contaminated clothing and wash affected areas with soap and water. If discomfort persists and/or the skin reaction worsens, contact a physician immediately. Do not wear contaminated clothing until after it has been properly cleaned.</p> <p><u>Inhalation:</u> Remove victim to fresh air at once. Under extreme conditions, if breathing stops, perform artificial respiration. Seek immediate medical attention.</p>																				
4.2	Effects of Exposure:	<p><u>Eyes:</u> Severe irritation, burns, cornea damage, blindness. Lead compounds may cause irritation.</p> <p><u>Skin:</u> Severe irritation, burns, and ulceration if open battery cell comes into contact with skin.</p> <p><u>Ingestion:</u> May cause severe irritation of mouth, throat, esophagus, and stomach. Acute ingestion of lead compounds may cause abdominal pain, nausea, vomiting, diarrhea, and severe cramping. This may lead rapidly to systemic toxicity.</p> <p><u>Inhalation:</u> Breathing of sulfuric acid vapors or mists may cause severe respiratory irritation. Inhalation of lead dust or fumes may cause irritation of upper respiratory tract and lungs.</p>																				
4.3	Symptoms of Overexposure:	<p><u>Eyes:</u> Severe irritation, redness, and watering, damage to cornea and possible blindness.</p> <p><u>Skin:</u> Severe skin irritation, red, itching skin, burns and ulceration, if open battery cell comes into contact with skin.</p> <p><u>Ingestion:</u> Severe discomfort, nausea, vomiting and headache. Symptoms of lead toxicity include headache, fatigue, abdominal pain, loss of appetite, muscular aches and weakness, sleep disturbances, and irritability.</p> <p><u>Inhalation:</u> May cause irritation to the upper respiratory system. Overexposure to sprays or mists may cause chemical pneumonitis.</p>																				
4.4	Acute Health Effects:	Hazardous exposure can occur only when product is heated above the melting point, oxidized or otherwise processed or damaged to create dust, vapor, or fume.																				
4.5	Chronic Health Effects:	Possible erosion of tooth enamel; inflammation of nose, throat, and bronchial tubes. Anemia; neuropathy, particularly of the motor nerves, with wrist drop; kidney damage; reproductive changes in both males and females.																				
4.6	Target Organs:	Skin, Respiratory System, Central Nervous System (CNS).																				
4.7	Medical Conditions Aggravated by Exposure:	<div><div>Overexposure to sulfuric acid mist may cause lung damage and aggravate pulmonary conditions. Contact of electrolyte (water and sulfuric acid solution) with skin may aggravate skin diseases such as eczema and contact dermatitis. Contact of electrolyte (water and sulfuric acid solution) with eyes may damage cornea and/or cause blindness. Lead and its compounds can aggravate some forms of kidney, liver, and neurologic diseases.</div><table><tr><td colspan="3">HEALTH</td><td>3</td></tr><tr><td colspan="3">FLAMMABILITY</td><td>0</td></tr><tr><td colspan="3">PHYSICAL HAZARDS</td><td>2</td></tr><tr><td colspan="3">PROTECTIVE EQUIPMENT</td><td>X</td></tr><tr><td>EYES</td><td>SKIN</td><td>LUNGS</td><td></td></tr></table></div>	HEALTH			3	FLAMMABILITY			0	PHYSICAL HAZARDS			2	PROTECTIVE EQUIPMENT			X	EYES	SKIN	LUNGS	
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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 _x , Hydrocarbons).	
5.2	Extinguishing Methods:	CO ₂ , 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, including protective gloves and eyewear. Plastic or rubber gloves, respirator, eye/face protection and chemical-resistant apron may be required for clean-up of large spills.</p> <p><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.</p> <p><u>Large Spills:</u> Keep incompatible materials 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. Recover as much free liquid as possible and collect in acid-resistant container. Use absorbent to pick up residue. Avoid discharging liquid directly into a sewer or surface waters.</p>
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SAFETY DATA SHEET

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7. HANDLING & STORAGE INFORMATION

7.1	Work & Hygiene Practices:	DANGER! CONTAINS SULFURIC ACID. Do not eat, drink or smoke when handling this product. Handle as to avoid puncturing container(s).
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. Keep away from incompatible substances. Protect containers from physical damage. Storage and handling areas should be equipped to capture and neutralize spills.
7.3	Special Precautions:	Clean all spills promptly. Spilled material may present a slipping hazard.

8. EXPOSURE CONTROLS & PERSONAL PROTECTION

8.1	Exposure Limits: ppm (mg/m ³)	CHEMICAL NAME(S)	ACGIH		NOHSC			OSHA		OTHER
			TLV	STEL	ES-TWA	ES-STEL	ES-PEAK	PEL	STEL	
		LEAD	(0.05)	NA	NF	(0.15)	NF	NA	100	(100)
		LEAD DIOXIDE	(0.05)	NA	(0.05)	NF	NF	(0.05)	NA	NA
		SULFURIC ACID	(1)	(2)	(1)	(2)	NF	(1)	NA	(500)
		TIN	(2)	NA	(2)	NF	NF	(2)	NA	(100)
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 & CHEMICAL PROPERTIES

9.1	Appearance:	Plastic case electric storage battery
9.2	Odor:	No apparent odor. Electrolyte is clear liquid with sharp pungent odor.
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:	NA
9.8	Upper/Lower Flammability Limits:	NA
9.9	Vapor Pressure:	NA
9.10	Vapor Density:	NA
9.11	Relative Density:	NA
9.12	Solubility:	Sealed electric battery: Insoluble. Electrolyte: 100% soluble in water
9.13	Partition Coefficient (log P _{ow}):	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 normal conditions; unstable with heat or contamination.
10.2	Hazardous Decomposition Products:	Oxides of carbon (CO, CO ₂).
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. Do not exceed rated capacity.

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11. TOXICOLOGICAL INFORMATION

11.1	Routes of Entry:	Inhalation: NO	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 this product and is presented below: Sulfuric Acid: LD ₅₀ (oral, rat): 2140 mg/kg, LC ₅₀ (inhalation, rat, 2h): 510 mg/m ³		
11.3	Acute Toxicity:	See section 4.4		
11.4	Chronic Toxicity:	See section 4.5		
11.5	Suspected Carcinogen:	Sulfuric Acid (as a mist) is listed as IARC Group 1 (Carcinogenic to humans); however, this classification does not apply to liquid forms of sulfuric acid or sulfuric acid solutions in a battery. This mist can only be produced by misuse, such as overcharging. Lead Dioxide is listed as ACGIH Group A3 (Confirmed animal carcinogen with unknown relevance to human); IARC Group 2A (Probably carcinogenic to humans); NTP13 Group 2 (Reasonably Anticipated to be a Human Carcinogen); CA65 (cancer). Lead is listed as ACGIH Group A3 (Confirmed animal carcinogen with unknown relevance to human); IARC Group 2B (Possibly carcinogenic to humans); NTP13 Group 2 (Reasonably Anticipated to be a Human Carcinogen); CA65 (cancer).		
11.6	Reproductive Toxicity:	This product contains Lead, which is suspected of causing 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 contains Lead, which is suspected of causing reproductive toxicity 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:	May cause damage to organs through prolonged or repeated exposure.		
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:	Lead: LC ₅₀ (Cyprinus carpio, 96h): 0.44 mg/L; LC ₅₀ (Oncorhynchus mykiss, 96h): 1.17 mg/L; LC ₅₀ (Oncorhynchus mykiss, 96h): 1.32 mg/L, EC ₅₀ (Daphnia magna, 48h): 600 µg/L Sulfuric Acid: LC ₅₀ (Brachydanio rerio, 96h): > 500 mg/L, EC ₅₀ (Daphnia magna, 48h): 29 mg/L

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):	EXCEPTED FROM REGULATION per 49 CFR 173.159 (d)(3)(i) and (ii) Mark battery and outer packaging "NON-SPILLABLE" or "NON-SPILLABLE BATTERY"	
14.2	IATA (AIR):	EXCEPTED FROM REGULATION per IATA Special Provision A67	
14.3	IMDG (OCN):	EXCEPTED FROM REGULATION per IMDG Code Special Provision 238	
14.4	TDGR (Canadian GND):	UN2800, BATTERIES, WET, NON-SPILLABLE, 8, III	
14.5	ADR/RID (EU):	EXCEPTED FROM REGULATION per ADR Special Provision 238	
14.6	SCT (MEXICO):	EXCEPTED FROM REGULATION per SCT NOM-002-SCT/2011, Special Provision 238	
14.7	ADGR (AUS):	EXCEPTED FROM REGULATION per ADGR 7.3 Special Provision 238	

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15. REGULATORY INFORMATION

15.1	SARA Reporting Requirements:	This product contains <u>Lead</u> and <u>Sulfuric Acid</u> , substances subject to SARA Title III, section 313 reporting requirements and 40 CFR part 373.
15.2	SARA Threshold Planning Quantity:	<u>Sulfuric Acid</u> : 454 kg (1,000 lbs)
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>Sulfuric Acid</u> : 454 kg (1,000 lbs)
15.5	Other Federal Requirements:	<u>Lead</u> (and its compounds) is listed as a Hazardous Air Pollutant (HAP). <u>Lead</u> (and its compounds) is listed as a Toxic Pollutant under the Clean Water Act (CWA). <u>Lead</u> is listed as Priority Pollutant under the CWA.
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/NDL. None of the components of this product are listed on the Priorities Substances List. WHMIS D1, E (Toxic, Corrosive) 
15.7	State Regulatory Information:	<u>Lead</u> can be found on the following state criteria list(s): California Proposition 65 (CA65), Florida Toxic Substances List (FL), Illinois Hazardous Substances List (IL), 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), Rhode Island Hazardous Substances List (RI), and Washington Permissible Exposures List (WA). <u>Lead Dioxide</u> can be found on the following state criteria list(s): CA65, IL, MA, NJ and PA. <u>Sulfuric Acid</u> can be found on the following state criteria list(s): CA65, DE, FL, MA, MN, NJ, PA, RI and WA. <u>Tin</u> can be found on the following state criteria list(s): MA, NJ, and PA. <u>Calcium</u> can be found on the following state criteria list(s): MA, NJ, and PA. 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), Illinois Hazardous Substances List (IL), 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), Rhode Island Hazardous Substances List (RI), Washington Permissible Exposures List (WA), Wisconsin Hazardous Substances List (WI). WARNING: This product contains a substance(s) 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:	NA

16. OTHER INFORMATION

16.1	Other Information:	DANGER! CAUSES SEVERE SKIN BURNS AND EYE DAMAGE. HARMFUL IF SWALLOWED. TOXIC TO AQUATIC LIFE WITH LONG LASTING EFFECTS. Do not breathe fumes/mist/vapor/spray. Wash hands and exposed skin areas with soap and warm water thoroughly after handling. Avoid release to the environment. Wear protective gloves/eye protection. IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or doctor/physician. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing. KEEP OUT OF REACH OF CHILDREN. WARNING: This product contains a substance(s) 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:	Harbor Freight Tools USA, Inc. 26541 Agoura Road Calabasas, CA 91302 USA Tel: +1 (805) 388-1000 http://www.harborfreight.com/	
16.5	Prepared by:	ShipMate, Inc. P.O. Box 787 Sisters, Oregon 97759-0787 USA Tel: +1 (310) 370-3600 Fax: +1 (310) 370-5700 http://www.shipmate.com	

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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 & 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.
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

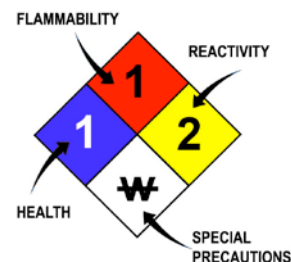
NATIONAL FIRE PROTECTION ASSOCIATION: NFPA

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 ₅₀	Lethal Dose (solids & liquids) which kills 50% of the exposed animals
LC ₅₀	Lethal concentration (gases) which kills 50% of the exposed animal
ppm	Concentration expressed in parts of material per million parts
TD ₀₁	Lowest dose to cause a symptom
TCLo	Lowest concentration to cause a symptom
TD ₀₁ , LD ₀₁ , & LD ₀₂ or TC, TC ₀₁ , LC ₀₁ , & LC ₀₂	Lowest dose (or concentration) to cause lethal or toxic effects
IARC	International Agency for Research on Cancer
NTP	National Toxicology Program
RTECS	Registry of Toxic Effects of Chemical Substances
BCF	Bioconcentration Factor
TL _m	Median threshold limit
log K _{OW} or log K _{OC}	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 Substances 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