

## ARTICLE INFORMATION SHEET

This Article Information Sheet (AIS) provides relevant battery information to retailers, consumers, OEMs and other users requesting a GHS-compliant SDS. Articles, such as batteries, are exempt from GHS SDS classification criteria. The GHS criteria is not designed or intended to be used to classify the physical, health and environmental hazards of an article. Branded consumer batteries are defined as electro-technical devices. The design, safety, manufacture, and qualification of Energizer branded consumer batteries follow ANSI and IEC battery standards.

### **SECTION 1 - DOCUMENT INFORMATION**

**Product Name:** Energizer Battery

**Document Number:** 1218-LMNO2

**Chemical System:** Lithium Manganese Dioxide

**Date Prepared:** December 2018

**Designed for Recharge:** No

**Valid Until:** December 2021


**Prepared by:** Energizer

### **SECTION 2 – COMPANY INFORMATION**

Energizer Brands, LLC  
533 Maryville University Drive  
St. Louis, MO 63141

Email for Information:  
[energizer@custhelp.com](mailto:energizer@custhelp.com)  
[www.energizer.com](http://www.energizer.com)

### **SECTION 3 – ARTICLE INFORMATION**

Description	Lithium Manganese Dioxide Battery
Use	Portable power source
Brand	ENERGIZER
IEC Designation	Including but not limited to: CR17345, CR15H270, CR-P2, 2CR5, CR11108, 6LP3146
Sizes	Including but not limited to: 123, 1CR2, 223, 2CR5, 2L76, CRV3, L522
Image	

# Article Information Sheet



**SECTION 4 – ARTICLE CONSTRUCTION**

**IMPORTANT NOTE:** The battery should not be opened or burned. Exposure to the ingredients contained within or their combustion products could be harmful.

MATERIAL OR INGREDIENT	PEL (OSHA)	TLV (ACGIH)	%/wt.
Carbon Black (CAS# 1333-86-4)	3.5 mg/m <sup>3</sup> TWA	3.5 mg/m <sup>3</sup> TWA	0-1
1,2-Dimethoxyethane (CAS# 110-71-4)	None established	None established	0-6
1,3-Dioxolane (CAS# 646-06-0)	None established	None established	0-8
Graphite (CAS# 7782-42-5)	15 mg/m <sup>3</sup> TWA (total dust) 5 mg/m <sup>3</sup> TWA (respirable fraction)	2 mg/m <sup>3</sup> TWA (respirable fraction)	0-3
Lithium or Lithium Alloy (CAS# 7439-93-2)	None established	None established	1-6
Lithium Perchlorate (CAS# 7791-03-9)	None established	None established	0-3
Lithium Trifluoromethanesulfonate (CAS# 33454-82-9)	None established	None established	0-3
Lithium Trifluoromethanesulfonimide (CAS# 90076-65-6)	None established	None established	0-3
Manganese Dioxide (CAS# 1313-13-9)	5 mg/m <sup>3</sup> Ceiling (as Mn)	0.2 mg/m <sup>3</sup> TWA (as Mn)	12-42
Propylene Carbonate (CAS# 108-32-7)	None established	None established	0-8
Steel (iron CAS# 65997-19-5)	None established	None established	20

\* PNOR: Particulates not otherwise regulated

\*\*PNOC: Particulates not otherwise classified

**All Energizer Lithium Manganese Dioxide have zero added mercury.**

**Applicable Battery Industry Standards**

<b>North America Standards</b>	ANSI C18.3M Part 1	ANSI C18.3 M Part 2	ANSI C18.4
<b>International Standards</b>	IEC 60086-1	IEC 60086-2	IEC 60086-4

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## SECTION 5 – HEALTH AND SAFETY

**Ingestion:** Swallowing may lead to serious injury or death in as little as 2 hours due to chemical burns and potential perforation of the esophagus. **Immediately see doctor; have doctor phone (800) 498-8666.** Do not induce vomiting or give food or drink.

The following instructions apply to exposure of internal components.

**Inhalation:** Provide fresh air and seek medical attention.

**Skin Contact:** Remove contaminated clothing and wash skin with soap and water.

**Eye Contact:** Immediately flush eyes thoroughly with water for at least 15 minutes, lifting upper and lower lids, until no evidence of the chemical remains. Seek medical attention.

## SECTION 6 – FIRE HAZARD & FIREFIGHTING

In case of fire where lithium batteries are present, flood area with water or smother with a Class D fire extinguishant appropriate for lithium metal, such as Lith-X. Water may not extinguish burning batteries but will cool the adjacent batteries and control the spread of fire. Burning batteries will burn themselves out. Virtually all fires involving lithium batteries can be controlled by flooding with water. However, the contents of the battery will react with water and form hydrogen gas. In a confined space, hydrogen gas can form an explosive mixture. In this situation, smothering agents are recommended. A smothering agent will extinguish burning lithium batteries.

Emergency Responders should wear self-contained breathing apparatus. Burning lithium manganese dioxide batteries produce toxic and corrosive lithium hydroxide fumes.

## SECTION 7 - HANDLING AND STORAGE

**Storage:** Store in a cool, well ventilated area. Elevated temperatures can result in shortened battery life. In locations that handle large quantities of lithium batteries, such as warehouses, lithium batteries should be isolated from unnecessary combustibles.

**Mechanical Containment:** If potting or sealing the battery in an airtight or watertight container is required, consult your Energizer Brands, LLC representative for precautionary suggestions. Do not obstruct safety release vents on batteries. Encapsulation of batteries will not allow cell venting and can cause high pressure rupture.

**Handling:** Accidental short circuit for a few seconds will not seriously affect the battery. Prolonged short circuit will cause the battery to lose energy, generate significant heat and can cause the safety release vent to open. Sources of short circuits include jumbled batteries in bulk containers, metal jewelry, metal covered tables or metal belts used for assembly of batteries into devices. Damaging a lithium battery may result in an internal short circuit.

The contents of an open battery, including a vented battery, when exposed to water, may result in a fire and/or explosion. Crushed or damaged batteries may result in a fire.

If soldering or welding to the battery is required, consult your Energizer representative for proper precautions to prevent seal damage or short circuit.

**Charging:** This battery is manufactured in a charged state. It is not designed for recharging. Recharging can cause battery leakage or, in some cases, high pressure rupture. Inadvertent charging can occur if a battery is installed backwards.

**Labeling:** If the Energizer label or package warnings are not visible, it is important to provide a package and/or device label stating:

WARNING: Battery can explode or leak and cause burns if installed backwards, disassembled, charged, or exposed to water, fire or high temperature.

Where accidental ingestion of small batteries is possible, the label should include:



**(1) KEEP OUT OF REACH OF CHILDREN.** Swallowing may lead to serious injury or death in as little as 2 hours due to chemical burns and potential perforation of the esophagus. **Immediately see doctor; have doctor phone (202) 625-3333.** Keep in original package until ready to use. Dispose of used batteries immediately.

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## SECTION 8 – DISPOSAL CONSIDERATIONS

LiMnO<sub>2</sub> batteries are not hazardous waste per the United States Resource Conservation and Recovery Act (RCRA) - 40 CFR Part 261 Subpart C. Dispose of in accordance with all applicable federal, state and local regulations.

## SECTION 9 – TRANSPORT INFORMATION

In general, all batteries in all forms of transportation (ground, air, or ocean) must be packaged in a safe and responsible manner. Regulatory concerns from all agencies for safe packaging require that batteries be packaged in a manner that prevents short circuits and be contained in "strong outer packaging" that prevents spillage of contents. All original packaging for Energizer lithium batteries are compliant with these regulatory concerns.




Energizer lithium coin batteries are exempt from the classification as dangerous goods as they meet the requirements of the special provisions listed below. (Essentially, they are properly packaged and labeled, contain less than 1 gram of lithium and pass the tests defined in UN model regulation section 38.3).

Regulatory Body	Special Provisions
ADR	188, 230, 310, 636, 656
IMDG	188, 230, 310, 957
UN	UN 3090, UN 3091
US DOT	422, A54
IATA 60 <sup>th</sup> edition, ICAO	Packaging Instructions 968 - 970

Energizer is registered with CHEMTEL. In the event of an incident during transport call 1-800-526-4727 (North America) or 1-314-985-1511 (International).

A global lithium label chart is provided below to summarize the current global labeling requirements.

**Label Summary Chart**

Shipping Mode	Li content	Net quantity wt. of batteries per package	Battery Type			
AIR	0.3g to ≤1g/cell 0.3g to ≤2g/ battery	≤2.5 kg	L91, L92, L522	YES	YES	YES
	≤0.3g/cell	≤2.5kg	All Li Coin and 2L76	NO	YES	YES
	≤0.3g/cell	>2.5kg	All Li Coin and 2L76	YES	YES	YES
Land/ Sea only	All	All	All	NO	YES	YES

## SECTION 10 – REGULATORY INFORMATION

### 10A Battery

- SARA/TITLE III:** As an article, this battery and its contents are not subject to the requirements of the Emergency Planning and Community Right-To-Know Act.
- USA EPA Mercury Containing & Rechargeable Battery Management Act of 1996:** No mercury added
- EU Battery Directive 2006/66/EC Amended 2013/56/EU:** Energizer batteries are compliant with all aspects of the Directive

### 10B General

- CPSIA 2008:** Exempt

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2. **US CPSC FHSA (16 CFR 1500):** Not applicable since batteries are defined as articles
3. **USA EPA TSCA (40 CFR 707.20):** Not applicable since batteries are defined as articles
4. **USA EPA RCRA (40 CFR 261):** Classified as non-hazardous waste per ignitable, corrosive, reactive or toxicity testing
5. **California Prop 65:** No warning required
6. **DTSC Perchlorate labeling:** warning required
7. **EU REACH SVHC:**1,2 dimethoxyethane (DME) is present above 0.01% w/w

## **10C Article Definitions**

1. **OSHA Hazard Communication Standard, Section 1910.1200(c)**

## **SECTION 11 – GHS OTHER INFORMATION**

None

## **Acronym Glossary**

[ANSI](#): American National Standards Institute  
[CPSC](#): Consumer Product Safety Commission  
[CPSIA](#): Consumer Product Safety Improvement Act  
[DTSC](#): Department of Toxic Substances Control  
[EPA](#): Environmental Protection Agency  
[FHSA](#): Federal Hazardous Substances Act  
[GHS](#): Globally Harmonized System for Hazard Communication  
[IEC](#): International Electrotechnical Commission  
[OSHA](#): Occupational Safety and Health Administration  
[RCRA](#): Resource Conservation and Recovery Act  
[SDS](#): Safety Data Sheet  
[SVHC](#): Substances of Very high Concern  
[TSCA](#): Toxic Substances Control Act


*Energizer has prepared copyrighted Article Information Sheets to provide information on the different Eveready/Energizer battery systems. Batteries are articles as defined under the GHS and exempt from GHS classification criteria (Section 1.3.2.1.1 of the GHS). The information and recommendations set forth herein are made in good faith, for information only, and are believed to be accurate as of the date of preparation. However, ENERGIZER BRANDS, LLC MAKES NO WARRANTY, EITHER EXPRESS OR IMPLIED, WITH RESPECT TO THIS INFORMATION AND DISCLAIMS ALL LIABILITY FROM REFERENCE ON IT.*

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:	<b>12 V 10 Ah LEAD ACID GEN BATTERY</b>
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:	<b>CHEMTREC: +1 (703) 527-3887 / +1 (800) 424-9300 (CCN 676687)</b>
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! CAUSES SEVERE SKIN BURNS AND EYE DAMAGE. HARMFUL IF SWALLOWED. TOXIC TO AQUATIC LIFE WITH LONG LASTING EFFECTS.</b></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 <sup>3</sup> )								OTHER
					ACGIH		NOHSC			OSHA			
					TLV	STEL	ppm	ES-TWA	ES-STEL	ES-PEAK	PEL	STEL	
<b>INORGANIC LEAD COMPOUND</b>													
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												
<b>ELECTROLYTE</b>													
SULFURIC ACID	7664-93-9	WS5600000	231-639-5	10-30	(0.2)	(2)	(1)	(2)	NF	(1)	NA	(15)	
	Skin Corr. 1A; H314												
<b>FIBERGLASS SEPARATOR</b>													
FIBERGLASS	NA	NA	NA	1-5	NA	NA	NF	NF	NF	NA	NA	NA	
<b>PLASTIC CASE</b>													
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:	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.	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td colspan="3" style="background-color: #0000FF; color: white;"><b>HEALTH</b></td> <td style="background-color: #0000FF; color: white; text-align: center;"><b>3</b></td> </tr> <tr> <td colspan="3" style="background-color: #FF0000; color: white;"><b>FLAMMABILITY</b></td> <td style="background-color: #FF0000; color: white; text-align: center;"><b>0</b></td> </tr> <tr> <td colspan="3" style="background-color: #FFA500; color: white;"><b>PHYSICAL HAZARDS</b></td> <td style="background-color: #FFA500; color: white; text-align: center;"><b>2</b></td> </tr> <tr> <td colspan="3" style="background-color: #000000; color: white;"><b>PROTECTIVE EQUIPMENT</b></td> <td style="background-color: #000000; color: white; text-align: center;"><b>X</b></td> </tr> <tr> <td style="background-color: #000000; color: white;"><b>EYES</b></td> <td style="background-color: #000000; color: white;"><b>SKIN</b></td> <td style="background-color: #000000; color: white;"><b>LUNGS</b></td> <td></td> </tr> </table>	<b>HEALTH</b>			<b>3</b>	<b>FLAMMABILITY</b>			<b>0</b>	<b>PHYSICAL HAZARDS</b>			<b>2</b>	<b>PROTECTIVE EQUIPMENT</b>			<b>X</b>	<b>EYES</b>	<b>SKIN</b>	<b>LUNGS</b>	
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## 5. FIREFIGHTING MEASURES

5.1	Fire & Explosion Hazards:	This 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, 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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Prepared to OSHA, ACC, ANSI, NOHSC, WHMIS, 2001/58 & 1272/2008/EC Standards      SDS Revision: 1.0      SDS Revision Date: 3/5/2015

## 7. HANDLING & STORAGE INFORMATION

7.1	Work & Hygiene Practices:	<b>DANGER! CONTAINS SULFURIC ACID.</b> 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 with equipment 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 <sup>3</sup> )	ACGIH		NOHSC			OSHA		OTHER
		TLV	STEL	ES-TWA	ES-STEL	ES-PEAK	PEL	STEL	
	<b>CHEMICAL NAME(S)</b>								
	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 <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 normal conditions; unstable with heat or contamination.
10.2	Hazardous Decomposition Products:	Oxides of carbon (CO, CO <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. Do not exceed rated capacity.



## 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 <sub>50</sub> (oral, rat): 2140 mg/kg, LC <sub>50</sub> (inhalation, rat, 2h): 510 mg/m <sup>3</sup>		
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 <sub>50</sub> (Cyprinus carpio, 96h): 0.44 mg/L; LC <sub>50</sub> (Oncorhynchus mykiss, 96h): 1.17 mg/L; LC <sub>50</sub> (Oncorhynchus mykiss, 96h): 1.32 mg/L, EC <sub>50</sub> (Daphnia magna, 48h): 600 µg/L Sulfuric Acid: LC <sub>50</sub> (Brachydanio rerio, 96h): > 500 mg/L, EC <sub>50</sub> (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	

## 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/NDSL. 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). <b>WARNING:</b> 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:	<b>DANGER! CAUSES SEVERE SKIN BURNS AND EYE DAMAGE. HARMFUL IF SWALLOWED. TOXIC TO AQUATIC LIFE WITH LONG LASTING EFFECTS.</b> 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. <b>KEEP OUT OF REACH OF CHILDREN.</b> <b>WARNING:</b> 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:	<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>
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

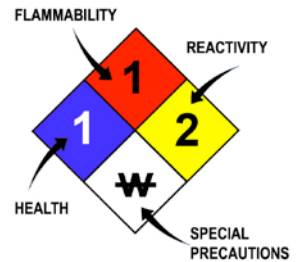
### NATIONAL FIRE PROTECTION ASSOCIATION: NFPA

### 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>01</sub>, LD<sub>01</sub>, &amp; LD<sub>01</sub> or TC, TC<sub>01</sub>, LC<sub>01</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