

Material Safety Data Sheet

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Revision Number 2

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name LEAD ACID BATTERY

Recommended Use Lead Acid (Non-Spillable) Battery.

Supplier Address

wuxi huayan new power source co.,ltd
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province,china
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jiangsu
214253
CN
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2. HAZARDS IDENTIFICATION

DANGER!

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

Corrosive

The product causes burns of eyes, skin and mucous membranes

Harmful by inhalation, in contact with skin and if swallowed

Contains a known or suspected reproductive toxin

Appearance Black

Physical State Solid containing liquid.

Odor No information available

Potential Health Effects

Principle Routes of Exposure

Eye contact. Skin contact.

Acute Toxicity

Eyes

Corrosive to the eyes and may cause severe damage including blindness.

Skin

Causes burns.

Inhalation

Harmful by inhalation.

Ingestion

Harmful if swallowed. Ingestion causes burns of the upper digestive and respiratory tract.

Chronic Effects

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. 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. Possible risks of irreversible effects. May cause adverse effects on the bone marrow and blood-forming system. Contains a known or suspected reproductive toxin.

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	Central nervous system. Gastrointestinal tract. Pre-existing eye disorders. Blood disorders. Kidney disorders. Overexposure may cause female and male reproductive disorder(s). Skin disorders. Respiratory disorders. Reproductive toxicity. Gingival Tissue Teeth.
Environmental Hazard	See Section 12 for additional Ecological Information. Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS-No	Weight %
Lead	7439-92-1	60-100
Sulfuric acid	7664-93-9	5-10
Arsenic	7440-38-2	0.1 - 1
Calcium	7440-70-2	0.1 - 1
Antimony	7440-36-0	0.1 - 1
Tin	7440-31-5	< 0.1

4. FIRST AID MEASURES

General Advice	This is a battery. In case of rupture:
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 for at least 15 minutes while removing all contaminated clothing and shoes.
Inhalation	Move to fresh air in case of accidental inhalation of vapors or decomposition products. Call a physician or Poison Control Center immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.
Ingestion	Call a physician or Poison Control Center immediately. Do NOT induce vomiting. Never give anything by mouth to an unconscious person.
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. 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	<ul style="list-style-type: none"> Corrosive: Acid-Liquid
Hazardous Combustion Products	Hazardous metal fumes and oxides. Sulfur oxides.
Explosion Data	

Sensitivity to Mechanical Impact	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.			
Sensitivity to Static Discharge	No.			
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	Evacuate personnel to safe areas. Use personal protective equipment. Avoid contact with skin, eyes and clothing. Keep people away from and upwind of spill/leak.
Environmental Precautions	Do not allow material to contaminate ground water system. Should not be released into the environment. Prevent further leakage or spillage if safe to do so. Prevent product from entering drains.
Methods for Containment	Prevent further leakage or spillage if safe to do so.
Methods for Cleaning Up	Dike far ahead of liquid spill for later disposal. Soak up with inert absorbent material. Pick up and transfer to properly labeled containers. Clean contaminated surface thoroughly. Prevent product from entering drains.
Other Information	Refer to protective measures listed in Sections 7 and 8.

7. HANDLING AND STORAGE

Handling	In case of rupture: Wear personal protective equipment. Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes and clothing. Remove and wash contaminated clothing before re-use.
Storage	Keep containers tightly closed in a dry, cool and well-ventilated place. Keep out of the reach of children. Keep in properly labeled containers.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Guidelines

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Lead 7439-92-1	TWA: 0.05 mg/m ³	TWA: 50 µg/m ³ Action Level: 30 µg/m ³ Poison, See 29 CFR 1910.1025	IDLH: 100 mg/m ³ TWA: 0.050 mg/m ³
Sulfuric acid 7664-93-9	TWA: 0.2 mg/m ³ thoracic fraction	TWA: 1 mg/m ³ (vacated) TWA: 1 mg/m ³	IDLH: 15 mg/m ³ TWA: 1 mg/m ³
Arsenic 7440-38-2	TWA: 0.01 mg/m ³	TWA: 10 µg/m ³ As Action Level: 5 µg/m ³ As (vacated) TWA: 0.5 mg/m ³	IDLH: 5 mg/m ³ Ceiling: 0.002 mg/m ³ 15 min
Antimony 7440-36-0	TWA: 0.5 mg/m ³	TWA: 0.5 mg/m ³ (vacated) TWA: 0.5 mg/m ³	IDLH: 50 mg/m ³ TWA: 0.5 mg/m ³
Tin 7440-31-5	TWA: 2 mg/m ³	TWA: 2 mg/m ³ Sn except oxides (vacated) TWA: 2 mg/m ³	IDLH: 100 mg/m ³ TWA: 2 mg/m ³

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 Skin and Body Protection Respiratory Protection

Tightly fitting safety goggles. Face-shield.
Protective gloves.
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

Avoid contact with skin, eyes and clothing. When using, do not eat, drink or smoke. Keep away from food, drink and animal feeding stuffs. Contaminated work clothing should not be allowed out of the workplace. Remove and wash contaminated clothing before re-use. Provide regular cleaning of equipment, work area and clothing.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Black.	Odor	No information available
Odor Threshold	No information available	Physical State	Solid containing liquid.
pH	No information available	Autoignition Temperature	No information available
Flash Point	No information available.	Boiling Point/Range	No information available
Decomposition Temperature	No information available	Explosion Limits	No information available
Melting Point/Range	No information available	Solubility	No information available
Flammability Limits in Air	No information available	Vapor Pressure	No data available
Water Solubility	Immiscible in water	Partition Coefficient: n-octanol/water	
Evaporation Rate	No information available		
Vapor Density	No data available		

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 irritating gases and vapors.
Hazardous Polymerization	Hazardous polymerization does not occur.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

Product Information	In case of rupture: Harmful by inhalation, in contact with skin and if swallowed.
Irritation	Corrosive to eyes Corrosive to skin

Component Information

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Sulfuric acid	= 2140 mg/kg (Rat)	-	= 510 mg/m ³ (Rat) 2 h

Chronic Toxicity

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. 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. Possible risks of irreversible effects. May cause adverse effects on the bone marrow and blood-forming system. Contains a known or suspected reproductive toxin.
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Carcinogenicity	The table below indicates whether each agency has listed any ingredient as a carcinogen.
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Chemical Name	ACGIH	IARC	NTP	OSHA
Lead	A3	Group 2A	Reasonably Anticipated	X
Sulfuric acid	A2	Group 1	Known	X
Arsenic	A1	Group 1	Known	X

ACGIH: (American Conference of Governmental Industrial Hygienists)

A1 - Known Human Carcinogen

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.
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Developmental Toxicity	Contains ingredients that have suspected developmental hazards
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Target Organ Effects Blood. Reproductive system. Damage to fetus possible Central nervous system (CNS). Eyes. Gastrointestinal tract (GI). Gingival Tissue. Kidney. Respiratory system. Skin. Teeth.

Endocrine Disruptor Information .

12. ECOLOGICAL INFORMATION

Ecotoxicity

Harmful to aquatic organisms. Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

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) <i>Cyprinus carpio</i> LC50: 1.17 mg/L (96 h flow-through) <i>Oncorhynchus mykiss</i> LC50: 1.32 mg/L (96 h static) <i>Oncorhynchus mykiss</i>		EC50: 600 µg/L (48 h) water flea
Sulfuric acid		LC50: > 500 mg/L (96 h static) <i>Brachydanio rerio</i>		EC50: 29 mg/L (24 h) <i>Daphnia magna</i>

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
D004
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	
Arsenic - 7440-38-2		Included in waste streams: F032, F034, F035, F039, K031, K060, K084, K101, K102, K161, K171, K172, K176	5.0 mg/L regulatory level	
Antimony - 7440-36-0		Included in waste streams: F039, K021, K161, K177		

Chemical Name	RCRA - Halogenated Organic Compounds	RCRA - P Series Wastes	RCRA - F Series Wastes	RCRA - K Series Wastes
Antimony - 7440-36-0				Toxic waste waste number K021 Waste description: Aqueous spent antimony catalyst waste from fluoromethanes production.

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	
Arsenic	Toxic			STLC (for PBTs): 5.0 mg/L TTLC (for P&Bs) (EHW): 50000 mg/kg as As TTLC (for PBTs): 500 mg/kg TCLP (for CA Toxicity): 5.0 mg/L
Calcium	Ignitable Reactive			
Antimony			Toxic	STLC (for PBTs): 15 mg/L TTLC (for PBTs): 500 mg/kg

14. TRANSPORT INFORMATION

DOT NOT REGULATED

TDG Not regulated

14. TRANSPORT INFORMATION

<u>MEX</u>	Not regulated
<u>ICAO</u>	Not regulated
<u>IATA</u>	Not regulated
<u>IMDG/IMO</u>	Not regulated

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 which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372:

Chemical Name	CAS-No	Weight %	SARA 313 - Threshold Values %
Lead	7439-92-1	60-100	0.1
Sulfuric acid	7664-93-9	5-10	1.0
Arsenic	7440-38-2	0.1 - 1	0.1
Antimony	7440-36-0	0.1 - 1	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
Arsenic		X	X	
Antimony		X	X	

Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 61)

This product contains the following substances which 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	60-100				
Arsenic	7440-38-2	0.1 - 1				
Antimony	7440-36-0	0.1 - 1				

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
Arsenic	1 lb	
Antimony	5000 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
Arsenic	7440-38-2	Carcinogen
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
Antimony	X	X	X	X	X
Arsenic	X	X	X	X	X
Calcium	X	X	X		
Sulfuric acid	X	X	X	X	X

International Regulations**Mexico - Grade**

Moderate risk, Grade 2

Chemical Name	Carcinogen Status	Exposure Limits
Lead	A3	Mexico: TWA= 0.15 mg/m ³
Antimony		Mexico: TWA 0.5 mg/m ³
Arsenic	A1	Mexico: TWA 0.01 mg/m ³
Sulfuric acid	A2	Mexico: TWA 1 mg/m ³

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
Arsenic	X
Sulfuric acid	X

Legend

NPRI - National Pollutant Release Inventory

16. OTHER INFORMATION**Prepared By**

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

Revision Date

17-Jul-2013

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