Safety Data Sheet

Issuing Date: Nov. 1st, 2014 **Revision Date: Oct. 25th, 2019** **Revision Number 4**

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name	**Valve Regulated Maintenance Free Lead-Acid Batteries: DJW, DJM, DJ, FT, LP, LPC, LPL, LPF, LPX, LPS, LDC, DTA, EV, GF, 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 & CANADA ONLY**

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	Cause serious eye damage. 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
Specific Target Organ Toxicity (repeated Exposure)	Category 2
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:

Health	Environmental	Physical
Hazard Statements **DANGER!** Causes severe skin damage Causes serious eye damage. Causes damage to central nervous system, blood and kidneys through prolonged or repeated exposure 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.	

HMIS Rating for Sulfuric Acid:	Health: 3 Flammability: 0 Reactivity: 2 Other: 0
NFPA Rating for Sulfuric Acid:	Health: 3 Flammability: 0 Reactivity: 2 Other: 0 Rating Codes: 0 = Insignificant, 1 = Slight, 2=Moderate, 3 = High, 4 = Extreme

3. COMPOSITION/INFORMATION ON INGREDIENTS

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Chemical Name	CAS-No	Weight %
Lead/Lead Compounds	7439-92-1	65～75
Sulfuric acid	7664-93-9	10～20
ABS resin	9003-56-9	～10
Tin	7440-31-5	＜0.5
Calcium	7440-70-2	＜0.1

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

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Lead 7439-92-1	TWA: 0.05 mg/m3	TWA: 50 µg/m3 Action Level: 30 µg/m3 Poison, See 29 CFR 1910.1025	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
Tin 7440-31-5	TWA: 2 mg/m3	TWA: 2 mg/m3 Sn except oxides (vacated) TWA: 2 mg/m3	IDLH: 100 mg/m3 TWA: 2 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).

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

Appearance	No information available	**Odor**	Odorless.
Odor Threshold	No information available	**Physical State**	Solid
pH	No information available		
Flash Point	No information available.	**Auto-ignition Temperature**	No information available
Decomposition Temperature	No information available	**Boiling Point/Range**	No information available
Melting Point/Range	No information available		
Flammability Limits in Air	No information available	**Explosion Limits**	No information available
Water Solubility	Immiscible in water	**Solubility**	No information available
Evaporation Rate	No information available	**Vapor Pressure**	No data available
Vapor Density	No data available	**Partition Coefficient: noctanol/water**	

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

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Sulfuric acid	= 2140 mg/kg (Rat)	-	= 510 mg/m3(Rat) 2 h

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.

Chemical Name	ACGIH	IARC	NTP	OSHA
Lead	A3	Group 2A	Reasonably Anticipated	X
Sulfuric acid	A2	Group 1	Known	X
ABS resin		Group 3		

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.

Chemical Name	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Daphnia Magna (Water Flea)
Lead		LC50: 0.44 mg/L (96 h semi-static) Cyprinus carpio LC50: 1.17 mg/L (96 h flow-through) Oncorhynchus mykiss LC50: 1.32 mg/L (96 h static) Oncorhynchus mykiss		EC50: 600 µg/L (48 h) water flea
Sulfuric acid		LC50: > 500 mg/L (96 h static) Brachydanio rerio		EC50: 29 mg/L (24 h) Daphnia magna

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

Chemical Name	RCRA	RCRA - Basis for Listing	RCRA - D Series Wastes	RCRA - U Series Wastes
Lead - 7439-92-1	(hazardous constituent - no waste number)	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	= 5.0 mg/L regulatory level	

California Hazardous Waste Codes 792

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

Chemical Name	California EHW	California Carc	California Hazardous Waste	California Waste - Part 2
Lead			Toxic	TCLP (for CA Toxicity): 5.0 mg/L
Sulfuric acid			Toxic Corrosive	
Calcium	Ignitable Reactive			

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:

Chemical Name	CAS-No	Weight %	SARA 313 - Threshold Values %
Lead	7439-92-1	65～75	0.1
Sulfuric acid	7664-93-9	10～20	1.0

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):

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Lead		X	X	

Sulfuric acid	1000 lb			X

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:

Chemical Name	CAS-No	Weight %	HAPS data	VOC Chemicals	Class 1 Ozone Depletors	Class 2 Ozone Depletors
Lead	7439-92-1	65～75				

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

Chemical Name	Hazardous Substances RQs	Extremely Hazardous Substances RQs
Lead	10 lb	
Sulfuric acid	1000 lb	1000 lb

U.S. State Regulations

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

Chemical Name	CAS-No	California Prop. 65
Lead	7439-92-1	Carcinogen Developmental Female Reproductive Male Reproductive
Sulfuric acid	7664-93-9	Carcinogen

U.S. State Right-to-Know Regulations

Chemical Name	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Lead	X	X	X	X	X
Tin	X	X	X		
Calcium	X	X	X		
Sulfuric acid	X	X	X	X	X

International Regulations

Mexico - Grade Minimum risk, Grade 0

Chemical Name	Carcinogen Status	Exposure Limits
Lead	A3	Mexico: TWA= 0.15 mg/m3
Tin		Mexico: TWA 2 mg/m3 Mexico: STEL 4 mg/m3
Sulfuric acid	A2	Mexico: TWA 1 mg/m3

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

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General Disclaimer

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End of Safety Data Sheet