1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: Valve Regulated Maintenance Free Lead-Acid Batteries: DJW, DJM, DJ, FT, LP, LPC, LPF, LPX, LPS, XP, XPE, XVP, PLH, PLC, PLX Series

Recommended Use: Lead acid battery. Lead Acid (Non-spillable) Battery

Supplier Address: Leoch Battery Corp
19751 Descartes
Unit A
Foothill Ranch, CA 92610
Phone: 800-424-9300
Fax: 949-588-5966
Contact: Paul Yu
Email: paulyu@leoch.us
Contact Phone: 949-588-5853

NOTE: Leoch Battery is considered an article as defined by 29 CFR 1910.1200 (OSHA Hazard Communication Standard).

The information supplied in this SDS is at the customer's request for information only.

Emergency Contact Number: 1-800-424-9300 CHEMTREC US & MEX
1-703-527-3887 CHEMTREC International

2. HAZARDS IDENTIFICATION

Emergency Overview
NOTE: Under normal conditions of battery use, internal components will not present a health hazard. The following information is provided for battery acid and lead exposure that may occur during battery production or container breakage or under extreme heat conditions such as fire. In case of rupture, Corrosive The product causes burns of eyes, skin and mucous membranes.

Appearance: No information available.  Physical State: Solid.  Odor: Odorless

Potential Health Effects

Principle Routes of Exposure: Skin contact.
Acute Toxicity: Oral, dermal, inhalation: Category 4
Eyes: Corrosive to the eyes and may cause severe damage including blindness. Category 1
Skin: Causes burns, corrosion, irritation. Category 1A
Inhalation: Harmful by inhalation. Contact with moist mucous membranes of the respiratory system can cause caustic condition resulting in burns. Category 4
Ingestion: Harmful if swallowed. Can burn mouth, throat, and the rest of digestive tract. Category 4
Reproductive: Category 1A
Carcinogenicity: Category 1B
Chronic Effects: 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. Avoid repeated exposure.

Main Symptoms: Severe exposures can lead to shock, circulatory collapse, and death. Lead poisoning is characterized by a metallic taste in the mouth, loss of appetite.
indigestion, nausea, vomiting, constipation, sleep disturbances and overall weakness

Aggravated Medical Conditions
None known.

Environment Hazard
Toxic to aquatic life with long lasting effects. Aquatic Chronic 1, Aquatic Acute 1

Label Elements:

<table>
<thead>
<tr>
<th>Health</th>
<th>Environmental</th>
<th>Physical</th>
</tr>
</thead>
<tbody>
<tr>
<td>![Health Symbol]</td>
<td>![Environmental Symbol]</td>
<td>![Physical Symbol]</td>
</tr>
</tbody>
</table>

**Hazard Statements**

**DANGER!**
- Causes severe skin damage
- Causes serious eye damage.
- May damage fertility or the unborn child if ingested or inhaled.
- May cause cancer if ingested or inhaled.
- Causes damage to central nervous system, blood and kidneys through prolonged or repeated exposure.

**Precautionary Statements**

- Wash thoroughly after handling.
- Do not eat, drink or smoke when using this product.
- Wear protective gloves/protective clothing, eye protection/face protection.
- Avoid breathing dust/fume/gas/mist/vapors/spray.
- Use only outdoors or in a well-ventilated area.
- Causes skin irritation, serious eye damage.
- Contact with internal components may cause irritation or severe burns. Avoid contact with internal acid.
- Irritating to eyes, respiratory system, and skin.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS-No</th>
<th>Weight %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead/Lead Compounds</td>
<td>7439-92-1</td>
<td>65~75</td>
</tr>
<tr>
<td>Sulfuric acid</td>
<td>7664-93-9</td>
<td>10~20</td>
</tr>
<tr>
<td>ABS resin</td>
<td>9003-56-9</td>
<td>~5</td>
</tr>
<tr>
<td>Tin</td>
<td>7440-31-5</td>
<td>&lt;0.5</td>
</tr>
<tr>
<td>Calcium</td>
<td>7440-70-2</td>
<td>&lt;0.1</td>
</tr>
</tbody>
</table>

### 4. FIRST AID MEASURES

**General Advice**
First aid is upon rupture of sealed battery.

**Eye Contact**
Immediate medical attention is required. 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.

**Skin Contact**
Immediate medical attention is required. Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes.
Inhalation
Move to fresh air. Call a physician or Poison Control Center immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.

Ingestion
Immediate medical attention is required. Call a physician or Poison Control Center immediately. Do NOT induce vomiting. Drink plenty of water. Never give anything by mouth to an unconscious person. Remove from exposure, lie down.

Notes to Physician
Treat symptomatically.

Protection of First-aiders
Use personal protective equipment. Avoid contact with skin, eyes and clothing.

5. FIRE-FIGHTING MEASURES

Flammable Properties
Not flammable.

Flash Point
Not determined.

Suitable Extinguishing Media
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Uniform Fire Code
Corrosive: Acid-Liquid

Hazardous Combustion Products
Hazardous metal fumes and oxides.

Explosion Data
Sensitivity to Mechanical Impact
No.

Sensitivity to Static Discharge
No.

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. In the event of fire and/or explosion do not breathe fumes.

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.

NFPA Health Hazard 3 Flammability 0 Stability 2 Physical and Chemical Hazards

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions
Use personal protective equipment. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Do not get in eyes, on skin, or on clothing.

Environmental Precautions
Refer to protective measures listed in Sections 7 and 8.

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

Methods for Cleaning Up
In case of rupture: Use personal protective equipment. Dam up. Soak up with inert absorbent material. Take up mechanically and collect in suitable container for disposal. Clean contaminated surface thoroughly.

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

7. HANDLING AND STORAGE
Handling
Handle in accordance with good industrial hygiene and safety practice.

Storage
Keep containers tightly closed in a dry, cool and well-ventilated place.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

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 Action Level: 30 µg/m³ Poison, See 29 CFR 1910.1025</td>
<td>IDLH: 100 mg/m³ TWA: 0.050 mg/m³</td>
</tr>
<tr>
<td>Sulfuric acid 7664-93-9</td>
<td>TWA: 0.2 mg/m³ thoracic fraction</td>
<td>TWA: 1 mg/m³ (vacated) TWA: 1 mg/m³</td>
<td>IDLH: 15 mg/m³ TWA: 1 mg/m³</td>
</tr>
<tr>
<td>Tin 7440-31-5</td>
<td>TWA: 2 mg/m³</td>
<td>TWA: 2 mg/m³ Sn except oxides (vacated) TWA: 2 mg/m³</td>
<td>IDLH: 100 mg/m³ TWA: 2 mg/m³</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).

Engineering Measures
- Showers
- Eyewash stations
- Ventilation systems

Personal Protective Equipment
- **Eye/Face Protection**
  - Tightly fitting safety goggles.
- **Skin and Body Protection**
  - Wear protective gloves/clothing.
- **Respiratory Protection**
  - No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

Hygiene Measures
Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>No information available</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>No information available</td>
</tr>
<tr>
<td>pH</td>
<td>No information available</td>
</tr>
<tr>
<td>Flash Point</td>
<td>No information available</td>
</tr>
<tr>
<td>Decomposition Temperature</td>
<td>No information available</td>
</tr>
<tr>
<td>Melting Point/Range</td>
<td>No information available</td>
</tr>
<tr>
<td>Flammability Limits in Air</td>
<td>No information available</td>
</tr>
<tr>
<td>Water Solubility</td>
<td>Immiscible in water</td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>No information available</td>
</tr>
<tr>
<td>Vapor Density</td>
<td>No data available</td>
</tr>
<tr>
<td>Odor</td>
<td>Odorless.</td>
</tr>
<tr>
<td>Physical State</td>
<td>Solid</td>
</tr>
<tr>
<td>Auto-ignition Temperature</td>
<td>No information available</td>
</tr>
<tr>
<td>Boiling Point/Range</td>
<td>No information available</td>
</tr>
<tr>
<td>Explosion Limits</td>
<td>No information available</td>
</tr>
<tr>
<td>Solubility</td>
<td>No information available</td>
</tr>
<tr>
<td>Vapor Pressure Partition Coefficient: noctanol/water</td>
<td>No data available</td>
</tr>
</tbody>
</table>

10. STABILITY AND REACTIVITY
Stability
Stable under recommended storage conditions.

Incompatible Products
Incompatible with strong acids and bases. Incompatible with oxidizing agents.

Conditions to Avoid
Exposure to air or moisture over prolonged periods.

Hazardous Decomposition Products
Thermal decomposition can lead to release of toxic/corrosive gases and vapors

Hazardous Polymerization
Hazardous polymerization does not occur.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

Product Information
Product does not present an acute toxicity hazard based on known or supplied information.

Irritation
Causes severe irritation and or burns

Component Information

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>LD50 Oral</th>
<th>LD50 Dermal</th>
<th>LC50 Inhalation</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>

Chronic Toxicity

Chronic Toxicity
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. Avoid repeated exposure.

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>
<tr>
<td>ABS resin</td>
<td></td>
<td>Group 3</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 Toxicity Program)
Known - Known Carcinogen
Reasonably Anticipated - Reasonably Anticipated to be a Human Carcinogen

OSHA: (Occupational Safety & Health Administration)
X - Present

Reproductive Toxicity
Product is or contains a chemical which is a known or suspected reproductive hazard.

Developmental Toxicity
Contains ingredients that have suspected developmental hazards. Inorganic lead compounds can cause developmental damage.
**Target Organ Effects**

None known.

---

**12. ECOLOGICAL INFORMATION**

**Ecotoxicity**

The environmental impact of this product has not been fully investigated.

<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></td>
<td></td>
<td></td>
<td>EC50: 600 µg/L (48 h) water flea</td>
</tr>
<tr>
<td>Sulfuric acid</td>
<td>LC50: &gt; 500 mg/L (96 h static) Brachydanio rerio</td>
<td></td>
<td>EC50: 29 mg/L (24 h) Daphnia magna</td>
<td></td>
</tr>
</tbody>
</table>

---

**13. DISPOSAL CONSIDERATIONS**

**Waste Disposal Methods**

This material, as supplied, is a hazardous waste according to federal regulations (40 CFR 261). Should not be released into the environment.

**Contaminated Packaging**

Do not re-use empty containers.

**US EPA Waste Number**

D002 D008

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>RCRA</th>
<th>RCRA - Basis for Listing</th>
<th>RCRA - D Series Wastes</th>
<th>RCRA - U Series Wastes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead - 7439-92-1</td>
<td>(hazardous constituent - no waste number)</td>
<td>Included in waste streams: F035, F037, F038, F039, K002, K003, K005, K046, K048, K049, K051, K052, K061, K062, K064, K065, K066, K069, K086, K100, K176</td>
<td>= 5.0 mg/L regulatory level</td>
<td></td>
</tr>
</tbody>
</table>

**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 EHW</th>
<th>California Carc</th>
<th>California Hazardous Waste</th>
<th>California Waste - Part 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead</td>
<td></td>
<td>Toxic</td>
<td></td>
<td>TCLP (for CA Toxicity): 5.0 mg/L</td>
</tr>
<tr>
<td>Sulfuric acid</td>
<td></td>
<td>Toxic Corrosive</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Calcium</td>
<td>Ignitable Reactive</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

**14. TRANSPORT INFORMATION**
Note: Transportation requirements do not apply once the battery pack has been installed in an equipment as part of the equipment’s functional components.
Transportation: Absorptive Glass-Fiber Material Lead Acid Battery is not a DOT Hazardous Material
Other: Per DOT, IATA, ICAO, and IMDG rules and regulations, these batteries are exempt from “UN2800” classification as a result of successful completion of the following tests:
1.) Vibration tests
2.) Pressure Differential Tests
3.) Case Rupturing Tests (no free liquids)

Note: Exempt from hazardous materials regulations per 49CFR173.159 (d).

DOT Description NOT REGULATED NON-SPILLABLE BATTERY
TDG Description Not regulated NON-SPILLABLE BATTERY
MEX Description Not regulated NON-SPILLABLE BATTERY
ICAO Description Not regulated NON-SPILLABLE BATTERY
IATA Description Not regulated NON-SPILLABLE BATTERY
IMDG/IMO Description Not regulated NON-SPILLABLE BATTERY

15. REGULATORY INFORMATION

International Inventories
TSCA Complies
DSL Not determined

U.S. 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 that 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</td>
<td>7439-92-1</td>
<td>65~75</td>
<td>0.1</td>
</tr>
<tr>
<td>Sulfuric acid</td>
<td>7664-93-9</td>
<td>10~20</td>
<td>1.0</td>
</tr>
</tbody>
</table>

SARA 311/312 Hazard Categories Acute
Health Hazard Yes
Chronic Health Hazard Yes
Fire Hazard No
Sudden Release of Pressure Hazard No
Reactive Hazard No

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></td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Sulfuric acid</td>
<td>1000 lb</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Clean Air Act, Section 112 Hazardous Air Pollutants (HAPS) (see 40 CFR 61)
This product contains the following substances that are listed hazardous air pollutants (HAPS) under Section 112 of the Clean
Air Act:

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS-No</th>
<th>Weight %</th>
<th>HAPS data</th>
<th>VOC Chemicals</th>
<th>Class 1 Ozone Depletors</th>
<th>Class 2 Ozone Depletors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead</td>
<td>7439-92-1</td>
<td>65~75</td>
<td></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>
</tr>
</thead>
<tbody>
<tr>
<td>Lead</td>
<td>10 lb</td>
<td></td>
</tr>
<tr>
<td>Sulfuric acid</td>
<td>1000 lb</td>
<td>1000 lb</td>
</tr>
</tbody>
</table>

U.S. State Regulations

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

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS-No</th>
<th>California Prop. 65</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead</td>
<td>7439-92-1</td>
<td>Carcinogen Developmental Female Reproductive Male Reproductive</td>
</tr>
<tr>
<td>Sulfuric acid</td>
<td>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>Massachusetts</th>
<th>New Jersey</th>
<th>Pennsylvania</th>
<th>Illinois</th>
<th>Rhode Island</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>Tin</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Calcium</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sulfuric acid</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

International Regulations

Mexico - Grade
Minimum risk, Grade 0

<table>
<thead>
<tr>
<th>Chemical Name</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>Tin</td>
<td></td>
<td>Mexico: TWA 2 mg/m3 Mexico: STEL 4 mg/m3</td>
</tr>
<tr>
<td>Sulfuric acid</td>
<td>A2</td>
<td>Mexico: TWA 1 mg/m3</td>
</tr>
</tbody>
</table>

Canada

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

WHMIS Hazard Class
D2A Very toxic materials E Corrosive material
Chemical Name | NPRI
---|---
Lead | X
Sulfuric acid | X

Legend
NPRI - National Pollutant Release Inventory

16. OTHER INFORMATION

Prepared By 5th Floor, Xinbaohui Bldg., Nanhai Blvd.
Kevin Zhang, Nanshan, Shenzhen, China. 518054
86-0755-2606-7267

Issuing Date Nov. 1, 2014
Revision Date March 2, 2015
Revision Note No information available

General 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