

## 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**

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St. Louis, MO 63141

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[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.*

# SAFETY DATA SHEET

Issuing Date 15-Aug-2016

Revision Date 01-Dec-2015

Revision Number 2



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## 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

### Product identifier

**Product Name** SLA Battery

### Other means of identification

**Synonyms** None

### Recommended use of the chemical and restrictions on use

**Recommended Use** Lead Acid (Non-Spillable) Battery

**Uses advised against** No information available

### Details of the supplier of the safety data sheet

**Supplier Name** Universal Product Group

**Supplier Address** 488 S. Royal Lane  
Coppell  
Texas  
75019  
US

**Supplier Phone Number** Phone:866.892.1122

**Supplier Email** kortkampe@upgi.com

### Emergency telephone number

**Company Emergency Phone Number** 469.892.1137

## 2. HAZARDS IDENTIFICATION

### Classification

This chemical is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200). This product is an article which is a sealed battery and as such does not require an MSDS per the OSHA hazard communication standard unless ruptured. The hazards indicated are for a ruptured battery.


Acute toxicity - Oral	Category 4
Acute toxicity - Inhalation (Vapors)	Category 4



Acute toxicity - Inhalation (Dusts/Mists)	Category 3
Skin corrosion/irritation	Category 1 Sub-category A
Serious eye damage/eye irritation	Category 1
Carcinogenicity	Category 1A
Reproductive Toxicity	Category 1A
Specific target organ toxicity (repeated exposure)	Category 1

### GHS Label elements, including precautionary statements

#### Emergency Overview

<b>Signal word</b>	<b>Danger</b>
<b>Hazard Statements</b> Harmful if swallowed Toxic if inhaled Causes severe skin burns and eye damage May cause cancer May damage fertility or the unborn child Causes damage to organs through prolonged or repeated exposure	
	
<p>This product is an article which contains a chemical substance. Safety information is given for exposure to the article as sold. Intended use of the product should not result in exposure to the chemical substance. This is a battery. In case of rupture: the above hazards exist.</p>	
<b>Appearance</b> Black	<b>Physical state</b> Solid
<b>Odor</b> None	

#### Precautionary Statements - Prevention

Obtain special instructions before use  
 Do not handle until all safety precautions have been read and understood  
 Use personal protective equipment as required  
 Wash face, hands and any exposed skin thoroughly after handling  
 Do not eat, drink or smoke when using this product  
 Use only outdoors or in a well-ventilated area  
 Do not breathe dust/fume/gas/mist/vapors/spray

#### Precautionary Statements - Response

Immediately call a POISON CENTER or doctor/physician  
 Specific treatment (see supplemental first aid instructions on this label)

#### Eyes

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
 Immediately call a POISON CENTER or doctor/physician

#### Skin

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower  
 Wash contaminated clothing before reuse

#### Inhalation

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing  
 Call a POISON CENTER or doctor/physician if you feel unwell

Immediately call a POISON CENTER or doctor/physician

**Ingestion**

IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell

Rinse mouth

Do NOT induce vomiting

**Precautionary Statements - Storage**

Store locked up

Store in a well-ventilated place. Keep container tightly closed

**Precautionary Statements - Disposal**

Dispose of contents/container to an approved waste disposal plant

**Hazards not otherwise classified (HNOC)**

Not applicable

**Unknown Toxicity**

10 % of the mixture consists of ingredient(s) of unknown toxicity

**Other information**

Very toxic to aquatic life with long lasting effects

**Interactions with Other Chemicals**

Use of alcoholic beverages may enhance toxic effects.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical name	CAS No	Weight-%	Trade Secret
Lead	7439-92-1	40 - 70	*
Sulfuric acid	7664-93-9	10 - 30	*

\*The exact percentage (concentration) of composition has been withheld as a trade secret

### 4. FIRST AID MEASURES

**First aid measures****General Advice**

First aid is upon rupture of sealed battery.

**Eye contact**

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Do not rub affected area. Remove contact lenses, if present and easy to do. Continue rinsing. Seek immediate medical attention/advice.

**Skin contact**

Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Seek immediate medical attention/advice.

**Inhalation**

Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, (trained personnel should) give oxygen. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation.

**Ingestion**

Do NOT induce vomiting. Rinse mouth immediately and drink plenty of water. Never give anything by mouth to an unconscious person. Call a physician or poison control center





immediately.

**Self-protection of the first aider** Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation.

**Most important symptoms and effects, both acute and delayed**

**Most Important Symptoms and Effects** Burning sensation. Coughing and/ or wheezing. Difficulty in breathing. Lead poisoning is characterized by a metallic taste in the mouth, loss of appetite indigestion, nausea, vomiting, constipation, sleep disturbances and overall weakness. Severe exposures can lead to shock, circulatory collapse, and death.

**Indication of any immediate medical attention and special treatment needed**

**Notes to Physician** Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated. Do not give chemical antidotes. Asphyxia from glottal edema may occur. Marked decrease in blood pressure may occur with moist rales, frothy sputum, and high pulse pressure.

## 5. FIRE-FIGHTING MEASURES

**Suitable Extinguishing Media**

Dry chemical, CO<sub>2</sub>, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire control water for later disposal; do not scatter the material. Dry chemical. Carbon dioxide (CO<sub>2</sub>). Water spray. Alcohol resistant foam.

**Unsuitable extinguishing media**

CAUTION: Use of water spray when fighting fire may be inefficient.

**Specific hazards arising from the chemical**

No information available.

<b>Uniform Fire Code</b>	Corrosive: Acid-Liquid Toxic: Solid
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**Explosion Data**

**Sensitivity to Mechanical Impact** None.

**Sensitivity to Static Discharge** None.

**Protective equipment and precautions for firefighters**

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

**6. ACCIDENTAL RELEASE MEASURES**

**Personal precautions, protective equipment and emergency procedures**

**Personal precautions** Attention! Corrosive material. Avoid contact with skin and eyes. Ensure adequate ventilation. Use personal protective equipment as required. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

**Environmental precautions**

**Environmental precautions** Prevent entry into waterways, sewers, basements or confined areas.

**Methods and material for containment and cleaning up**

**Methods for containment** Prevent further leakage or spillage if safe to do so.

**Methods for cleaning up** Pick up and transfer to properly labeled containers.

**7. HANDLING AND STORAGE**

**Precautions for safe handling**

**Handling** In case of rupture: Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. In case of insufficient ventilation, wear suitable respiratory equipment. Use only with adequate ventilation and in closed systems. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash before reuse.

**Conditions for safe storage, including any incompatibilities**

**Storage** Keep containers tightly closed in a dry, cool and well-ventilated place. Protect from moisture. Store locked up. Keep out of the reach of children. Store away from other materials.

**Incompatible Products** Acids. Bases. Oxidizing agent.

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

**Control parameters**

**Exposure Guidelines**

Chemical name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Lead 7439-92-1	TWA: 0.05 mg/m <sup>3</sup>	TWA: 50 µg/m <sup>3</sup> TWA: 50 µg/m <sup>3</sup> Pb Action Level: 30 µg/m <sup>3</sup> Poison; See 29 CFR 1910.1025 Action Level: 30 µg/m <sup>3</sup> Pb Poison; See 29 CFR 1910.1025	IDLH: 100 mg/m <sup>3</sup> TWA: 0.050 mg/m <sup>3</sup>
Sulfuric acid 7664-93-9	TWA: 0.2 mg/m <sup>3</sup> thoracic fraction	TWA: 1 mg/m <sup>3</sup> (vacated) TWA: 1 mg/m <sup>3</sup>	IDLH: 15 mg/m <sup>3</sup> TWA: 1 mg/m <sup>3</sup>

ACGIH TLV: American Conference of Governmental Industrial Hygienists - Threshold Limit Value OSHA PEL: Occupational Safety and Health Administration - Permissible Exposure Limits NIOSH IDLH Immediately Dangerous to Life or Health



**Appropriate engineering controls**

<b>Engineering Measures</b>	Showers Eyewash stations Ventilation systems
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**Individual protection measures, such as personal protective equipment**

<b>Eye/face protection</b>	Face protection shield.
<b>Skin and body protection</b>	Wear protective gloves and protective clothing. Long sleeved clothing. Chemical resistant apron. Impervious gloves.
<b>Respiratory protection</b>	If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.
<b>Hygiene Measures</b>	Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product. Take off contaminated clothing and wash before reuse.

**9. PHYSICAL AND CHEMICAL PROPERTIES****Physical and Chemical Properties**

<b>Physical state</b>	Solid	<b>Odor</b>	None
<b>Appearance</b>	Black	<b>Odor Threshold</b>	No information available
<b>Color</b>	No information available		
<b><u>Property</u></b>	<b><u>Values</u></b>	<b><u>Remarks</u></b>	<b><u>Method</u></b>
<b>pH</b>	No data available	None known	
<b>Melting / freezing point</b>	No data available	None known	
<b>Boiling point / boiling range</b>	No data available	None known	
<b>Flash Point</b>	No data available	None known	
<b>Evaporation Rate</b>	No data available	None known	
<b>Flammability (solid, gas)</b>	No data available	None known	
<b>Flammability Limit in Air</b>			
<b>Upper flammability limit</b>	No data available		
<b>Lower flammability limit</b>	No data available		
<b>Vapor pressure</b>	No data available	None known	
<b>Vapor density</b>	No data available	None known	
<b>Specific Gravity</b>	No data available	None known	
<b>Water Solubility</b>	Virtually insoluble	None known	
<b>Solubility in other solvents</b>	No data available	None known	
<b>Partition coefficient: n-octanol/water</b>	0	None known	
<b>Autoignition temperature</b>	No data available	None known	
<b>Decomposition temperature</b>	No data available	None known	
<b>Kinematic viscosity</b>	No data available	None known	
<b>Dynamic viscosity</b>	0	None known	
<b>Explosive properties</b>	No data available		
<b>Oxidizing properties</b>	No data available		

**Other Information**

<b>Softening Point</b>	No data available
<b>VOC Content (%)</b>	No data available
<b>Particle Size</b>	No data available
<b>Particle Size Distribution</b>	

## 10. STABILITY AND REACTIVITY

### Reactivity

No data available.

### Chemical stability

Stable under recommended storage conditions.

### Possibility of Hazardous Reactions

None under normal processing.

### Conditions to avoid

Exposure to air or moisture over prolonged periods. Excessive heat.

### Incompatible materials

Acids. Bases. Oxidizing agent.

### Hazardous Decomposition Products

None known based on information supplied.

## 11. TOXICOLOGICAL INFORMATION

### Information on likely routes of exposure

#### **Product Information**

. Product does not present an acute toxicity hazard based on known or supplied information. In case of rupture:.

#### **Inhalation**

Specific test data for the substance or mixture is not available. Corrosive by inhalation. (based on components). Inhalation of corrosive fumes/gases may cause coughing, choking, headache, dizziness, and weakness for several hours. Pulmonary edema may occur with tightness in the chest, shortness of breath, bluish skin, decreased blood pressure, and increased heart rate. Inhaled corrosive substances can lead to a toxic edema of the lungs. Pulmonary edema can be fatal. May cause irritation of respiratory tract. Toxic by inhalation.

#### **Eye contact**

Specific test data for the substance or mixture is not available. Causes burns. (based on components). Corrosive to the eyes and may cause severe damage including blindness. Causes serious eye damage. May cause irreversible damage to eyes.

#### **Skin contact**

Specific test data for the substance or mixture is not available. Corrosive. (based on components). Causes burns.

#### **Ingestion**

Specific test data for the substance or mixture is not available. Causes burns. (based on components). Ingestion causes burns of the upper digestive and respiratory tracts. May cause severe burning pain in the mouth and stomach with vomiting and diarrhea of dark blood. Blood pressure may decrease. Brownish or yellowish stains may be seen around the mouth. Swelling of the throat may cause shortness of breath and choking. May cause lung damage if swallowed. May be fatal if swallowed and enters airways. Ingestion may cause

irritation to mucous membranes. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. Harmful if swallowed.

### Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Sulfuric acid 7664-93-9	= 2140 mg/kg ( Rat )	-	= 510 mg/m <sup>3</sup> ( Rat ) 2 h

### Information on toxicological effects

**Symptoms** Erythema (skin redness). Burning. May cause blindness. Coughing and/ or wheezing. Difficulty in breathing.

### Delayed and immediate effects as well as chronic effects from short and long-term exposure

**Sensitization** No information available.

**Mutagenic Effects** No information available.

**Carcinogenicity** The table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical name	ACGIH	IARC	NTP	OSHA
Lead 7439-92-1	A3	Group 2A	Reasonably Anticipated	X
Sulfuric acid 7664-93-9	A2	Group 1	Known	X

*ACGIH (American Conference of Governmental Industrial Hygienists)*

*A2 - Suspected Human Carcinogen*

*A3 - Animal Carcinogen*

*IARC (International Agency for Research on Cancer)*

*Group 2A - Probably Carcinogenic to Humans*

*Group 1 - Carcinogenic to Humans*

*NTP (National Toxicology Program)*

*Known - Known Carcinogen*

*Reasonably Anticipated - Reasonably Anticipated to be a Human Carcinogen*

*OSHA (Occupational Safety and Health Administration of the US Department of Labor)*

*X - Present*

**Reproductive toxicity** Product is or contains a chemical which is a known or suspected reproductive hazard. Contains a known or suspected reproductive toxin.

**Developmental Toxicity** Contains ingredients that have suspected developmental hazards.  
**STOT - single exposure** No information available.

**STOT - repeated exposure** Causes damage to organs through prolonged or repeated exposure. Based on classification criteria from the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200), this product has been determined to cause systemic target organ toxicity from chronic or repeated exposure. (STOT RE).

**Chronic Toxicity** Chronic exposure to corrosive fumes/gases may cause erosion of the teeth followed by jaw necrosis. Bronchial irritation with chronic cough and frequent attacks of pneumonia are common. Gastrointestinal disturbances may also be seen. Effects from this product caused by acute exposure may cause permanent damage to target organs and/or may cause chronic conditions. Contains a known or suspected carcinogen. Contains a known or suspected reproductive toxin. Possible risk of irreversible effects. Avoid repeated exposure. Prolonged exposure may cause chronic effects. May cause adverse effects on the bone marrow and blood-forming system. Lead compounds may be absorbed by ingestion, by

inhalation and through the skin. Lead may damage kidney function, the blood forming system and the reproductive system.

**Target Organ Effects**

Blood. Reproductive System. May damage the unborn child. Central Nervous System (CNS). Eyes. Gastrointestinal tract (GI). Gingival Tissue. Kidney. Respiratory system. Skin. Teeth. Systemic Toxicity. Cardiovascular system. Hematopoietic system. Immune system.

**Aspiration Hazard**

No information available.

**Numerical measures of toxicity Product Information**

The following values are calculated based on chapter 3.1 of the GHS document

**ATEmix (oral)**

677.00 mg/kg

**ATEmix (inhalation-gas)**

6,522.00 ppm

**ATEmix (inhalation-dust/mist)**

0.78 mg/l

**ATEmix (inhalation-vapor)**

16.00 ATEmix

## 12. ECOLOGICAL INFORMATION

**Ecotoxicity**

Very toxic to aquatic life with long lasting effects.

Chemical name	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Daphnia Magna (Water Flea)
Lead 7439-92-1		96h LC50: = 0.44 mg/L (Cyprinus carpio) 96h LC50: = 1.17 mg/L (Oncorhynchus mykiss) 96h LC50: = 1.32 mg/L (Oncorhynchus mykiss)		48h EC50: = 600 µg/L
Sulfuric acid 7664-93-9		96h LC50: > 500 mg/L (Brachydanio rerio)		24h EC50: = 29 mg/L

**Persistence and Degradability**

No information available.

**Bioaccumulation**

No information available

**Other adverse effects**

No information available.

### 13. DISPOSAL CONSIDERATIONS

#### Waste treatment methods

<b>Disposal methods</b>	This material, as supplied, is a hazardous waste according to federal regulations (40 CFR 261).
<b>Contaminated Packaging</b>	Do not reuse empty containers.
<b>US EPA Waste Number</b>	D002 D008

#### **California Hazardous Waste Codes** 792

This product contains one or more substances that are listed with the State of California as a hazardous waste.

Chemical name	California Hazardous Waste
Lead 7439-92-1	Toxic
Sulfuric acid 7664-93-9	Toxic Corrosive

### 14. TRANSPORT INFORMATION

<b>DOT</b>	NOT REGULATED
<b>Proper Shipping Name</b>	NON REGULATED
<b>Hazard Class</b>	N/A
<b>Emergency Response Guide Number</b>	154

**TDG** Not regulated

**MEX** Not regulated

**ICAO** Not regulated

**IATA** Not regulated  
**Proper Shipping Name** NON REGULATED  
**Hazard Class** N/A

**IMDG/IMO** Not regulated  
**Hazard Class** N/A

**RID** Not regulated

**ADR** Not regulated

**ADN** Not regulated

### 15. REGULATORY INFORMATION

#### International Inventories

<b>TSCA</b>	Complies
<b>DSL</b>	All components are listed either on the DSL or NDSL.



TSCA - United States Toxic Substances Control Act Section 8(b) Inventory  
 DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

**US Federal Regulations**

**SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Chemical name	CAS No	Weight-%	SARA 313 - Threshold Values %
Lead - 7439-92-1	7439-92-1	40 - 70	0.1
Sulfuric acid - 7664-93-9	7664-93-9	10 - 30	1.0

**SARA 311/312 Hazard Categories**

Acute Health Hazard	No
Chronic Health Hazard	No
Fire Hazard	No
Sudden release of pressure hazard	No
Reactive Hazard	No

**CWA (Clean Water Act)**

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

Chemical name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Lead 7439-92-1		X	X	
Sulfuric acid 7664-93-9	1000 lb			X

**CERCLA**

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

Chemical name	Hazardous Substances RQs	Extremely Hazardous Substances RQs	RQ
Lead 7439-92-1	10 lb		RQ 10 lb final RQ RQ 4.54 kg final RQ
Sulfuric acid 7664-93-9	1000 lb	1000 lb	RQ 1000 lb final RQ RQ 454 kg final RQ

**US State Regulations**

**California Proposition 65**

This product contains the following Proposition 65 chemicals.

Chemical name	California Proposition 65
Lead - 7439-92-1	Carcinogen Developmental Female Reproductive Male Reproductive
Sulfuric acid - 7664-93-9	Carcinogen

**U.S. State Right-to-Know Regulations**

Chemical name	New Jersey	Massachusetts	Pennsylvania	Rhode Island	Illinois
Lead 7439-92-1	X	X	X	X	X
Sulfuric acid 7664-93-9	X	X	X	X	X

**International Regulations**





**Mexico****National occupational exposure limits**

Chemical name	Carcinogen Status	Exposure Limits
Lead	A3	Mexico: TWA= 0.15 mg/m <sup>3</sup>
Sulfuric acid	A2	Mexico: TWA 1 mg/m <sup>3</sup>

*Mexico - Occupational Exposure Limits - Carcinogens*

**Canada****WHMIS Hazard Class**

Non-controlled

## 16. OTHER INFORMATION

<b>NFPA</b>	<b>Health Hazards</b> 3	<b>Flammability</b> 0	<b>Instability</b> 0	<b>Physical and Chemical Hazards - Personal Protection</b> X
<b>HMIS</b>	<b>Health Hazards</b> 0	<b>Flammability</b> 0	<b>Physical Hazard</b> 0	

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**Disclaimer**

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**End of Safety Data Sheet**