SAFETY DATA SHEET

SECTION 1. IDENTIFICATION

Product name : FormulaShell SAE 10W-30 Motor Oil

Product code : 001D7227

Manufacturer or supplier’s details
Manufacturer/Supplier : Shell Oil Products US
P.O. Box 4427
Houston TX 77210-4427
USA

SDS Request : (+1) 877-276-7285
Customer Service :

Emergency telephone number
Spill Information : 877-504-9351
Health Information : 877-242-7400

Recommended use of the chemical and restrictions on use
Recommended use : Engine oil.

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification
Not a hazardous substance or mixture.

GHS Label element
Hazard pictograms : No Hazard Symbol required
Signal word : No signal word
Hazard statements : PHYSICAL HAZARDS:
Not classified as a physical hazard under GHS criteria.
HEALTH HAZARDS:
Not classified as a health hazard under GHS criteria.
ENVIRONMENTAL HAZARDS:
Not classified as an environmental hazard under GHS criteria.

Precautionary statements :
Prevention:
No precautionary phrases.
Response:
No precautionary phrases.
Storage:
No precautionary phrases.
Disposal:
No precautionary phrases.

Other hazards which do not result inclassification
Prolonged or repeated skin contact without proper cleaning can clog the pores of the skin resulting in disorders such as oil acne/folliculitis.
Used oil may contain harmful impurities.
Not classified as flammable but will burn.

The classification of this material is based on OSHA HCS 2012 criteria.

Under normal conditions of use or in a foreseeable emergency, this product does not meet the definition of a hazardous chemical when evaluated according to the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical nature : Highly refined mineral oil.
     Synthetic base oil and additives.
     The highly refined mineral oil contains <3% (w/w) DMSO-extract, according to IP346.

* contains one or more of the following CAS-numbers: 64742-53-6, 64742-54-7, 64742-55-8, 64742-56-9, 64742-65-0, 68037-01-4, 72623-86-0, 72623-87-1, 8042-47-5, 848301-69-9.

Chemical nature : Polyolefin Amide Alkeneamine Polyol
     Synthetic base oil and additives.
     The highly refined mineral oil contains <3% (w/w) DMSO-extract, according to IP346.

Hazardous components

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Synonyms</th>
<th>CAS-No.</th>
<th>Concentration (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Polyolefin Amide Alkeneamine Polyol</td>
<td>308070-26-0</td>
<td>1 – 3</td>
<td></td>
</tr>
<tr>
<td>Alkaryl amine</td>
<td>112-90-3</td>
<td>1 – 3</td>
<td></td>
</tr>
<tr>
<td>Interchangeable low viscosity base oil (&lt;20,5 cSt @40°C) *</td>
<td>64742-54-7 and 848301-69-9</td>
<td>0 - 94</td>
<td></td>
</tr>
</tbody>
</table>

SECTION 4. FIRST-AID MEASURES

General advice : Not expected to be a health hazard when used under normal conditions.

If inhaled : No treatment necessary under normal conditions of use.
     If symptoms persist, obtain medical advice.

In case of skin contact : Remove contaminated clothing. Flush exposed area with water and follow by washing with soap if available.
     If persistent irritation occurs, obtain medical attention.

In case of eye contact : Flush eye with copious quantities of water.
     If persistent irritation occurs, obtain medical attention.

If swallowed : In general no treatment is necessary unless large quantities are swallowed, however, get medical advice.

Most important symptoms and effects, both acute and delayed : Oil acne/folliculitis signs and symptoms may include formation of black pustules and spots on the skin of exposed areas.
     Ingestion may result in nausea, vomiting and/or diarrhoea.
Protection of first-aiders: When administering first aid, ensure that you are wearing the appropriate personal protective equipment according to the incident, injury and surroundings.

Immediate medical attention, special treatment: Treat symptomatically.

SECTION 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media: Foam, water spray or fog. Dry chemical powder, carbon dioxide, sand or earth may be used for small fires only.

Unsuitable extinguishing media: Do not use water in a jet.

Specific hazards during fire-fighting: Hazardous combustion products may include: A complex mixture of airborne solid and liquid particulates and gases (smoke). Carbon monoxide may be evolved if incomplete combustion occurs. Unidentified organic and inorganic compounds.

Specific extinguishing methods: Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Special protective equipment for firefighters: Proper protective equipment including chemical resistant gloves are to be worn; chemical resistant suit is indicated if large contact with spilled product is expected. Self-Contained Breathing Apparatus must be worn when approaching a fire in a confined space. Select fire fighter's clothing approved to relevant Standards (e.g. Europe: EN469).

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures: Avoid contact with skin and eyes.

Environmental precautions: Use appropriate containment to avoid environmental contamination. Prevent from spreading or entering drains, ditches or rivers by using sand, earth, or other appropriate barriers.

Methods and materials for containment and cleaning up: Slippery when spilt. Avoid accidents, clean up immediately. Prevent from spreading by making a barrier with sand, earth or other containment material. Reclaim liquid directly or in an absorbent. Soak up residue with an absorbent such as clay, sand or other suitable material and dispose of properly.
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Additional advice: For guidance on selection of personal protective equipment see Chapter 8 of this Safety Data Sheet. For guidance on disposal of spilled material see Chapter 13 of this Safety Data Sheet.

SECTION 7. HANDLING AND STORAGE

Technical measures: Use local exhaust ventilation if there is risk of inhalation of vapours, mists or aerosols. Use the information in this data sheet as input to a risk assessment of local circumstances to help determine appropriate controls for safe handling, storage and disposal of this material.

Precautions for safe handling: Avoid prolonged or repeated contact with skin. Avoid inhaling vapour and/or mists. When handling product in drums, safety footwear should be worn and proper handling equipment should be used. Properly dispose of any contaminated rags or cleaning materials in order to prevent fires.

Avoidance of contact: Strong oxidising agents.

Product Transfer: This material has the potential to be a static accumulator. Proper grounding and bonding procedures should be used during all bulk transfer operations.

Storage

Other data: Keep container tightly closed and in a cool, well-ventilated place. Use properly labeled and closable containers. Store at ambient temperature.

Packaging material: Suitable material: For containers or container linings, use mild steel or high density polyethylene. Unsuitable material: PVC.

Container Advice: Polyethylene containers should not be exposed to high temperatures because of possible risk of distortion.

SECTION 8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Components with workplace control parameters

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Value type (Form of exposure)</th>
<th>Control parameters / Permissible concentration</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oil mist, mineral</td>
<td>Not Assigned</td>
<td>TWA ((inhalable fraction))</td>
<td>5 mg/m³</td>
<td>US. ACGIH Threshold Limit Values</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(Mist)</td>
<td>5 mg/m³</td>
<td>OSHA_TRA</td>
</tr>
</tbody>
</table>

4 / 15  800001028894  US
Biological occupational exposure limits
No biological limit allocated.

Monitoring Methods
Monitoring of the concentration of substances in the breathing zone of workers or in the general workplace may be required to confirm compliance with an OEL and adequacy of exposure controls. For some substances biological monitoring may also be appropriate. Validated exposure measurement methods should be applied by a competent person and samples analysed by an accredited laboratory. Examples of sources of recommended exposure measurement methods are given below or contact the supplier. Further national methods may be available.

- Occupational Safety and Health Administration (OSHA), USA: Sampling and Analytical Methods [http://www.osha.gov/]
- Institut für Arbeitsschutz Deutschen Gesetzlichen Unfallversicherung (IFA), Germany [http://www.dguv.de/inhalt/index.jsp]

Engineering measures: The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Select controls based on a risk assessment of local circumstances. Appropriate measures include:
- Adequate ventilation to control airborne concentrations.
- Where material is heated, sprayed or mist formed, there is greater potential for airborne concentrations to be generated.
- General Information:
  - Define procedures for safe handling and maintenance of controls.
  - Educate and train workers in the hazards and control measures relevant to normal activities associated with this product.
  - Ensure appropriate selection, testing and maintenance of equipment used to control exposure, e.g. personal protective equipment, local exhaust ventilation.
  - Drain down system prior to equipment break-in or maintenance.
  - Retain drain downs in sealed storage pending disposal or subsequent recycle.
  - Always observe good personal hygiene measures, such as washing hands after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping.

Personal protective equipment
Respiratory protection: No respiratory protection is ordinarily required under normal conditions of use.
- In accordance with good industrial hygiene practices, precau-

Hand protection
Remarks: Where hand contact with the product may occur the use of gloves approved to relevant standards (e.g. Europe: EN374, US: F739) made from the following materials may provide suitable chemical protection. PVC, neoprene or nitrile rubber gloves Suitability and durability of a glove is dependent on usage, e.g. frequency and duration of contact, chemical resistance of glove material, dexterity. Always seek advice from glove suppliers. Contaminated gloves should be replaced. Personal hygiene is a key element of effective hand care. Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturizer is recommended. For continuous contact we recommend gloves with breakthrough time of more than 240 minutes with preference for > 480 minutes where suitable gloves can be identified. For short-term/splash protection we recommend the same, but recognize that suitable gloves offering this level of protection may not be available and in this case a lower breakthrough time maybe acceptable so long as appropriate maintenance and replacement regimes are followed. Glove thickness is not a good predictor of glove resistance to a chemical as it is dependent on the exact composition of the glove material. Glove thickness should be typically greater than 0.35 mm depending on the glove make and model.

Eye protection: If material is handled such that it could be splashed into eyes, protective eyewear is recommended.

Skin and body protection: Skin protection is not ordinarily required beyond standard work clothes. It is good practice to wear chemical resistant gloves.

Protective measures: Personal protective equipment (PPE) should meet recommended national standards. Check with PPE suppliers.

Environmental exposure controls
General advice: Take appropriate measures to fulfill the requirements of relevant environmental protection legislation. Avoid contamination of the environment by following advice given in Chapter 6. If necessary, prevent undissolved material from being discharged to waste water. Waste water should be treated in a municipal or industrial waste water treatment plant before discharge to surface water. Local guidelines on emission limits for volatile substances...
must be observed for the discharge of exhaust air containing
vapour.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Liquid at room temperature.

Colour: amber

Odour: Slight hydrocarbon

Odour Threshold: Data not available

pH: Not applicable

Pour point: -43 °C / -45 °F Method: Unspecified

Initial boiling point and boiling range: > 280 °C / 536 °F Estimated value(s)

Flash point: 228 °C / 442 °F Method: Unspecified

Evaporation rate: Data not available

Flammability (solid, gas): Data not available

Upper explosion limit: Typical 10 %(V)

Lower explosion limit: Typical 1 %(V)

Vapour pressure: < 0.5 Pa (20 °C / 68 °F) Estimated value(s)

Relative vapour density: > 1 Estimated value(s)

Relative density: 0.880 (15 °C / 59 °F)

Density: 880 kg/m3 (15.0 °C / 59.0 °F) Method: Unspecified

Solubility(ies)

Water solubility: negligible

Solubility in other solvents: Data not available

Partition coefficient: n-octanol/water: Pow: > 6 (based on information on similar products)

Auto-ignition temperature: > 320 °C / 608 °F

Viscosity
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Viscosity, dynamic: Data not available
Viscosity, kinematic:
- 69.05 mm²/s (40.0 °C / 104.0 °F) Method: Unspecified
- 10.42 mm²/s (100 °C / 212 °F) Method: Unspecified

Conductivity: This material is not expected to be a static accumulator.
Decomposition temperature: Data not available

SECTION 10. STABILITY AND REACTIVITY
Reactivity: The product does not pose any further reactivity hazards in addition to those listed in the following sub-paragraph.
Chemical stability: Stable.
Possibility of hazardous reactions: Reacts with strong oxidising agents.
Conditions to avoid: Extremes of temperature and direct sunlight.
Incompatible materials: Strong oxidising agents.
Hazardous decomposition products: Hazardous decomposition products are not expected to form during normal storage.

SECTION 11. TOXICOLOGICAL INFORMATION
Basis for assessment: Information given is based on data on the components and the toxicology of similar products. Unless indicated otherwise, the data presented is representative of the product as a whole, rather than for individual component(s).

Information on likely routes of exposure
Skin and eye contact are the primary routes of exposure although exposure may occur following accidental ingestion.

Acute toxicity

Product:
Acute oral toxicity: LD50 (rat): > 5,000 mg/kg Remarks: Expected to be of low toxicity:
Acute inhalation toxicity: Remarks: Not considered to be an inhalation hazard under normal conditions of use.
Acute dermal toxicity: LD50 (Rabbit): > 5,000 mg/kg Remarks: Expected to be of low toxicity:
Skin corrosion/irritation

**Product:**
Remarks: Expected to be slightly irritating. Prolonged or repeated skin contact without proper cleaning can clog the pores of the skin resulting in disorders such as oil acne/folliculitis.

Serious eye damage/eye irritation

**Product:**
Remarks: Expected to be slightly irritating.

Respiratory or skin sensitisation

**Product:**
Remarks: Not expected to be a skin sensitiser.

Germ cell mutagenicity

**Product:**
Remarks: Not considered a mutagenic hazard.

Carcinogenicity

**Product:**
Remarks: Not expected to be carcinogenic.

Remarks: Product contains mineral oils of types shown to be non-carcinogenic in animal skin-painting studies. Highly refined mineral oils are not classified as carcinogenic by the International Agency for Research on Cancer (IARC).

**IARC**
No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

**ACGIH**
No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

**OSHA**
No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

**NTP**
No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

Reproductive toxicity

**Product:**
Remarks: Not expected to impair fertility. Not expected to be
a developmental toxicant.

**STOT - single exposure**

**Product:**
Remarks: Not expected to be a hazard.

**STOT - repeated exposure**

**Product:**
Remarks: Not expected to be a hazard.

**Aspiration toxicity**

**Product:**
Not considered an aspiration hazard.

**Further information**

**Product:**
Remarks: Used oils may contain harmful impurities that have accumulated during use. The concentration of such impurities will depend on use and they may present risks to health and the environment on disposal., ALL used oil should be handled with caution and skin contact avoided as far as possible.

Remarks: Continuous contact with used engine oils has caused skin cancer in animal tests.

Remarks: Slightly irritating to respiratory system.

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**SECTION 12. ECOLOGICAL INFORMATION**

**Basis for assessment:** Ecotoxicological data have not been determined specifically for this product. Information given is based on a knowledge of the components and the ecotoxicology of similar products. Unless indicated otherwise, the data presented is representative of the product as a whole, rather than for individual component(s).(LL/EL/IL50 expressed as the nominal amount of product required to prepare aqueous test extract).

**Ecotoxicity**

**Product:**

Toxicity to fish (Acute toxicity): Remarks: Expected to be practically non toxic: LL/EL/IL50 > 100 mg/l

Toxicity to daphnia and other aquatic invertebrates (Acute toxicity): Remarks: Expected to be practically non toxic: LL/EL/IL50 > 100 mg/l

Toxicity to algae (Acute toxicity): Remarks: Expected to be practically non toxic:
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LL/EL/IL50 > 100 mg/l

Toxicity to fish (Chronic toxicity)  Remarks: Data not available

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)  Remarks: Data not available

Toxicity to bacteria (Acute toxicity)  Remarks: Data not available

Persistence and degradability

Product: Biodegradability  Remarks: Expected to be not readily biodegradable. Major constituents are expected to be inherently biodegradable, but contains components that may persist in the environment.

Bioaccumulative potential

Product: Bioaccumulation  Remarks: Contains components with the potential to bioaccumulate.

Mobility in soil

Product: Mobility  Remarks: Liquid under most environmental conditions. If it enters soil, it will adsorb to soil particles and will not be mobile.

Remarks: Floats on water.

Other adverse effects

no data available

Product: Additional ecological information  
Product is a mixture of non-volatile components, which are not expected to be released to air in any significant quantities. Not expected to have ozone depletion potential, photochemical ozone creation potential or global warming potential.

Poorly soluble mixture. May cause physical fouling of aquatic organisms.

Mineral oil is not expected to cause any chronic effects to aquatic organisms at concentrations less than 1 mg/l.
SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods
Waste from residues: Waste product should not be allowed to contaminate soil or ground water, or be disposed of into the environment. Waste, spills or used product is dangerous waste. Disposal should be in accordance with applicable regional, national, and local laws and regulations. Local regulations may be more stringent than regional or national requirements and must be complied with.

Contaminated packaging: Dispose in accordance with prevailing regulations, preferably to a recognized collector or contractor. The competence of the collector or contractor should be established beforehand. Disposal should be in accordance with applicable regional, national, and local laws and regulations.

SECTION 14. TRANSPORT INFORMATION

National Regulations

US Department of Transportation Classification (49 CFR Parts 171-180)
Not regulated as a dangerous good

International Regulation

IATA-DGR
Not regulated as a dangerous good

IMDG-Code
Not regulated as a dangerous good

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Pollution category: Not applicable
Ship type: Not applicable
Product name: Not applicable
Special precautions: Not applicable

Special precautions for user
Remarks: Special Precautions: Refer to Chapter 7, Handling & Storage, for special precautions which a user needs to be aware of or needs to comply with in connection with transport.

Additional Information: MARPOL Annex 1 rules apply for bulk shipments by sea.

SECTION 15. REGULATORY INFORMATION

OSHA Hazards: No OSHA Hazards
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EPCRA - Emergency Planning and Community Right-to-Know Act

CERCLA Reportable Quantity
This material does not contain any components with a CERCLA RQ., Shell classifies this material as an "oil" under the CERCLA Petroleum Exclusion, therefore releases to the environment are not reportable under CERCLA.

SARA 304 Extremely Hazardous Substances Reportable Quantity
This material does not contain any components with a section 304 EHS RQ.

SARA 311/312 Hazards : No SARA Hazards
SARA 302 : No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.
SARA 313 : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

Clean Water Act
This product does not contain any Hazardous Chemicals listed under the U.S. CleanWater Act, Section 311, Table 117.3.

California Prop 65
This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

The components of this product are reported in the following inventories:
EINECS : All components listed or polymer exempt.
TSCA : All components listed.
DSL : All components listed.

SECTION 16. OTHER INFORMATION

Further information
NFPA Rating (Health, Fire, Reactivity) 0, 1, 0

A vertical bar (|) in the left margin indicates an amendment from the previous version.
Abbreviations and Acronyms : The standard abbreviations and acronyms used in this document can be looked up in reference literature (e.g. scientific dictionaries) and/or websites.

ACGIH = American Conference of Governmental Industrial Hygienists
ADR = European Agreement concerning the International Carriage of Dangerous Goods by Road
AICS = Australian Inventory of Chemical Substances
ASTM = American Society for Testing and Materials
BEL = Biological exposure limits
BTEX = Benzene, Toluene, Ethylbenzene, Xylenes
This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.
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 |

Synonyms

None
### GHS Label elements, including precautionary statements

#### Emergency Overview

**Signal word**
- Danger

**Hazard Statements**
- Harmful if swallowed
- Harmful if inhaled
- 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

**Appearance**
- Colorless

**Physical state**
- Solid

**Odor**
- Odorless

### 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
0 % 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

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS No</th>
<th>Weight-%</th>
<th>Trade Secret</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead</td>
<td>7439-92-1</td>
<td>60 - 100</td>
<td>*</td>
</tr>
<tr>
<td>Sulfuric acid</td>
<td>7664-93-9</td>
<td>10 - 30</td>
<td>*</td>
</tr>
</tbody>
</table>

*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 breathing has stopped, give artificial respiration. Get medical attention immediately. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. If breathing is difficult, (trained personnel
should) give oxygen. Delayed pulmonary edema may occur. Get medical attention immediately if symptoms occur.

**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 contact with skin, eyes or clothing. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Use personal protective equipment as required. Wear personal protective clothing (see section 8).

**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. Carbon dioxide (CO2). Water spray.

**Unsuitable extinguishing media**

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

**Specific hazards arising from the chemical**

The product causes burns of eyes, skin and mucous membranes. Thermal decomposition can lead to release of irritating gases and vapors.

**Uniform Fire Code**

Toxic: Liquid
Corrosive: Acid-Liquid

**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, eyes or clothing. Ensure adequate ventilation. Use personal protective equipment as required. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

Other Information

Refer to protective measures listed in Sections 7 and 8.

Environmental precautions

Prevent further leakage or spillage if safe to do so. Should not be released into the environment. Do not allow to enter into soil/subsoil. Prevent product from entering drains.

Methods and material for containment and cleaning up

Methods for containment

Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers.

Methods for cleaning up

Soak up with inert absorbent material. 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


8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>ACGIH TLV</th>
<th>OSHA PEL</th>
<th>NIOSH IDLH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead 7439-92-1</td>
<td>TWA: 0.05 mg/m³</td>
<td>TWA: 50 µg/m³ TWA: 50 µg/m³</td>
<td>IDLH: 100 mg/m³ TWA: 0.050 mg/m³</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Pb</td>
<td></td>
</tr>
</tbody>
</table>
**Sulfuric acid**  
7664-93-9  
Sulfuric acid TWA: 0.2 mg/m³ thoracic fraction  
TWA: 1 mg/m³ (vacated) TWA: 1 mg/m³  
IDLH: 15 mg/m³ TWA: 1 mg/m³

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

**Other Exposure Guidelines**  
Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992)

**Appropriate engineering controls**

**Engineering Measures**  
Showers  
Eyewash stations  
Ventilation systems

**Individual protection measures, such as personal protective equipment**

**Eye/face protection**  
Face protection shield.

**Skin and body protection**  
Wear protective gloves and protective clothing. Long sleeved clothing. Chemical resistant apron. Impervious gloves.

**Respiratory protection**  
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.

**Hygiene Measures**  
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**

<table>
<thead>
<tr>
<th>Property</th>
<th>Values</th>
<th>Remarks, Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Solid</td>
<td></td>
</tr>
<tr>
<td>Appearance</td>
<td>Colorless</td>
<td>Odor Odorless</td>
</tr>
<tr>
<td>Color</td>
<td>No information available</td>
<td>Odor Threshold</td>
</tr>
<tr>
<td>pH</td>
<td>2</td>
<td>None known</td>
</tr>
<tr>
<td>Melting / freezing point</td>
<td>No data available</td>
<td>None known</td>
</tr>
<tr>
<td>Boiling point / boiling range</td>
<td>No data available</td>
<td>None known</td>
</tr>
<tr>
<td>Flash Point</td>
<td>No data available</td>
<td>None known</td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>No data available</td>
<td>None known</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>No data available</td>
<td>None known</td>
</tr>
<tr>
<td>Flammability Limit in Air</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Upper flammability limit</td>
<td>No data available</td>
<td>None known</td>
</tr>
<tr>
<td>Lower flammability limit</td>
<td>No data available</td>
<td>None known</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>No data available</td>
<td>None known</td>
</tr>
<tr>
<td>Vapor density</td>
<td>No data available</td>
<td>None known</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>1.27</td>
<td>None known</td>
</tr>
<tr>
<td>Water Solubility</td>
<td>Immiscible in water</td>
<td>None known</td>
</tr>
<tr>
<td>Solubility in other solvents</td>
<td>No data available</td>
<td>None known</td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>7</td>
<td>None known</td>
</tr>
<tr>
<td>Autoignition temperature</td>
<td>No data available</td>
<td>None known</td>
</tr>
</tbody>
</table>
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


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. Toxic by inhalation. 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.

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. Causes burns. (based on components). Prolonged skin contact causes burns.

Ingestion

Specific test data for the substance or mixture is not available. Harmful if swallowed. 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.

Component Information

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Oral LD50</th>
<th>Dermal LD50</th>
<th>Inhalation LC50</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sulfuric acid</td>
<td>2140 mg/kg (Rat)</td>
<td>-</td>
<td>510 mg/m³ (Rat) 2h</td>
</tr>
</tbody>
</table>

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.

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>ACGIH</th>
<th>IARC</th>
<th>NTP</th>
<th>OSHA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead 7439-92-1</td>
<td>A3</td>
<td>Group 2A</td>
<td>Reasonably Anticipated</td>
<td>X</td>
</tr>
<tr>
<td>Sulfuric acid</td>
<td>A2</td>
<td>Group 1</td>
<td>Known</td>
<td>X</td>
</tr>
</tbody>
</table>

ACGIH (American Conference of Governmental Industrial Hygienists)
A2 - Suspected Human Carcinogen
A3 - Animal Carcinogen

IARC (International Agency for Research on Cancer)
Group 1 - Carcinogenic to Humans
Group 2A - Probably 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
Contains a known or suspected reproductive toxin. Product is or contains a chemical which is a known or suspected reproductive hazard.

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. 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

Aspiration Hazard
No information available.

Numerical measures of toxicity

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

<table>
<thead>
<tr>
<th>ATEmix (oral)</th>
<th>637.00 mg/kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATEmix (inhalation-gas)</td>
<td>6,000.00 ppm</td>
</tr>
<tr>
<td>ATEmix (inhalation-dust/mist)</td>
<td>0.92 mg/l</td>
</tr>
<tr>
<td>ATEmix (inhalation-vapor)</td>
<td>15.00 ATEmix</td>
</tr>
</tbody>
</table>

12. ECOLOGICAL INFORMATION

Ecotoxicity
Very toxic to aquatic life with long lasting effects.

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

Persistence and Degradability
No information available.

Bioaccumulation
No information available

Other adverse effects
No information available.
13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal methods This material, as supplied, is a hazardous waste according to federal regulations (40 CFR 261).

Contaminated Packaging Do not reuse empty containers.

US EPA Waste Number D002 D004 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.

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>California Hazardous Waste</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead, 7439-92-1</td>
<td>Toxic</td>
</tr>
<tr>
<td>Sulfuric acid, 7664-93-9</td>
<td>Toxic, Corrosive</td>
</tr>
</tbody>
</table>

14. TRANSPORT INFORMATION

<table>
<thead>
<tr>
<th>DOT Proper Shipping Name</th>
<th>Hazard Class</th>
<th>Not regulated</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N/A</td>
<td>Non regulated</td>
</tr>
<tr>
<td>TDG</td>
<td>Not regulated</td>
<td></td>
</tr>
<tr>
<td>MEX</td>
<td>Not regulated</td>
<td></td>
</tr>
<tr>
<td>ICAO</td>
<td>Not regulated</td>
<td></td>
</tr>
<tr>
<td>IATA Proper Shipping Name</td>
<td>Not regulated</td>
<td></td>
</tr>
<tr>
<td></td>
<td>N/A</td>
<td>Non regulated</td>
</tr>
<tr>
<td>IMDG/IMO Hazard Class</td>
<td>Not regulated</td>
<td></td>
</tr>
<tr>
<td></td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>RID</td>
<td>Not regulated</td>
<td></td>
</tr>
<tr>
<td>ADR</td>
<td>Not regulated</td>
<td></td>
</tr>
<tr>
<td>ADN</td>
<td>Not regulated</td>
<td></td>
</tr>
</tbody>
</table>

15. REGULATORY INFORMATION

International Inventories

TSCA Complies

DSL 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

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS No</th>
<th>Weight-%</th>
<th>SARA 313 - Threshold Values %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead - 7439-92-1</td>
<td>7439-92-1</td>
<td>60 - 100</td>
<td>0.1</td>
</tr>
<tr>
<td>Sulfuric acid - 7664-93-9</td>
<td>7664-93-9</td>
<td>10 - 30</td>
<td>1.0</td>
</tr>
</tbody>
</table>

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)

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CWA - Reportable Quantities</th>
<th>CWA - Toxic Pollutants</th>
<th>CWA - Priority Pollutants</th>
<th>CWA - Hazardous Substances</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead - 7439-92-1</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Sulfuric acid - 7664-93-9</td>
<td>1000 lb</td>
<td></td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

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)

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Hazardous Substances RQs</th>
<th>Extremely Hazardous Substances RQs</th>
<th>RQ</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead - 7439-92-1</td>
<td>10 lb</td>
<td>1000 lb</td>
<td>RQ 10 lb final RQ</td>
</tr>
<tr>
<td>Sulfuric acid - 7664-93-9</td>
<td>1000 lb</td>
<td></td>
<td>RQ 1000 lb final RQ</td>
</tr>
</tbody>
</table>

US State Regulations

California Proposition 65
This product contains the following Proposition 65 chemicals.

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>California Proposition 65</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead - 7439-92-1</td>
<td>Carcinogen</td>
</tr>
<tr>
<td></td>
<td>Developmental</td>
</tr>
<tr>
<td></td>
<td>Female Reproductive</td>
</tr>
<tr>
<td></td>
<td>Male Reproductive</td>
</tr>
<tr>
<td>Sulfuric acid - 7664-93-9</td>
<td>Carcinogen</td>
</tr>
<tr>
<td>Arsenic - 7440-38-2</td>
<td>Carcinogen</td>
</tr>
</tbody>
</table>

U.S. State Right-to-Know Regulations

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>New Jersey</th>
<th>Massachusetts</th>
<th>Pennsylvania</th>
<th>Rhode Island</th>
<th>Illinois</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead - 7439-92-1</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Sulfuric acid - 7664-93-9</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Antimony - 7440-36-0</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Arsenic - 7440-38-2</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>
# International Regulations

## Mexico

### National occupational exposure limits

<table>
<thead>
<tr>
<th>Component</th>
<th>Carcinogen Status</th>
<th>Exposure Limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead 7439-92-1 (60 - 100)</td>
<td>A3</td>
<td>Mexico: TWA 0.15 mg/m³</td>
</tr>
<tr>
<td>Sulfuric acid 7664-93-9 (10 - 30)</td>
<td>A2</td>
<td>Mexico: TWA 1 mg/m³</td>
</tr>
</tbody>
</table>

A2 - Suspected Human Carcinogen  
A3 - Confirmed Animal Carcinogen  
Mexico - Occupational Exposure Limits - Carcinogens

## Canada

**WHMIS Hazard Class**  
Non-controlled

## 16. OTHER INFORMATION

<table>
<thead>
<tr>
<th>NFPA</th>
<th>Health Hazards</th>
<th>Flammability</th>
<th>Instability</th>
<th>Physical and Chemical Hazards</th>
<th>Personal Protection</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>3</td>
<td>0</td>
<td>0</td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>HMIS</th>
<th>Health Hazards</th>
<th>Flammability</th>
<th>Physical Hazard</th>
<th>Instability</th>
<th>Physical and Chemical Hazards</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Prepared By  
Product Stewardship  
23 British American Blvd.  
Latham, NY 12110  
1-800-572-6501

Issuing Date  
19-Feb-2016

Revision Date  
19-Feb-2016

Revision Note  
No information available

**Disclaimer**

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet
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 3
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

Signal word

Danger

Hazard Statements
Harmful if swallowed
Harmful if inhaled
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

Appearance Colorless
Physical state Solid
Odor Odorless

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
0 % 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

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS No</th>
<th>Weight-%</th>
<th>Trade Secret</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead</td>
<td>7439-92-1</td>
<td>60 - 100</td>
<td>*</td>
</tr>
<tr>
<td>Sulfuric acid</td>
<td>7664-93-9</td>
<td>10 - 30</td>
<td>*</td>
</tr>
</tbody>
</table>

*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 breathing has stopped, give artificial respiration. Get medical attention immediately. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. If breathing is difficult, (trained personnel...
should) give oxygen. Delayed pulmonary edema may occur. Get medical attention immediately if symptoms occur.

**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 contact with skin, eyes or clothing. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Use personal protective equipment as required. Wear personal protective clothing (see section 8).

**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. Carbon dioxide (CO2). Water spray.

**Unsuitable extinguishing media**

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

**Specific hazards arising from the chemical**

The product causes burns of eyes, skin and mucous membranes. Thermal decomposition can lead to release of irritating gases and vapors.

| Uniform Fire Code | Toxic: Liquid  
|-------------------| Corrosive: Acid-Liquid |

**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, eyes or clothing. Ensure adequate ventilation. Use personal protective equipment as required. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

Other Information

Refer to protective measures listed in Sections 7 and 8.

Environmental precautions

Environmental precautions

Prevent further leakage or spillage if safe to do so. Should not be released into the environment. Do not allow to enter into soil/subsoil. Prevent product from entering drains.

Methods and material for containment and cleaning up

Methods for containment

Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers.

Methods for cleaning up

Soak up with inert absorbent material. 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


8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>ACGIH TLV</th>
<th>OSHA PEL</th>
<th>NIOSH IDLH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead 7439-92-1</td>
<td>TWA: 0.05 mg/m³</td>
<td>TWA: 50 µg/m³ TWA: 50 µg/m³</td>
<td>IDLH: 100 mg/m³ TWA: 0.050 mg/m³</td>
</tr>
<tr>
<td>Poison, See 29 CFR 1910.1025 Action Level: 30 µg/m³</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

IDLH: 100 mg/m³ TWA: 0.050 mg/m³ |
Sulfuric acid
7664-93-9

TWA: 0.2 mg/m³ thoracic fraction
TWA: 1 mg/m³

(vacated) TWA: 1 mg/m³
IDLH: 15 mg/m³

TWA: 1 mg/m³

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

Other Exposure Guidelines
Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962
(11th Cir., 1992)

Appropriate engineering controls

Engineering Measures
Showers
Eyewash stations
Ventilation systems

Individual protection measures, such as personal protective equipment

Eye/face protection
Face protection shield.

Skin and body protection
Wear protective gloves and protective clothing. Long sleeved clothing. Chemical resistant
apron. Impervious gloves.

Respiratory protection
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.

Hygiene Measures
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

<table>
<thead>
<tr>
<th>Property</th>
<th>Values</th>
<th>Remarks</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Solid</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Appearance</td>
<td>Colorless</td>
<td>Odor</td>
<td>Odorless</td>
</tr>
<tr>
<td>Color</td>
<td>No information available</td>
<td>Odor Threshold</td>
<td>No information available</td>
</tr>
<tr>
<td>pH</td>
<td>2</td>
<td>None known</td>
<td></td>
</tr>
<tr>
<td>Melting / freezing point</td>
<td>No data available</td>
<td>None known</td>
<td></td>
</tr>
<tr>
<td>Boiling point / boiling range</td>
<td>No data available</td>
<td>None known</td>
<td></td>
</tr>
<tr>
<td>Flash Point</td>
<td>No data available</td>
<td>None known</td>
<td></td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>No data available</td>
<td>None known</td>
<td></td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>No data available</td>
<td>None known</td>
<td></td>
</tr>
<tr>
<td>Flammability Limit in Air</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Upper flammability limit</td>
<td>No data available</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lower flammability limit</td>
<td>No data available</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>No data available</td>
<td>None known</td>
<td></td>
</tr>
<tr>
<td>Vapor density</td>
<td>No data available</td>
<td>None known</td>
<td></td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>1.27</td>
<td>None known</td>
<td></td>
</tr>
<tr>
<td>Water Solubility</td>
<td>Immiscible in water</td>
<td>None known</td>
<td></td>
</tr>
<tr>
<td>Solubility in other solvents</td>
<td>No data available</td>
<td>None known</td>
<td></td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>.7</td>
<td>None known</td>
<td></td>
</tr>
<tr>
<td>Autoignition temperature</td>
<td>No data available</td>
<td>None known</td>
<td></td>
</tr>
</tbody>
</table>
Explosive properties
No data available

Oxidizing properties
No data available

Other Information
Softening Point
No data available
VOC Content (%)
No data available
Particle Size
No data available
Particle Size Distribution

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

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. Toxic by inhalation. 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.

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. Causes burns. (based on components). Prolonged skin contact causes burns.

Ingestion
Specific test data for the substance or mixture is not available. Harmful if swallowed. 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.

Component Information

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Oral LD50</th>
<th>Dermal LD50</th>
<th>Inhalation LC50</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sulfuric acid</td>
<td>= 2140 mg/kg (Rat)</td>
<td>-</td>
<td>= 510 mg/m³ (Rat) 2 h</td>
</tr>
</tbody>
</table>

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.

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>ACGIH</th>
<th>IARC</th>
<th>NTP</th>
<th>OSHA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead</td>
<td>A3</td>
<td>Group 2A</td>
<td>Reasonably Anticipated</td>
<td>X</td>
</tr>
<tr>
<td>Sulfuric acid</td>
<td>A2</td>
<td>Group 1</td>
<td>Known</td>
<td>X</td>
</tr>
</tbody>
</table>

ACGIH (American Conference of Governmental Industrial Hygienists)
A2 - Suspected Human Carcinogen
A3 - Animal Carcinogen

IARC (International Agency for Research on Cancer)
Group 1 - Carcinogenic to Humans
Group 2A - Probably 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

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

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. 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**


**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)                  | 637.00 mg/kg |
| ATEmix (inhalation-gas)       | 6,000.00 ppm |
| ATEmix (inhalation-dust/mist) | 0.92 mg/l    |
| ATEmix (inhalation-vapor)     | 15.00 ATEmix |

### 12. ECOLOGICAL INFORMATION

**Ecotoxicity**

Very toxic to aquatic life with long lasting effects.

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

**Persistence and Degradability**

No information available.

**Bioaccumulation**

No information available

**Other adverse effects**

No information available.
13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal methods This material, as supplied, is a hazardous waste according to federal regulations (40 CFR 261).

Contaminated Packaging Do not reuse empty containers.

US EPA Waste Number D002 D004 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.

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>California Hazardous Waste</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead 7439-92-1</td>
<td>Toxic</td>
</tr>
<tr>
<td>Sulfuric acid 7664-93-9</td>
<td>Toxic Corrosive</td>
</tr>
</tbody>
</table>

14. TRANSPORT INFORMATION

DOT 

Proper Shipping Name NOT REGULATED NON REGULATED
Hazard Class N/A

TDG Not regulated

MEX Not regulated

ICAO Not regulated

IATA 

Proper Shipping Name NOT REGULATED NON REGULATED
Hazard Class N/A

IMDG/IMO Not regulated N/A

RID Not regulated

ADR Not regulated

ADN Not regulated

15. REGULATORY INFORMATION

International Inventories

TSCA Complies

DSL 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

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS No</th>
<th>Weight-%</th>
<th>SARA 313 - Threshold Values %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead - 7439-92-1</td>
<td>7439-92-1</td>
<td>60 - 100</td>
<td>0.1</td>
</tr>
<tr>
<td>Sulfuric acid - 7664-93-9</td>
<td>7664-93-9</td>
<td>10 - 30</td>
<td>1.0</td>
</tr>
</tbody>
</table>

**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)

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CWA - Reportable Quantities</th>
<th>CWA - Toxic Pollutants</th>
<th>CWA - Priority Pollutants</th>
<th>CWA - Hazardous Substances</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead 7439-92-1</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sulfuric acid 7664-93-9</td>
<td>1000 lb</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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)

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Hazardous Substances RQs</th>
<th>Extremely Hazardous Substances RQs</th>
<th>RQ</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead 7439-92-1</td>
<td>10 lb</td>
<td>1000 lb</td>
<td>RQ 10 lb final RQ</td>
</tr>
<tr>
<td>Sulfuric acid 7664-93-9</td>
<td>1000 lb</td>
<td></td>
<td>RQ 4500 lb final RQ</td>
</tr>
</tbody>
</table>

US State Regulations

California Proposition 65
This product contains the following Proposition 65 chemicals.

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>California Proposition 65</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead - 7439-92-1</td>
<td>Carcinogen</td>
</tr>
<tr>
<td>Sulfuric acid 7664-93-9</td>
<td>Developmental</td>
</tr>
<tr>
<td>Arsenic - 7440-38-2</td>
<td>Female Reproductive</td>
</tr>
<tr>
<td></td>
<td>Male Reproductive</td>
</tr>
</tbody>
</table>

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

Mexico
National occupational exposure limits

<table>
<thead>
<tr>
<th>Component</th>
<th>Carcinogen Status</th>
<th>Exposure Limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead</td>
<td>A3</td>
<td>Mexico: TWA= 0.15 mg/m³</td>
</tr>
<tr>
<td>7439-92-1 (60 - 100)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sulfuric acid</td>
<td>A2</td>
<td>Mexico: TWA 1 mg/m³</td>
</tr>
<tr>
<td>7664-93-9 (10 - 30)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

A2 - Suspected Human Carcinogen
A3 - Confirmed Animal Carcinogen
Mexico - Occupational Exposure Limits - Carcinogens

Canada
WHMIS Hazard Class
Non-controlled

16. OTHER INFORMATION

<table>
<thead>
<tr>
<th>NFPA</th>
<th>Health Hazards</th>
<th>Flammability</th>
<th>Instability</th>
<th>Physical and Chemical Hazards</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>Physical Hazard</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>HMIS</th>
<th>Health Hazards</th>
<th>Flammability</th>
<th>Physical Hazard</th>
<th>Personal Protection</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>X</td>
</tr>
</tbody>
</table>

Prepared By
Product Stewardship
23 British American Blvd.
Latham, NY 12110
1-800-572-6501

Issuing Date
19-Feb-2016

Revision Date
19-Feb-2016

Revision Note
No information available

Disclaimer
The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet
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.

<table>
<thead>
<tr>
<th>Acute toxicity - Oral</th>
<th>Category 4</th>
</tr>
</thead>
</table>

Acute toxicity - Oral Category 4
Acute toxicity - Inhalation (Vapors) | Category 4
---|---
Acute toxicity - Inhalation (Dusts/Mists) | Category 3
Skin corrosion/irritation | Category 1
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**

<table>
<thead>
<tr>
<th>Signal word</th>
<th>Danger</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hazard Statements</td>
<td></td>
</tr>
</tbody>
</table>
Harmful if swallowed
Harmful if inhaled
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

. 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.

**Appearance** | **Physical state** | **Odor**
---|---|---
Colorless | Solid | Odorless

**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
0% 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

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS No</th>
<th>Weight-%</th>
<th>Trade Secret</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead</td>
<td>7439-92-1</td>
<td>60 - 100</td>
<td>*</td>
</tr>
<tr>
<td>Sulfuric acid</td>
<td>7664-93-9</td>
<td>10 - 30</td>
<td>*</td>
</tr>
</tbody>
</table>

*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 breathing has stopped, give artificial respiration. Get medical attention immediately. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. If breathing is difficult, (trained personnel would perform artificial respiration with a resuscitation bag.)
should) give oxygen. Delayed pulmonary edema may occur. Get medical attention immediately if symptoms occur.

**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 contact with skin, eyes or clothing. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Use personal protective equipment as required. Wear personal protective clothing (see section 8).

**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. Carbon dioxide (CO2). Water spray.

**Unsuitable extinguishing media**
CAUTION: Use of water spray when fighting fire may be inefficient.

**Specific hazards arising from the chemical**
The product causes burns of eyes, skin and mucous membranes. Thermal decomposition can lead to release of irritating gases and vapors.

**Uniform Fire Code**
Toxic: Liquid
Corrosive: Acid-Liquid

**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, eyes or clothing. Ensure adequate ventilation. Use personal protective equipment as required. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

Other Information
Refer to protective measures listed in Sections 7 and 8.

Environmental precautions
Prevent further leakage or spillage if safe to do so. Should not be released into the environment. Do not allow to enter into soil/subsoil. Prevent product from entering drains.

Methods and material for containment and cleaning up

Methods for containment
Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers.

Methods for cleaning up
Soak up with inert absorbent material. 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

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>ACGIH TLV</th>
<th>OSHA PEL</th>
<th>NIOSH IDLH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead 7439-92-1</td>
<td>TWA: 0.05 mg/m³</td>
<td>TWA: 50 µg/m³ TWA: 50 µg/m³</td>
<td>IDLH: 100 mg/m³ TWA: 0.050 mg/m³</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Pb Action Level: 30 µg/m³ Poison, See 29 CFR 1910.1025 Action Level: 30 µg/m³ Pb Poison, See 29 CFR 1910.1025</td>
<td></td>
</tr>
</tbody>
</table>

Page 5 / 12
Other Exposure Guidelines
Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992)

Appropriate engineering controls

Engineering Measures
- Showers
- Eyewash stations
- Ventilation systems

Individual protection measures, such as personal protective equipment

Eye/face protection
Face protection shield.

Skin and body protection
Wear protective gloves and protective clothing. Long sleeved clothing. Chemical resistant apron. Impervious gloves.

Respiratory protection
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.

Hygiene Measures
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

<table>
<thead>
<tr>
<th>Property</th>
<th>Values</th>
<th>Remarks</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>pH</td>
<td>2</td>
<td>None known</td>
<td></td>
</tr>
<tr>
<td>Melting / freezing point</td>
<td>No data available</td>
<td>None known</td>
<td></td>
</tr>
<tr>
<td>Boiling point / boiling range</td>
<td>No data available</td>
<td>None known</td>
<td></td>
</tr>
<tr>
<td>Flash Point</td>
<td>No data available</td>
<td>None known</td>
<td></td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>No data available</td>
<td>None known</td>
<td></td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>No data available</td>
<td>None known</td>
<td></td>
</tr>
<tr>
<td>Flammability Limit in Air</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Upper flammability limit</td>
<td>No data available</td>
<td>None known</td>
<td></td>
</tr>
<tr>
<td>Lower flammability limit</td>
<td>No data available</td>
<td>None known</td>
<td></td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>No data available</td>
<td>None known</td>
<td></td>
</tr>
<tr>
<td>Vapor density</td>
<td>No data available</td>
<td>None known</td>
<td></td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>1.27</td>
<td>None known</td>
<td></td>
</tr>
<tr>
<td>Water Solubility</td>
<td>Immiscible in water</td>
<td>None known</td>
<td></td>
</tr>
<tr>
<td>Solubility in other solvents</td>
<td>No data available</td>
<td>None known</td>
<td></td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>7</td>
<td>None known</td>
<td></td>
</tr>
<tr>
<td>Autoignition temperature</td>
<td>No data available</td>
<td>None known</td>
<td></td>
</tr>
</tbody>
</table>
Exsposive properties
No data available

Oxidizing properties
No data available

Softening Point
No data available

VOC Content (%)
No data available

Particle Size
No data available

Particle Size Distribution

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

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. Toxic by inhalation. 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.

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. Causes burns. (based on components). Prolonged skin contact causes burns.

Ingestion
Specific test data for the substance or mixture is not available. Harmful if swallowed. 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.

Component Information

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Oral LD50</th>
<th>Dermal LD50</th>
<th>Inhalation LC50</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sulfuric acid</td>
<td>7664-93-9</td>
<td>= 2140 mg/kg (Rat)</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>= 510 mg/m³ (Rat) 2 h</td>
</tr>
</tbody>
</table>

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.

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>ACGIH</th>
<th>IARC</th>
<th>NTP</th>
<th>OSHA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead</td>
<td>7439-92-1</td>
<td>A3</td>
<td>Group 2A</td>
<td>X</td>
</tr>
<tr>
<td>Lead</td>
<td></td>
<td>Group 2A</td>
<td>Reasonably Anticipated</td>
<td>X</td>
</tr>
<tr>
<td>Sulfuric acid</td>
<td>7664-93-9</td>
<td>A2</td>
<td>Group 1</td>
<td></td>
</tr>
<tr>
<td>Sulfuric acid</td>
<td></td>
<td>Group 1</td>
<td>Known</td>
<td></td>
</tr>
</tbody>
</table>

ACGIH (American Conference of Governmental Industrial Hygienists)
A2 - Suspected Human Carcinogen
A3 - Animal Carcinogen

IARC (International Agency for Research on Cancer)
Group 1 - Carcinogenic to Humans
Group 2A - Probably 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
Contains a known or suspected reproductive toxin. Product is or contains a chemical which is a known or suspected reproductive hazard.

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. 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


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)    | 637.00 mg/kg |
| ATEmix (inhalation-gas) | 6,000.00 ppm |
| ATEmix (inhalation-dust/mist) | 0.92 mg/l |
| ATEmix (inhalation-vapor) | 15.00 ATEmix |

12. ECOLOGICAL INFORMATION

Ecotoxicity

Very toxic to aquatic life with long lasting effects.

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

Persistence and Degradability

No information available.

Bioaccumulation

No information available.

Other adverse effects

No information available.
13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal methods This material, as supplied, is a hazardous waste according to federal regulations (40 CFR 261).

Contaminated Packaging Do not reuse empty containers.

US EPA Waste Number D002 D004 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.

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>California Hazardous Waste</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead 7439-92-1</td>
<td>Toxic</td>
</tr>
<tr>
<td>Sulfuric acid 7664-93-9</td>
<td>Toxic, Corrosive</td>
</tr>
</tbody>
</table>

14. TRANSPORT INFORMATION

DOT  Proper Shipping Name NOT REGULATED
     Hazard Class NON REGULATED
     N/A

TDG Not regulated

MEX Not regulated

ICAO Not regulated

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

IMDG/IMO Hazard Class Not regulated
     N/A

RID Not regulated

ADR Not regulated

ADN Not regulated

15. REGULATORY INFORMATION

International Inventories

TSCA Complies

DSL 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

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS No</th>
<th>Weight-%</th>
<th>SARA 313 - Threshold Values %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead - 7439-92-1</td>
<td>7439-92-1</td>
<td>60 - 100</td>
<td>0.1</td>
</tr>
<tr>
<td>Sulfuric acid - 7664-93-9</td>
<td>7664-93-9</td>
<td>10 - 30</td>
<td>1.0</td>
</tr>
</tbody>
</table>

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)

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CWA - Reportable Quantities</th>
<th>CWA - Toxic Pollutants</th>
<th>CWA - Priority Pollutants</th>
<th>CWA - Hazardous Substances</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead 7439-92-1</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sulfuric acid 7664-93-9</td>
<td>1000 lb</td>
<td></td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

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)

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Hazardous Substances RQs</th>
<th>Extremely Hazardous Substances RQs</th>
<th>RQ</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead 7439-92-1</td>
<td>10 lb</td>
<td>1000 lb</td>
<td>RQ 10 lb final RQ</td>
</tr>
<tr>
<td>Sulfuric acid 7664-93-9</td>
<td>1000 lb</td>
<td></td>
<td>RQ 1000 lb final RQ</td>
</tr>
</tbody>
</table>

US State Regulations

California Proposition 65
This product contains the following Proposition 65 chemicals.

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>California Proposition 65</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead 7439-92-1</td>
<td>Carcinogen</td>
</tr>
<tr>
<td>Sulfuric acid 7664-93-9</td>
<td>Developmental</td>
</tr>
<tr>
<td></td>
<td>Female Reproductive</td>
</tr>
<tr>
<td></td>
<td>Male Reproductive</td>
</tr>
<tr>
<td>Arsenic 7440-38-2</td>
<td>Carcinogen</td>
</tr>
</tbody>
</table>

U.S. State Right-to-Know Regulations

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>New Jersey</th>
<th>Massachusetts</th>
<th>Pennsylvania</th>
<th>Rhode Island</th>
<th>Illinois</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead 7439-92-1</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Sulfuric acid 7664-93-9</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Antimony 7440-36-0</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Arsenic 7440-38-2</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>
### International Regulations

#### Mexico

National occupational exposure limits

<table>
<thead>
<tr>
<th>Component</th>
<th>Carcinogen Status</th>
<th>Exposure Limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead</td>
<td>A3</td>
<td>Mexico: TWA 0.15 mg/m³</td>
</tr>
<tr>
<td>7439-92-1 (60 - 100)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sulfuric acid</td>
<td>A2</td>
<td>Mexico: TWA 1 mg/m³</td>
</tr>
<tr>
<td>7664-93-9 (10 - 30)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

A2 - Suspected Human Carcinogen  
A3 - Confirmed Animal Carcinogen  
Mexico - Occupational Exposure Limits - Carcinogens

#### Canada

WHMIS Hazard Class  
Non-controlled

### 16. OTHER INFORMATION

<table>
<thead>
<tr>
<th>NFPA</th>
<th>Health Hazards</th>
<th>Flammability</th>
<th>Instability</th>
<th>Physical and Chemical Hazards</th>
<th>Personal Protection</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>3</td>
<td>0</td>
<td>0</td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>HMIS</th>
<th>Health Hazards</th>
<th>Flammability</th>
<th>Physical Hazard</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

Prepared By  
Product Stewardship  
23 British American Blvd.  
Latham, NY 12110  
1-800-572-6501

Issuing Date  
19-Feb-2016

Revision Date  
19-Feb-2016

Revision Note  
No information available

Disclaimer  
The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet
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 3
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**

**Signal word**: Danger

**Hazard Statements**
- Harmful if swallowed
- Harmful if inhaled
- 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

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.

**Appearance**: Colorless  **Physical state**: Solid  **Odor**: Odorless

**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
0 % 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

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS No</th>
<th>Weight-%</th>
<th>Trade Secret</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead</td>
<td>7439-92-1</td>
<td>60 - 100</td>
<td>*</td>
</tr>
<tr>
<td>Sulfuric acid</td>
<td>7664-93-9</td>
<td>10 - 30</td>
<td>*</td>
</tr>
</tbody>
</table>

*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 breathing has stopped, give artificial respiration. Get medical attention immediately. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. If breathing is difficult, (trained personnel

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should) give oxygen. Delayed pulmonary edema may occur. Get medical attention immediately if symptoms occur.

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 contact with skin, eyes or clothing. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Use personal protective equipment as required. Wear personal protective clothing (see section 8).

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. Carbon dioxide (CO2). Water spray.

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

Specific hazards arising from the chemical
The product causes burns of eyes, skin and mucous membranes. Thermal decomposition can lead to release of irritating gases and vapors.

Uniform Fire Code
Toxic: Liquid
Corrosive: Acid-Liquid

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, eyes or clothing. Ensure adequate ventilation. Use personal protective equipment as required. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

Other Information

Refer to protective measures listed in Sections 7 and 8.

Environmental precautions

Methods and material for containment and cleaning up

Methods for containment

Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers.

Methods for cleaning up

Soak up with inert absorbent material. 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


8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>ACGIH TLV</th>
<th>OSHA PEL</th>
<th>NIOSH IDLH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead</td>
<td>TWA: 0.05 mg/m³</td>
<td>TWA: 50 µg/m³, Action Level: 30 µg/m³ Pb</td>
<td>IDLH: 100 mg/m³, TWA: 0.050 mg/m³</td>
</tr>
<tr>
<td>7439-92-1</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Other Exposure Guidelines

Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992)

Appropriate engineering controls

Engineering Measures
- Showers
- Eyewash stations
- Ventilation systems

Individual protection measures, such as personal protective equipment

Eye/face protection
- Face protection shield.

Skin and body protection
- Wear protective gloves and protective clothing. Long sleeved clothing. Chemical resistant apron. Impervious gloves.

Respiratory protection
- 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.

Hygiene Measures
- 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

<table>
<thead>
<tr>
<th>Property</th>
<th>Values</th>
<th>Remarks Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>pH</td>
<td>2</td>
<td>None known</td>
</tr>
<tr>
<td>Melting / freezing point</td>
<td>No data available</td>
<td>None known</td>
</tr>
<tr>
<td>Boiling point / boiling range</td>
<td>No data available</td>
<td>None known</td>
</tr>
<tr>
<td>Flash Point</td>
<td>No data available</td>
<td>None known</td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>No data available</td>
<td>None known</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>No data available</td>
<td>None known</td>
</tr>
<tr>
<td>Flammability Limit in Air</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Upper flammability limit</td>
<td>No data available</td>
<td>None known</td>
</tr>
<tr>
<td>Lower flammability limit</td>
<td>No data available</td>
<td>None known</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>No data available</td>
<td>None known</td>
</tr>
<tr>
<td>Vapor density</td>
<td>No data available</td>
<td>None known</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>1.27</td>
<td>None known</td>
</tr>
<tr>
<td>Water Solubility</td>
<td>Immiscible in water</td>
<td>None known</td>
</tr>
<tr>
<td>Solubility in other solvents</td>
<td>No data available</td>
<td>None known</td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>.7</td>
<td>None known</td>
</tr>
<tr>
<td>Autoignition temperature</td>
<td>No data available</td>
<td>None known</td>
</tr>
</tbody>
</table>
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

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. Toxic by inhalation.
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.

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. Causes burns. (based on components). Prolonged skin contact causes burns.

Ingestion
Specific test data for the substance or mixture is not available. Harmful if swallowed. 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.

### Component Information

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Oral LD50</th>
<th>Dermal LD50</th>
<th>Inhalation LC50</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sulfuric acid</td>
<td>2140 mg/kg (Rat)</td>
<td>-</td>
<td>510 mg/m³ (Rat) 2 h</td>
</tr>
</tbody>
</table>

### 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.

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>ACGIH</th>
<th>IARC</th>
<th>NTP</th>
<th>OSHA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead</td>
<td>A3</td>
<td>Group 2A</td>
<td>Reasonably Anticipated</td>
<td>X</td>
</tr>
<tr>
<td>Sulfuric acid</td>
<td>A2</td>
<td>Group 1</td>
<td>Known</td>
<td>X</td>
</tr>
</tbody>
</table>

**ACGIH (American Conference of Governmental Industrial Hygienists)**

A2 - Suspected Human Carcinogen  
A3 - Animal Carcinogen

**IARC (International Agency for Research on Cancer)**

Group 1 - Carcinogenic to Humans  
Group 2A - Probably 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

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

#### Developmental Toxicity

Contains ingredients that have suspected developmental hazards.  
No information available.

#### STOT - single 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).

#### STOT - repeated exposure

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. 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
- Central Nervous System (CNS)
- Eyes
- Gastrointestinal tract (GI)
- Gingival Tissue
- Kidney
- Respiratory system
- Skin
- Teeth
- Systemic Toxicity
- Reproductive System

May damage the unborn child.

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)**
  - 637.00 mg/kg
- **ATEmix (inhalation-gas)**
  - 6,000.00 ppm
- **ATEmix (inhalation-dust/mist)**
  - 0.92 mg/l
- **ATEmix (inhalation-vapor)**
  - 15.00 ATEmix

12. ECOLOGICAL INFORMATION

**Ecotoxicity**

Very toxic to aquatic life with long lasting effects.

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

**Persistence and Degradability**

No information available.

**Bioaccumulation**

No information available.

**Other adverse effects**

No information available.
13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal methods
This material, as supplied, is a hazardous waste according to federal regulations (40 CFR 261).

Contaminated Packaging
Do not reuse empty containers.

US EPA Waste Number
D002 D004 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.

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>California Hazardous Waste</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead 7439-92-1</td>
<td>Toxic</td>
</tr>
<tr>
<td>Sulfuric acid 7664-93-9</td>
<td>Toxic, Corrosive</td>
</tr>
</tbody>
</table>

14. TRANSPORT INFORMATION

<table>
<thead>
<tr>
<th>DOT Proper Shipping Name</th>
<th>Hazard Class</th>
<th>TDG</th>
<th>MEX</th>
<th>ICAO</th>
<th>IATA Proper Shipping Name</th>
<th>Hazard Class</th>
<th>IMDG/IMO</th>
<th>RID</th>
<th>ADR</th>
<th>ADN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non Regulated</td>
<td>N/A</td>
<td>Not regulated</td>
<td>Not regulated</td>
<td>Not regulated</td>
<td>Not regulated</td>
<td>N/A</td>
<td>Not regulated</td>
<td>Not regulated</td>
<td>Not regulated</td>
<td>Not regulated</td>
</tr>
</tbody>
</table>

15. REGULATORY INFORMATION

International Inventories

TSCA
Complies

DSL
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

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS No</th>
<th>Weight-%</th>
<th>SARA 313 - Threshold Values %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead - 7439-92-1</td>
<td>7439-92-1</td>
<td>60 - 100</td>
<td>0.1</td>
</tr>
<tr>
<td>Sulfuric acid - 7664-93-9</td>
<td>7664-93-9</td>
<td>10 - 30</td>
<td>1.0</td>
</tr>
</tbody>
</table>

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)

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CWA - Reportable Quantities</th>
<th>CWA - Toxic Pollutants</th>
<th>CWA - Priority Pollutants</th>
<th>CWA - Hazardous Substances</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead - 7439-92-1</td>
<td></td>
<td>10 lb</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Sulfuric acid - 7664-93-9</td>
<td>1000 lb</td>
<td></td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

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)

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Hazardous Substances RQs</th>
<th>Extremely Hazardous Substances RQs</th>
<th>RQ</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead - 7439-92-1</td>
<td>10 lb</td>
<td>1000 lb</td>
<td>RQ 10 lb final RQ</td>
</tr>
<tr>
<td>Sulfuric acid - 7664-93-9</td>
<td>1000 lb</td>
<td></td>
<td>RQ 454 kg final RQ</td>
</tr>
</tbody>
</table>

US State Regulations

California Proposition 65
This product contains the following Proposition 65 chemicals.

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>California Proposition 65</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead - 7439-92-1</td>
<td>Carcinogen</td>
</tr>
<tr>
<td></td>
<td>Developmental</td>
</tr>
<tr>
<td></td>
<td>Female Reproductive</td>
</tr>
<tr>
<td></td>
<td>Male Reproductive</td>
</tr>
<tr>
<td>Sulfuric acid - 7664-93-9</td>
<td>Carcinogen</td>
</tr>
<tr>
<td>Arsenic - 7440-38-2</td>
<td>Carcinogen</td>
</tr>
</tbody>
</table>

U.S. State Right-to-Know Regulations
### International Regulations

**Mexico**

**National occupational exposure limits**

<table>
<thead>
<tr>
<th>Component</th>
<th>Carcinogen Status</th>
<th>Exposure Limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead 7439-92-1 (60 - 100)</td>
<td>A3</td>
<td>Mexico: TWA= 0.15 mg/m³</td>
</tr>
<tr>
<td>Sulfuric acid 7664-93-9 (10 - 30)</td>
<td>A2</td>
<td>Mexico: TWA 1 mg/m³</td>
</tr>
</tbody>
</table>

A2 - Suspected Human Carcinogen  
A3 - Confirmed Animal Carcinogen  
Mexico - Occupational Exposure Limits - Carcinogens

### Canada

**WHMIS Hazard Class**  
Non-controlled

## 16. OTHER INFORMATION

<table>
<thead>
<tr>
<th>NFPA</th>
<th>Health Hazards</th>
<th>Flammability</th>
<th>Instability</th>
<th>Physical and Chemical Hazards</th>
<th>Personal Protection</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>3</td>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>HMIS</th>
<th>Health Hazards</th>
<th>Flammability</th>
<th>Physical Hazard</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

**Prepared By**  
Product Stewardship  
23 British American Blvd.  
Latham, NY 12110  
1-800-572-6501

**Issuing Date**  
19-Feb-2016

**Revision Date**  
19-Feb-2016

**Revision Note**  
No information available

**Disclaimer**

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet
1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product identifier

Product Name BattNonSpillSams

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 East Penn Mfg.

Supplier Address Deka Rd
Lyon Station
PA
19536
US

Supplier Phone Number Phone: 610-682-6361
Fax: 610-682-1650
Contact Phone 610-682-6361

Supplier Email mgriffith@dekabatteries.com

Emergency telephone number

Company Emergency Phone Number 610-682-6361

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
<table>
<thead>
<tr>
<th>Hazard Statement</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity - Inhalation (Vapors)</td>
<td>Category 4</td>
</tr>
<tr>
<td>Acute toxicity - Inhalation (Dusts/Mists)</td>
<td>Category 3</td>
</tr>
<tr>
<td>Skin corrosion/irritation</td>
<td>Category 3</td>
</tr>
<tr>
<td>Serious eye damage/eye irritation</td>
<td>Category 1</td>
</tr>
<tr>
<td>Carcinogenicity</td>
<td>Category 1A</td>
</tr>
<tr>
<td>Reproductive Toxicity</td>
<td>Category 1A</td>
</tr>
<tr>
<td>Specific target organ toxicity (repeated exposure)</td>
<td>Category 1</td>
</tr>
</tbody>
</table>

**GHS Label elements, including precautionary statements**

**Emergency Overview**

<table>
<thead>
<tr>
<th>Signal word</th>
<th>Danger</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hazard Statements</td>
<td></td>
</tr>
<tr>
<td>Harmful if swallowed</td>
<td></td>
</tr>
<tr>
<td>Harmful if inhaled</td>
<td></td>
</tr>
<tr>
<td>Toxic if inhaled</td>
<td></td>
</tr>
<tr>
<td>Causes severe skin burns and eye damage</td>
<td></td>
</tr>
<tr>
<td>May cause cancer</td>
<td></td>
</tr>
<tr>
<td>May damage fertility or the unborn child</td>
<td></td>
</tr>
<tr>
<td>Causes damage to organs through prolonged or repeated exposure</td>
<td></td>
</tr>
</tbody>
</table>

. 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.

<table>
<thead>
<tr>
<th>Appearance</th>
<th>Physical state</th>
<th>Odor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colorless</td>
<td>Solid</td>
<td>Odorless</td>
</tr>
</tbody>
</table>

**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
0 % 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

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS No</th>
<th>Weight-%</th>
<th>Trade Secret</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead</td>
<td>7439-92-1</td>
<td>60 - 100</td>
<td>*</td>
</tr>
<tr>
<td>Sulfuric acid</td>
<td>7664-93-9</td>
<td>10 - 30</td>
<td>*</td>
</tr>
</tbody>
</table>

*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 breathing has stopped, give artificial respiration. Get medical attention immediately. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. If breathing is difficult, (trained personnel...
should give oxygen. Delayed pulmonary edema may occur. Get medical attention immediately if symptoms occur.

**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 contact with skin, eyes or clothing. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Use personal protective equipment as required. Wear personal protective clothing (see section 8).

**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. Carbon dioxide (CO2). Water spray.

**Unsuitable extinguishing media**

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

**Specific hazards arising from the chemical**

The product causes burns of eyes, skin and mucous membranes. Thermal decomposition can lead to release of irritating gases and vapors.

**Uniform Fire Code**

Toxic: Liquid
Corrosive: Acid-Liquid

**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, eyes or clothing. Ensure adequate ventilation. Use personal protective equipment as required. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

Other Information  
Refer to protective measures listed in Sections 7 and 8.

Environmental precautions

Environmental precautions  
Prevent further leakage or spillage if safe to do so. Should not be released into the environment. Do not allow to enter into soil/subsoil. Prevent product from entering drains.

Methods and material for containment and cleaning up

Methods for containment  
Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers.

Methods for cleaning up  
Soak up with inert absorbent material. 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  

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>ACGIH TLV</th>
<th>OSHA PEL</th>
<th>NIOSH IDLH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead 7439-92-1</td>
<td>TWA: 0.05 mg/m³</td>
<td>TWA: 50 µg/m³ TWA: 50 µg/m³</td>
<td>IDLH: 100 mg/m³ TWA: 0.050 mg/m³</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Pb</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Action Level: 30 µg/m³ Poison, See 29 CFR 1910.1025</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Pb</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Action Level: 30 µg/m³ Poison, See 29 CFR 1910.1025</td>
<td></td>
</tr>
</tbody>
</table>
**Sulfuric acid** 7664-93-9

<table>
<thead>
<tr>
<th>Property</th>
<th>Values</th>
<th>Remarks</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>TWA: 0.2 mg/m³ thoracic fraction</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TWA: 1 mg/m³ (vacated) TWA: 1 mg/m³</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IDLH: 15 mg/m³ TWA: 1 mg/m³</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

Other Exposure Guidelines
Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992)

**Appropriate engineering controls**

**Engineering Measures**
Showers
Eyewash stations
Ventilation systems

**Individual protection measures, such as personal protective equipment**

**Eye/face protection**
Face protection shield.

**Skin and body protection**
Wear protective gloves and protective clothing. Long sleeved clothing. Chemical resistant apron. Impervious gloves.

**Respiratory protection**
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.

**Hygiene Measures**
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**

**Physical state**
Solid

**Appearance**
Colorless

**Color**
No information available

**Odor**
Odorless

**Odor Threshold**
No information available

**Properties**

<table>
<thead>
<tr>
<th>Property</th>
<th>Values</th>
<th>Remarks</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>pH</td>
<td>2</td>
<td>None known</td>
<td></td>
</tr>
<tr>
<td>Melting / freezing point</td>
<td>No data available</td>
<td>None known</td>
<td></td>
</tr>
<tr>
<td>Boiling point / boiling range</td>
<td>No data available</td>
<td>None known</td>
<td></td>
</tr>
<tr>
<td>Flash Point</td>
<td>No data available</td>
<td>None known</td>
<td></td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>No data available</td>
<td>None known</td>
<td></td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>No data available</td>
<td>None known</td>
<td></td>
</tr>
<tr>
<td>Flammability Limit in Air</td>
<td>No data available</td>
<td>None known</td>
<td></td>
</tr>
<tr>
<td>Upper flammability limit</td>
<td>No data available</td>
<td>None known</td>
<td></td>
</tr>
<tr>
<td>Lower flammability limit</td>
<td>No data available</td>
<td>None known</td>
<td></td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>No data available</td>
<td>None known</td>
<td></td>
</tr>
<tr>
<td>Vapor density</td>
<td>No data available</td>
<td>None known</td>
<td></td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>1.27</td>
<td>None known</td>
<td></td>
</tr>
<tr>
<td>Water Solubility</td>
<td>Immiscible in water</td>
<td>None known</td>
<td></td>
</tr>
<tr>
<td>Solubility in other solvents</td>
<td>No data available</td>
<td>None known</td>
<td></td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>.7</td>
<td>None known</td>
<td></td>
</tr>
<tr>
<td>Autoignition temperature</td>
<td>No data available</td>
<td>None known</td>
<td></td>
</tr>
</tbody>
</table>
Explosive properties
No data available

Oxidizing properties
No data available

Other Information
Softening Point
No data available
VOC Content (%)
No data available
Particle Size
No data available
Particle Size Distribution
None known

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

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. Toxic by inhalation. 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.

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. Causes burns. (based on components). Prolonged skin contact causes burns.

Ingestion
Specific test data for the substance or mixture is not available. Harmful if swallowed. 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.

Component Information

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Oral LD50</th>
<th>Dermal LD50</th>
<th>Inhalation LC50</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sulfuric acid</td>
<td>$= 2140 \text{ mg/kg (Rat)}$</td>
<td>-</td>
<td>$= 510 \text{ mg/m}^3 \text{ (Rat) 2 h}$</td>
</tr>
</tbody>
</table>

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.

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>ACGIH</th>
<th>IARC</th>
<th>NTP</th>
<th>OSHA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead 7439-92-1</td>
<td>A3</td>
<td>Group 2A</td>
<td>Reasonably Anticipated</td>
<td>X</td>
</tr>
<tr>
<td>Sulfuric acid 7664-93-9</td>
<td>A2</td>
<td>Group 1</td>
<td>Known</td>
<td>X</td>
</tr>
</tbody>
</table>

ACGIH (American Conference of Governmental Industrial Hygienists)
A2 - Suspected Human Carcinogen
A3 - Animal Carcinogen

IARC (International Agency for Research on Cancer)
Group 1 - Carcinogenic to Humans
Group 2A - Probably 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

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

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. 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

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)
637.00 mg/kg
ATEmix (inhalation-gas)
6,000.00 ppm
ATEmix (inhalation-dust/mist)
0.92 mg/l
ATEmix (inhalation-vapor)
15.00 ATEmix

12. ECOLOGICAL INFORMATION
Ecotoxicity
Very toxic to aquatic life with long lasting effects.

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

Persistence and Degradability
No information available.

Bioaccumulation
No information available

Other adverse effects
No information available.
13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal methods
This material, as supplied, is a hazardous waste according to federal regulations (40 CFR 261).

Contaminated Packaging
Do not reuse empty containers.

US EPA Waste Number
D002 D004 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.

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>California Hazardous Waste</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead 7439-92-1</td>
<td>Toxic</td>
</tr>
<tr>
<td>Sulfuric acid 7664-93-9</td>
<td>Toxic Corrosive</td>
</tr>
</tbody>
</table>

14. TRANSPORT INFORMATION

<table>
<thead>
<tr>
<th>DOT</th>
<th>Proper Shipping Name</th>
<th>Hazard Class</th>
<th>TDG</th>
<th>MEX</th>
<th>ICAO</th>
<th>IATA</th>
<th>IMDG/IMO</th>
<th>RID</th>
<th>ADR</th>
<th>ADN</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Not regulated</td>
<td></td>
<td>Not regulated</td>
<td>Not regulated</td>
<td>Not regulated</td>
<td>Not regulated</td>
<td>Not regulated</td>
<td>Not regulated</td>
<td>Not regulated</td>
<td></td>
</tr>
</tbody>
</table>

15. REGULATORY INFORMATION

International Inventories

<table>
<thead>
<tr>
<th>TSCA</th>
<th>DSL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Complies</td>
<td>All components are listed either on the DSL or NDSL.</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS No</th>
<th>Weight-%</th>
<th>SARA 313 - Threshold Values %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead - 7439-92-1</td>
<td>7439-92-1</td>
<td>60 - 100</td>
<td>0.1</td>
</tr>
<tr>
<td>Sulfuric acid - 7664-93-9</td>
<td>7664-93-9</td>
<td>10 - 30</td>
<td>1.0</td>
</tr>
</tbody>
</table>

SARA 311/312 Hazard Categories

<table>
<thead>
<tr>
<th>Category</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute Health Hazard</td>
<td></td>
</tr>
<tr>
<td>Chronic Health Hazard</td>
<td></td>
</tr>
<tr>
<td>Fire Hazard</td>
<td></td>
</tr>
<tr>
<td>Sudden release of pressure hazard</td>
<td></td>
</tr>
<tr>
<td>Reactive Hazard</td>
<td></td>
</tr>
</tbody>
</table>

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)

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CWA - Reportable Quantities</th>
<th>CWA - Toxic Pollutants</th>
<th>CWA - Priority Pollutants</th>
<th>CWA - Hazardous Substances</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead 7439-92-1</td>
<td>X</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Sulfuric acid 7664-93-9</td>
<td>1000 lb</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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)

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Hazardous Substances RQs</th>
<th>Extremely Hazardous Substances RQs</th>
<th>RQ</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead 7439-92-1</td>
<td>10 lb</td>
<td>1000 lb</td>
<td>RQ 10 lb final RQ</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>RQ 4.54 kg final RQ</td>
</tr>
<tr>
<td>Sulfuric acid 7664-93-9</td>
<td>1000 lb</td>
<td>1000 lb</td>
<td>RQ 1000 lb final RQ</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>RQ 454 kg final RQ</td>
</tr>
</tbody>
</table>

US State Regulations

California Proposition 65
This product contains the following Proposition 65 chemicals.

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>California Proposition 65</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead - 7439-92-1</td>
<td>Carcinogen</td>
</tr>
<tr>
<td></td>
<td>Developmental</td>
</tr>
<tr>
<td></td>
<td>Female Reproductive</td>
</tr>
<tr>
<td></td>
<td>Male Reproductive</td>
</tr>
<tr>
<td>Sulfuric acid 7664-93-9</td>
<td>Carcinogen</td>
</tr>
</tbody>
</table>

U.S. State Right-to-Know Regulations

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>New Jersey</th>
<th>Massachusetts</th>
<th>Pennsylvania</th>
<th>Rhode Island</th>
<th>Illinois</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead 7439-92-1</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Sulfuric acid 7664-93-9</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Antimony 7440-36-0</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Arsenic</td>
<td>X</td>
<td>X</td>
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</tbody>
</table>
International Regulations

Mexico
National occupational exposure limits

<table>
<thead>
<tr>
<th>Component</th>
<th>Carcinogen Status</th>
<th>Exposure Limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead 7439-92-1 (60 - 100)</td>
<td>A3</td>
<td>Mexico: TWA= 0.15 mg/m³</td>
</tr>
<tr>
<td>Sulfuric acid 7664-93-9 (10 - 30)</td>
<td>A2</td>
<td>Mexico: TWA 1 mg/m³</td>
</tr>
</tbody>
</table>

A2 - Suspected Human Carcinogen
A3 - Confirmed Animal Carcinogen
Mexico - Occupational Exposure Limits - Carcinogens

Canada
WHMIS Hazard Class
Non-controlled

16. OTHER INFORMATION

<table>
<thead>
<tr>
<th>NFPA</th>
<th>Health Hazards</th>
<th>Flammability</th>
<th>Instability</th>
<th>Physical and Chemical Hazards</th>
<th>Physical Hazard</th>
<th>Personal Protection</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>3</td>
<td>0</td>
<td>0</td>
<td></td>
<td>0</td>
<td>X</td>
</tr>
</tbody>
</table>

HMIS

<table>
<thead>
<tr>
<th>Health Hazards</th>
<th>Flammability</th>
<th>Physical Hazard</th>
<th>Personal Protection</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
<td>X</td>
</tr>
</tbody>
</table>

Prepared By
Product Stewardship
23 British American Blvd.
Latham, NY 12110
1-800-572-6501

Issuing Date
19-Feb-2016

Revision Date
19-Feb-2016

Revision Note
No information available

Disclaimer
The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet
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.

<table>
<thead>
<tr>
<th>Acute toxicity - Oral</th>
<th>Category 4</th>
</tr>
</thead>
</table>

Synonyms

None
Acute toxicity - Inhalation (Vapors)  Category 4
Acute toxicity - Inhalation (Dusts/Mists)  Category 3
Skin corrosion/irritation  Category 3
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

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

Revision Date 19-Feb-2016
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
0 % 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

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS No</th>
<th>Weight-%</th>
<th>Trade Secret</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead</td>
<td>7439-92-1</td>
<td>60 - 100</td>
<td>*</td>
</tr>
<tr>
<td>Sulfuric acid</td>
<td>7664-93-9</td>
<td>10 - 30</td>
<td>*</td>
</tr>
</tbody>
</table>

*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 breathing has stopped, give artificial respiration. Get medical attention immediately. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. If breathing is difficult, (trained personnel
should) give oxygen. Delayed pulmonary edema may occur. Get medical attention immediately if symptoms occur.

**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 contact with skin, eyes or clothing. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Use personal protective equipment as required. Wear personal protective clothing (see section 8).

### 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**

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. Carbon dioxide (CO2). Water spray.

**Unsuitable extinguishing media**

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

**Specific hazards arising from the chemical**

The product causes burns of eyes, skin and mucous membranes. Thermal decomposition can lead to release of irritating gases and vapors.

#### Uniform Fire Code

Toxic: Liquid
Corrosive: Acid-Liquid

#### 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, eyes or clothing. Ensure adequate ventilation. Use personal protective equipment as required. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

Other Information
Refer to protective measures listed in Sections 7 and 8.

Environmental precautions

Prevent further leakage or spillage if safe to do so. Should not be released into the environment. Do not allow to enter into soil/subsoil. Prevent product from entering drains.

Methods and material for containment and cleaning up

Methods for containment
Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers.

Methods for cleaning up
Soak up with inert absorbent material. 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

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>ACGIH TLV</th>
<th>OSHA PEL</th>
<th>NIOSH IDLH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead 7439-92-1</td>
<td>TWA: 0.05 mg/m³</td>
<td>TWA: 50 µg/m³ Pb</td>
<td>IDLH: 100 mg/m³</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Action Level: 30 µg/m³ Poison, See 29 CFR 1910.1025</td>
<td>TWA: 0.050 mg/m³</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Action Level: 30 µg/m³ Pb Poison, See 29 CFR 1910.1025</td>
<td></td>
</tr>
</tbody>
</table>
### 9. PHYSICAL AND CHEMICAL PROPERTIES

**Physical and Chemical Properties**

<table>
<thead>
<tr>
<th>Property</th>
<th>Values</th>
<th>Remarks</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Physical state</strong></td>
<td>Solid</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Appearance</strong></td>
<td>Colorless</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Color</strong></td>
<td>No information available</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Odor</strong></td>
<td>Odorless</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Odor Threshold</strong></td>
<td>No information available</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>pH</strong></td>
<td>2</td>
<td>None known</td>
<td></td>
</tr>
<tr>
<td><strong>Melting / freezing point</strong></td>
<td>No data available</td>
<td>None known</td>
<td></td>
</tr>
<tr>
<td><strong>Boiling point / boiling range</strong></td>
<td>No data available</td>
<td>None known</td>
<td></td>
</tr>
<tr>
<td><strong>Flash Point</strong></td>
<td>No data available</td>
<td>None known</td>
<td></td>
</tr>
<tr>
<td><strong>Evaporation Rate</strong></td>
<td>No data available</td>
<td>None known</td>
<td></td>
</tr>
<tr>
<td><strong>Flammability (solid, gas)</strong></td>
<td>No data available</td>
<td>None known</td>
<td></td>
</tr>
<tr>
<td><strong>Flammability Limit in Air</strong></td>
<td></td>
<td>None known</td>
<td></td>
</tr>
<tr>
<td>Upper flammability limit</td>
<td>No data available</td>
<td>None known</td>
<td></td>
</tr>
<tr>
<td>Lower flammability limit</td>
<td>No data available</td>
<td>None known</td>
<td></td>
</tr>
<tr>
<td><strong>Vapor pressure</strong></td>
<td>No data available</td>
<td>None known</td>
<td></td>
</tr>
<tr>
<td><strong>Vapor density</strong></td>
<td>No data available</td>
<td>None known</td>
<td></td>
</tr>
<tr>
<td><strong>Specific Gravity</strong></td>
<td>1.27</td>
<td>None known</td>
<td></td>
</tr>
<tr>
<td><strong>Water Solubility</strong></td>
<td>Immiscible in water</td>
<td>None known</td>
<td></td>
</tr>
<tr>
<td><strong>Solubility in other solvents</strong></td>
<td>No data available</td>
<td>None known</td>
<td></td>
</tr>
<tr>
<td><strong>Partition coefficient: n-octanol/water</strong></td>
<td>.7</td>
<td>None known</td>
<td></td>
</tr>
<tr>
<td><strong>Autoignition temperature</strong></td>
<td>No data available</td>
<td>None known</td>
<td></td>
</tr>
</tbody>
</table>
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


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. Toxic by inhalation. 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.

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. Causes burns. (based on components). Prolonged skin contact causes burns.

Ingestion

Specific test data for the substance or mixture is not available. Harmful if swallowed. 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.

Component Information

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Oral LD50</th>
<th>Dermal LD50</th>
<th>Inhalation LC50</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sulfuric acid</td>
<td>2140 mg/kg (Rat)</td>
<td>-</td>
<td>510 mg/m³ (Rat) 2 h</td>
</tr>
</tbody>
</table>

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.

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>ACGIH</th>
<th>IARC</th>
<th>NTP</th>
<th>OSHA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead 7439-92-1</td>
<td>A3</td>
<td>Group 2A</td>
<td>Reasonably Anticipated</td>
<td>X</td>
</tr>
<tr>
<td>Sulfuric acid 7664-93-9</td>
<td>A2</td>
<td>Group 1</td>
<td>Known</td>
<td>X</td>
</tr>
</tbody>
</table>

ACGIH (American Conference of Governmental Industrial Hygienists)
- A2 - Suspected Human Carcinogen
- A3 - Animal Carcinogen

IARC (International Agency for Research on Cancer)
- Group 1 - Carcinogenic to Humans
- Group 2A - Probably 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

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

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. 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


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)

637.00 mg/kg

ATEmix (inhalation-gas)

6,000.00 ppm

ATEmix (inhalation-dust/mist)

0.92 mg/l

ATEmix (inhalation-vapor)

15.00 ATEmix

12. ECOLOGICAL INFORMATION

Ecotoxicity

Very toxic to aquatic life with long lasting effects.

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

Persistence and Degradability

No information available.

Bioaccumulation

No information available

Other adverse effects

No information available.
13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal methods  This material, as supplied, is a hazardous waste according to federal regulations (40 CFR 261).

Contaminated Packaging  Do not reuse empty containers.

US EPA Waste Number  D002 D004 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.

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>California Hazardous Waste</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead 7439-92-1</td>
<td>Toxic</td>
</tr>
<tr>
<td>Sulfuric acid 7664-93-9</td>
<td>Toxic, Corrosive</td>
</tr>
</tbody>
</table>

14. TRANSPORT INFORMATION

DOT

Proper Shipping Name  NOT REGULATED
Hazard Class  NON REGULATED
Hazard Class  N/A

TDG  Not regulated

MEX  Not regulated

ICAO  Not regulated

IATA

Proper Shipping Name  NOT REGULATED
Hazard Class  NON REGULATED
Hazard Class  N/A

IMDG/IMO

Hazard Class  Not regulated
Hazard Class  N/A

RID  Not regulated

ADR  Not regulated

ADN  Not regulated

15. REGULATORY INFORMATION

International Inventories

TSCA  Complies
SDL  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

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS No</th>
<th>Weight-%</th>
<th>SARA 313 - Threshold Values %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead - 7439-92-1</td>
<td>7439-92-1</td>
<td>60 - 100</td>
<td>0.1</td>
</tr>
<tr>
<td>Sulfuric acid - 7664-93-9</td>
<td>7664-93-9</td>
<td>10 - 30</td>
<td>1.0</td>
</tr>
</tbody>
</table>

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)

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CWA - Reportable Quantities</th>
<th>CWA - Toxic Pollutants</th>
<th>CWA - Priority Pollutants</th>
<th>CWA - Hazardous Substances</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead</td>
<td>7439-92-1</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Sulfuric acid</td>
<td>7664-93-9</td>
<td>1000 lb</td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

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)

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Hazardous Substances RQs</th>
<th>Extremely Hazardous Substances RQs</th>
<th>RQ</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead</td>
<td>10 lb</td>
<td>1000 lb</td>
<td>RQ 10 lb final RQ</td>
</tr>
<tr>
<td>Sulfuric acid</td>
<td>1000 lb</td>
<td>1000 lb</td>
<td>RQ 4.54 kg final RQ</td>
</tr>
</tbody>
</table>

US State Regulations

California Proposition 65
This product contains the following Proposition 65 chemicals.

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>California Proposition 65</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead - 7439-92-1</td>
<td>Carcinogen</td>
</tr>
<tr>
<td></td>
<td>Developmental</td>
</tr>
<tr>
<td></td>
<td>Female Reproductive</td>
</tr>
<tr>
<td></td>
<td>Male Reproductive</td>
</tr>
<tr>
<td>Sulfuric acid - 7664-93-9</td>
<td>Carcinogen</td>
</tr>
<tr>
<td>Arsenic - 7440-38-2</td>
<td>Carcinogen</td>
</tr>
</tbody>
</table>

U.S. State Right-to-Know Regulations

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>New Jersey</th>
<th>Massachusetts</th>
<th>Pennsylvania</th>
<th>Rhode Island</th>
<th>Illinois</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Sulfuric acid</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Antimony</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Arsenic</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>
International Regulations

Mexico
National occupational exposure limits

<table>
<thead>
<tr>
<th>Component</th>
<th>Carcinogen Status</th>
<th>Exposure Limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead 7439-92-1 (60 - 100)</td>
<td>A3</td>
<td>Mexico: TWA= 0.15 mg/m³</td>
</tr>
<tr>
<td>Sulfuric acid 7664-93-9 (10 - 30)</td>
<td>A2</td>
<td>Mexico: TWA 1 mg/m³</td>
</tr>
</tbody>
</table>

A2 - Suspected Human Carcinogen
A3 - Confirmed Animal Carcinogen
Mexico - Occupational Exposure Limits - Carcinogens

Canada
WHMIS Hazard Class
Non-controlled

16. OTHER INFORMATION

<table>
<thead>
<tr>
<th>NFPA</th>
<th>Health Hazards</th>
<th>Flammability</th>
<th>Instability</th>
<th>Physical and Chemical Hazards - Personal Protection</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>X</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>HMIS</th>
<th>Health Hazards</th>
<th>Flammability</th>
<th>Physical Hazard</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>X</td>
</tr>
</tbody>
</table>

Prepared By
Product Stewardship
23 British American Blvd.
Latham, NY 12110
1-800-572-6501

Issuing Date
19-Feb-2016

Revision Date
19-Feb-2016

Revision Note
No information available

Disclaimer
The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet
SAFETY DATA SHEET

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

Product identifier

Product Name BattNonSpillSams

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 East Penn Mfg.

Supplier Address Deka Rd
Lyon Station
PA
19536
US

Supplier Phone Number Phone: 610-682-6361
Fax: 610-682-1650
Contact Phone 610-682-6361

Supplier Email mgriffith@dekabatteries.com

Emergency telephone number

Company Emergency Phone Number 610-682-6361

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 3
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

Signal word Danger

Hazard Statements
Harmful if swallowed
Harmful if inhaled
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

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.

Appearance Colorless Physical state Solid Odor Odorless

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
0 % 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

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS No</th>
<th>Weight-%</th>
<th>Trade Secret</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead</td>
<td>7439-92-1</td>
<td>60 - 100</td>
<td>*</td>
</tr>
<tr>
<td>Sulfuric acid</td>
<td>7664-93-9</td>
<td>10 - 30</td>
<td>*</td>
</tr>
</tbody>
</table>

*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 breathing has stopped, give artificial respiration. Get medical attention immediately. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. If breathing is difficult, (trained personnel
should) give oxygen. Delayed pulmonary edema may occur. Get medical attention immediately if symptoms occur.

**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 contact with skin, eyes or clothing. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Use personal protective equipment as required. Wear personal protective clothing (see section 8).

**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. Carbon dioxide (CO2). Water spray.

**Unsuitable extinguishing media**

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

**Specific hazards arising from the chemical**

The product causes burns of eyes, skin and mucous membranes. Thermal decomposition can lead to release of irritating gases and vapors.

**Uniform Fire Code**

Toxic: Liquid

Corrosive: Acid-Liquid

**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, eyes or clothing. Ensure adequate ventilation. Use personal protective equipment as required. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

Other Information
Refer to protective measures listed in Sections 7 and 8.

Environmental precautions

Methods and material for containment and cleaning up

Methods for containment
Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers.

Methods for cleaning up
Soak up with inert absorbent material. 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

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>ACGIH TLV</th>
<th>OSHA PEL</th>
<th>NIOSH IDLH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead</td>
<td>TWA: 0.05 mg/m³</td>
<td>TWA: 50 µg/m³</td>
<td>IDLH: 100 mg/m³</td>
</tr>
<tr>
<td>7439-92-1</td>
<td>Action Level: 30 µg/m³ Poison, See 29 CFR 1910.1025 Action Level: 30 µg/m³ Pb Poison, See 29 CFR 1910.1025</td>
<td>TWA: 50 µg/m³ Pb</td>
<td>TWA: 0.050 mg/m³</td>
</tr>
</tbody>
</table>

Revision Date 19-Feb-2016

BattNonSpillSams 1043641
Sulfuric acid
7664-93-9

<table>
<thead>
<tr>
<th></th>
<th>TWA: 0.2 mg/m³ thoracic fraction</th>
<th>TWA: 1 mg/m³ (vacated) TWA: 1 mg/m³</th>
<th>IDLH: 15 mg/m³ TWA: 1 mg/m³</th>
</tr>
</thead>
</table>

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

Other Exposure Guidelines
Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962
(11th Cir., 1992)

Appropriate engineering controls

Engineering Measures
Showers
Eyewash stations
Ventilation systems

Individual protection measures, such as personal protective equipment

Eye/face protection
Face protection shield.

Skin and body protection
Wear protective gloves and protective clothing. Long sleeved clothing. Chemical resistant
apron. Impervious gloves.

Respiratory protection
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.

Hygiene Measures
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

<table>
<thead>
<tr>
<th>Property</th>
<th>Values</th>
<th>Remarks</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Solid</td>
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<td></td>
</tr>
<tr>
<td>Appearance</td>
<td>Colorless</td>
<td></td>
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</tr>
<tr>
<td>Color</td>
<td>No information available</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Odor</td>
<td>Odorless</td>
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<tr>
<td>Odor Threshold</td>
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<td></td>
</tr>
<tr>
<td>pH</td>
<td>2</td>
<td>None known</td>
<td></td>
</tr>
<tr>
<td>Melting / freezing point</td>
<td>No data available</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Boiling point / boiling range</td>
<td>No data available</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flash Point</td>
<td>No data available</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>No data available</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>No data available</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flammability Limit in Air</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Upper flammability limit</td>
<td>No data available</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lower flammability limit</td>
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<tr>
<td>Vapor pressure</td>
<td>No data available</td>
<td></td>
<td>None known</td>
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<tr>
<td>Vapor density</td>
<td>No data available</td>
<td></td>
<td>None known</td>
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<tr>
<td>Specific Gravity</td>
<td>1.27</td>
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<tr>
<td>Water Solubility</td>
<td>Immiscible in water</td>
<td>None known</td>
<td></td>
</tr>
<tr>
<td>Solubility in other solvents</td>
<td>No data available</td>
<td>None known</td>
<td></td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>.7</td>
<td>None known</td>
<td></td>
</tr>
<tr>
<td>Autoignition temperature</td>
<td>No data available</td>
<td>None known</td>
<td></td>
</tr>
</tbody>
</table>
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


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. Toxic by inhalation. 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.

**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. Causes burns. (based on components). Prolonged skin contact causes burns.

**Ingestion**

Specific test data for the substance or mixture is not available. Harmful if swallowed. 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.

Component Information

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Oral LD50</th>
<th>Dermal LD50</th>
<th>Inhalation LC50</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sulfuric acid</td>
<td>7664-93-9</td>
<td></td>
<td>510 mg/m³ ( Rat ) 2 h</td>
</tr>
<tr>
<td></td>
<td>2140 mg/kg ( Rat )</td>
<td>-</td>
<td></td>
</tr>
</tbody>
</table>

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.

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>ACGIH</th>
<th>IARC</th>
<th>NTP</th>
<th>OSHA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead</td>
<td>A3</td>
<td>Group 2A</td>
<td>Reasonably Anticipated</td>
<td>X</td>
</tr>
<tr>
<td>7439-92-1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sulfuric acid</td>
<td>A2</td>
<td>Group 1</td>
<td>Known</td>
<td>X</td>
</tr>
<tr>
<td>7664-93-9</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

ACGIH (American Conference of Governmental Industrial Hygienists)
A2 - Suspected Human Carcinogen
A3 - Animal Carcinogen

IARC (International Agency for Research on Cancer)
Group 1 - Carcinogenic to Humans
Group 2A - Probably 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
Contains a known or suspected reproductive toxin. Product is or contains a chemical which is a known or suspected reproductive hazard.

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. 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


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)
637.00 mg/kg

ATEmix (inhalation-gas)
6,000.00 ppm

ATEmix (inhalation-dust/mist)
0.92 mg/l

ATEmix (inhalation-vapor)
15.00 ATEmix

12. ECOLOGICAL INFORMATION

Ecotoxicity

Very toxic to aquatic life with long lasting effects.

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

Persistence and Degradability

No information available.

Bioaccumulation

No information available

Other adverse effects

No information available.
13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal methods
This material, as supplied, is a hazardous waste according to federal regulations (40 CFR 261).

Contaminated Packaging
Do not reuse empty containers.

US EPA Waste Number
D002 D004 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.

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>California Hazardous Waste</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead, 7439-92-1</td>
<td>Toxic</td>
</tr>
<tr>
<td>Sulfuric acid, 7664-93-9</td>
<td>Toxic, Corrosive</td>
</tr>
</tbody>
</table>

14. TRANSPORT INFORMATION

<table>
<thead>
<tr>
<th>Regulator</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>DOT</td>
<td>Proper Shipping Name: NON REGULATED</td>
</tr>
<tr>
<td></td>
<td>Hazard Class: N/A</td>
</tr>
<tr>
<td>TDG</td>
<td>Not regulated</td>
</tr>
<tr>
<td>MEX</td>
<td>Not regulated</td>
</tr>
<tr>
<td>ICAO</td>
<td>Not regulated</td>
</tr>
<tr>
<td>IATA</td>
<td>Proper Shipping Name: NON REGULATED</td>
</tr>
<tr>
<td></td>
<td>Hazard Class: N/A</td>
</tr>
<tr>
<td>IMDG/IMO</td>
<td>Not regulated</td>
</tr>
<tr>
<td></td>
<td>Hazard Class: N/A</td>
</tr>
<tr>
<td>RID</td>
<td>Not regulated</td>
</tr>
<tr>
<td>ADR</td>
<td>Not regulated</td>
</tr>
<tr>
<td>ADN</td>
<td>Not regulated</td>
</tr>
</tbody>
</table>

15. REGULATORY INFORMATION

International Inventories

TSCA            | Complies                                        |
DSL             | 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

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS No</th>
<th>Weight-%</th>
<th>SARA 313 - Threshold Values %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead - 7439-92-1</td>
<td>7439-92-1</td>
<td>60 - 100</td>
<td>0.1</td>
</tr>
<tr>
<td>Sulfuric acid - 7664-93-9</td>
<td>7664-93-9</td>
<td>10 - 30</td>
<td>1.0</td>
</tr>
</tbody>
</table>

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)

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CWA - Reportable Quantities</th>
<th>CWA - Toxic Pollutants</th>
<th>CWA - Priority Pollutants</th>
<th>CWA - Hazardous Substances</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead 7439-92-1</td>
<td></td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Sulfuric acid 7664-93-9</td>
<td>1000 lb</td>
<td></td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

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)

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Hazardous Substances RQs</th>
<th>Extremely Hazardous Substances RQs</th>
<th>RQ</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead 7439-92-1</td>
<td>10 lb</td>
<td></td>
<td>RQ 10 lb final RQ</td>
</tr>
<tr>
<td>Sulfuric acid 7664-93-9</td>
<td>1000 lb</td>
<td>1000 lb</td>
<td>RQ 454 kg final RQ</td>
</tr>
</tbody>
</table>

US State Regulations

California Proposition 65
This product contains the following Proposition 65 chemicals.

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>California Proposition 65</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead - 7439-92-1</td>
<td>Carcinogen</td>
</tr>
<tr>
<td>Sulfuric acid 7664-93-9</td>
<td>Developmental</td>
</tr>
<tr>
<td></td>
<td>Female Reproductive</td>
</tr>
<tr>
<td></td>
<td>Male Reproductive</td>
</tr>
<tr>
<td>Arsenic 7440-38-2</td>
<td>Carcinogen</td>
</tr>
</tbody>
</table>

U.S. State Right-to-Know Regulations

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>New Jersey</th>
<th>Massachusetts</th>
<th>Pennsylvania</th>
<th>Rhode Island</th>
<th>Illinois</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead 7439-92-1</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Sulfuric acid 7664-93-9</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Antimony 7440-36-0</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Arsenic</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>
International Regulations

Mexico
National occupational exposure limits

<table>
<thead>
<tr>
<th>Component</th>
<th>Carcinogen Status</th>
<th>Exposure Limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead 7439-92-1 (60 - 100)</td>
<td>A3</td>
<td>Mexico: TWA= 0.15 mg/m³</td>
</tr>
<tr>
<td>Sulfuric acid 7664-93-9 (10 - 30)</td>
<td>A2</td>
<td>Mexico: TWA 1 mg/m³</td>
</tr>
</tbody>
</table>

A2 - Suspected Human Carcinogen
A3 - Confirmed Animal Carcinogen
Mexico - Occupational Exposure Limits - Carcinogens

Canada
WHMIS Hazard Class
Non-controlled

### 16. OTHER INFORMATION

<table>
<thead>
<tr>
<th>NFPA</th>
<th>Health Hazards</th>
<th>Flammability</th>
<th>Instability</th>
<th>Physical and Chemical Hazards - Personal Protection</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>X</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>HMIS</th>
<th>Health Hazards</th>
<th>Flammability</th>
<th>Physical Hazard</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Prepared By
Product Stewardship
23 British American Blvd.
Latham, NY 12110
1-800-572-6501

Issuing Date
19-Feb-2016

Revision Date
19-Feb-2016

Revision Note
No information available

Disclaimer
The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet
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 3
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

<table>
<thead>
<tr>
<th>Hazard Statements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Harmful if swallowed</td>
</tr>
<tr>
<td>Harmful if inhaled</td>
</tr>
<tr>
<td>Toxic if inhaled</td>
</tr>
<tr>
<td>Causes severe skin burns and eye damage</td>
</tr>
<tr>
<td>May cause cancer</td>
</tr>
<tr>
<td>May damage fertility or the unborn child</td>
</tr>
<tr>
<td>Causes damage to organs through prolonged or repeated exposure</td>
</tr>
</tbody>
</table>

Emergency Overview

<table>
<thead>
<tr>
<th>Signal word</th>
<th>Danger</th>
</tr>
</thead>
<tbody>
<tr>
<td>Odor</td>
<td>Odorless</td>
</tr>
</tbody>
</table>

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.

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
0 % 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.

### 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 breathing has stopped, give artificial respiration. Get medical attention immediately. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. If breathing is difficult, (trained personnel

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS No</th>
<th>Weight-%</th>
<th>Trade Secret</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead</td>
<td>7439-92-1</td>
<td>60 - 100</td>
<td>*</td>
</tr>
<tr>
<td>Sulfuric acid</td>
<td>7664-93-9</td>
<td>10 - 30</td>
<td>*</td>
</tr>
</tbody>
</table>

*The exact percentage (concentration) of composition has been withheld as a trade secret
should) give oxygen. Delayed pulmonary edema may occur. Get medical attention immediately if symptoms occur.

**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 contact with skin, eyes or clothing. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Use personal protective equipment as required. Wear personal protective clothing (see section 8).

**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. Carbon dioxide (CO2). Water spray.

**Unsuitable extinguishing media**

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

**Specific hazards arising from the chemical**

The product causes burns of eyes, skin and mucous membranes. Thermal decomposition can lead to release of irritating gases and vapors.

**Uniform Fire Code**

Toxic: Liquid
Corrosive: Acid-Liquid

**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, eyes or clothing. Ensure adequate ventilation. Use personal protective equipment as required. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. |
| Other Information | Refer to protective measures listed in Sections 7 and 8. |
| Environmental precautions | Prevent further leakage or spillage if safe to do so. Should not be released into the environment. Do not allow to enter into soil/subsoil. Prevent product from entering drains. |

Methods and material for containment and cleaning up

| Methods for containment | Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. |
| Methods for cleaning up | Soak up with inert absorbent material. 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 | 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. |

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

| Exposure Guidelines | Chemical name | ACGIH TLV | OSHA PEL | NIOSH IDLH |
| | | | | |
| | Lead | TWA: 0.05 mg/m³ | TWA: 50 µg/m³ Pb | IDLH: 100 mg/m³ |
| | 7439-92-1 | | TWA: 50 µg/m³ Pb | TWA: 0.050 mg/m³ |
Sulfuric acid
7664-93-9

<table>
<thead>
<tr>
<th>Physical state</th>
<th>Values</th>
<th>Remarks</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Solid</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Appearance</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Color</td>
<td>Colorless</td>
<td></td>
<td>No information available</td>
</tr>
<tr>
<td>Odor</td>
<td>Odorless</td>
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<td>No information available</td>
</tr>
<tr>
<td>Odor Threshold</td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Property</th>
<th>Values</th>
<th>Remarks</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>pH</td>
<td>2</td>
<td>None known</td>
<td></td>
</tr>
<tr>
<td>Melting/freezing point</td>
<td>No data available</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Boiling point / boiling range</td>
<td>No data available</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flash Point</td>
<td>No data available</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>No data available</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>No data available</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flammability Limit in Air</td>
<td>No data available</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Upper flammability limit</td>
<td>No data available</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lower flammability limit</td>
<td>No data available</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>No data available</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vapor density</td>
<td>No data available</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>1.27</td>
<td>None known</td>
<td></td>
</tr>
<tr>
<td>Water Solubility</td>
<td>Immiscible in water</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Solubility in other solvents</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>.7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Autoignition temperature</td>
<td>No data available</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Other Exposure Guidelines
Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992)

Appropriate engineering controls

Engineering Measures
Showers
Eyewash stations
Ventilation systems

Individual protection measures, such as personal protective equipment

Eye/face protection
Face protection shield.

Skin and body protection
Wear protective gloves and protective clothing. Long sleeved clothing. Chemical resistant apron. Impervious gloves.

Respiratory protection
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.

Hygiene Measures
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

<table>
<thead>
<tr>
<th>Property</th>
<th>Values</th>
<th>Remarks</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>pH</td>
<td>2</td>
<td>None known</td>
<td></td>
</tr>
<tr>
<td>Melting / freezing point</td>
<td>No data available</td>
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</tr>
<tr>
<td>Boiling point / boiling range</td>
<td>No data available</td>
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<td></td>
</tr>
<tr>
<td>Flash Point</td>
<td>No data available</td>
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<td>Evaporation Rate</td>
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<td></td>
</tr>
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<td>No data available</td>
<td></td>
<td></td>
</tr>
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<td>No data available</td>
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</tr>
<tr>
<td>Vapor pressure</td>
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</tr>
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<tr>
<td>Specific Gravity</td>
<td>1.27</td>
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<tr>
<td>Water Solubility</td>
<td>Immiscible in water</td>
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<tr>
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<tr>
<td>Partition coefficient: n-octanol/water</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Autoignition temperature</td>
<td>No data available</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
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

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. Toxic by inhalation. 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.

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. Causes burns. (based on components). Prolonged skin contact causes burns.

Ingestion
Specific test data for the substance or mixture is not available. Harmful if swallowed. 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.

Component Information

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Oral LD50</th>
<th>Dermal LD50</th>
<th>Inhalation LC50</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sulfuric acid</td>
<td>2140 mg/kg (Rat)</td>
<td>-</td>
<td>510 mg/m³ (Rat) 2 h</td>
</tr>
</tbody>
</table>

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.

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>ACGIH</th>
<th>IARC</th>
<th>NTP</th>
<th>OSHA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead 7439-92-1</td>
<td>A3</td>
<td>Group 2A</td>
<td>Reasonably Anticipated</td>
<td>X</td>
</tr>
<tr>
<td>Sulfuric acid</td>
<td>A2</td>
<td>Group 1</td>
<td>Known</td>
<td>X</td>
</tr>
</tbody>
</table>

ACGIH (American Conference of Governmental Industrial Hygienists)
A2 - Suspected Human Carcinogen
A3 - Animal Carcinogen

IARC (International Agency for Research on Cancer)
Group 1 - Carcinogenic to Humans
Group 2A - Probably 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
Contains a known or suspected reproductive toxin. Product is or contains a chemical which is a known or suspected reproductive hazard.

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. 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

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)
637.00 mg/kg
ATEmix (inhalation-gas)
6,000.00 ppm
ATEmix (inhalation-dust/mist)
0.92 mg/l
ATEmix (inhalation-vapor)
15.00 ATEmix

12. ECOLOGICAL INFORMATION

Ecotoxicity
Very toxic to aquatic life with long lasting effects.

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

Persistence and Degradability
No information available.

Bioaccumulation
No information available

Other adverse effects
No information available.
13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal methods
This material, as supplied, is a hazardous waste according to federal regulations (40 CFR 261).

Contaminated Packaging
Do not reuse empty containers.

US EPA Waste Number
D002 D004 D008

14. TRANSPORT INFORMATION

<table>
<thead>
<tr>
<th>Proper Shipping Name</th>
<th>Hazard Class</th>
<th>DOT</th>
<th>TDG</th>
<th>MEX</th>
<th>ICAO</th>
<th>IATA</th>
<th>IMDG/IMO</th>
<th>RID</th>
<th>ADR</th>
<th>ADN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead</td>
<td>N/A</td>
<td>Not regulated</td>
<td>Not regulated</td>
<td>Not regulated</td>
<td>Not regulated</td>
<td>Not regulated</td>
<td>Not regulated</td>
<td>Not regulated</td>
<td>Not regulated</td>
<td></td>
</tr>
<tr>
<td>7439-92-1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sulfuric acid</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7664-93-9</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

15. REGULATORY INFORMATION

International Inventories

<table>
<thead>
<tr>
<th>TSCA</th>
<th>DSL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Complies</td>
<td>All components are listed either on the DSL or NDSL.</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS No</th>
<th>Weight-%</th>
<th>SARA 313 - Threshold Values %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead - 7439-92-1</td>
<td>7439-92-1</td>
<td>60 - 100</td>
<td>0.1</td>
</tr>
<tr>
<td>Sulfuric acid - 7664-93-9</td>
<td>7664-93-9</td>
<td>10 - 30</td>
<td>1.0</td>
</tr>
</tbody>
</table>

**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)

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CWA - Reportable Quantities</th>
<th>CWA - Toxic Pollutants</th>
<th>CWA - Priority Pollutants</th>
<th>CWA - Hazardous Substances</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead - 7439-92-1</td>
<td></td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Sulfuric acid - 7664-93-9</td>
<td>1000 lb</td>
<td></td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

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)

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Hazardous Substances RQs</th>
<th>Extremely Hazardous Substances RQs</th>
<th>RQ</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead - 7439-92-1</td>
<td>10 lb</td>
<td>1000 lb</td>
<td>RQ 10 lb final RQ RQ 4.54 kg final RQ</td>
</tr>
<tr>
<td>Sulfuric acid - 7664-93-9</td>
<td>1000 lb</td>
<td></td>
<td>RQ 1000 lb final RQ RQ 454 kg final RQ</td>
</tr>
</tbody>
</table>

US State Regulations

**California Proposition 65**
This product contains the following Proposition 65 chemicals.

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>California Proposition 65</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead - 7439-92-1</td>
<td>Carcinogen</td>
</tr>
<tr>
<td>Sulfuric acid - 7664-93-9</td>
<td>Carcinogen</td>
</tr>
<tr>
<td>Arsenic - 7440-38-2</td>
<td>Carcinogen</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>New Jersey</th>
<th>Massachusetts</th>
<th>Pennsylvania</th>
<th>Rhode Island</th>
<th>Illinois</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead - 7439-92-1</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Sulfuric acid - 7664-93-9</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Antimony - 7440-36-0</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Arsenic - 7440-38-2</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>
### International Regulations

**Mexico**

National occupational exposure limits

<table>
<thead>
<tr>
<th>Component</th>
<th>Carcinogen Status</th>
<th>Exposure Limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead 7439-92-1 (60 - 100)</td>
<td>A3</td>
<td>Mexico: TWA = 0.15 mg/m³</td>
</tr>
<tr>
<td>Sulfuric acid 7664-93-9 (10 - 30)</td>
<td>A2</td>
<td>Mexico: TWA 1 mg/m³</td>
</tr>
</tbody>
</table>

A2 - Suspected Human Carcinogen  
A3 - Confirmed Animal Carcinogen

**Canada**

WHMIS Hazard Class  
Non-controlled

### 16. OTHER INFORMATION

<table>
<thead>
<tr>
<th>NFPA</th>
<th>Health Hazards</th>
<th>Flammability</th>
<th>Instability</th>
<th>Physical and Chemical Hazards</th>
<th>Personal Protection</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>3</td>
<td>0</td>
<td>0</td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>HMIS</th>
<th>Health Hazards</th>
<th>Flammability</th>
<th>Physical Hazard</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

Prepared By  
Product Stewardship  
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Latham, NY 12110  
1-800-572-6501

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Revision Date  
19-Feb-2016

Revision Note  
No information available

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End of Safety Data Sheet