105 East 34th Street, Suite 257, New York, NY 10016, T (800) 404-3475, F (877) 661-7089, E info@sigmastek.com

SAFETY DATA SHEET

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

Product Name	Valve Regulated Maintenance Free Lead-Acid Batteries: SP, SP DZM, SPM, HR, ST, SPL, SPF, SPZ Series.
Recommended Use	Lead acid battery. Lead Acid (Non-spillable) Battery
Supplier Address	SigmasTek Battery 105 East 34th Street, Suite 257 New York, NY 10016 T: (800) 404-3475 F: (877) 661-7089 E: info@sigmastek.com

SECTION 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	
Eyes	Corrosive to the eyes and may cause severe damage including blindness.
Skin	Causes burns.
Inhalation	Harmful by inhalation. Contact with moist mucous membranes of the respiratory system can cause caustic condition resulting in burns.
Ingestion	Harmful if swallowed. Can burn mouth, throat, and stomach.
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	See Section 12 for additional Ecological Information.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

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

SECTION 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.

SECTION 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	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.

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

SECTION 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.

SECTION 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.

SECTION 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.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

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

SECTION 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.

SECTION 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.

SECTION 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

SECTION 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				

SECTION 14: TRANSPORT INFORMATION

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

SECTION 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	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 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	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

SECTION 16: OTHER INFORMATION

Prepared By	SigmasTek Battery
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	www.sigmastek.com
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General Disclaimer	

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End of Safety Data Sheet