SAITE POWER SOURCE (VIET NAM) CO.,LTD

Add:Road No.6,An Phuoc IP,An Phuoc Ward,Long Thanh District,Dong Nai Province,Vietnam

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Material Safety Data Sheet

Section 1 --- Identification of The Product and The Company

Product Name : Valve Regulated Sealed Lead-Acid Battery

Company Identification: SAITE POWER SOURCE(VIET NAM) CO.,LTD

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Section 2---Composition/Information of Ingredients

Main Composition: Lead (Pb, PbO2, PbSO4)
Sulfuric acid(Gelled Sulfuric Acid)
Absorbed fiberglass mat Separator for AGM battery
PE/PP separator for GEL battery
ABS Plastic
Copper coated with Tin/Lead Terminal

Section 3---Hazardous Components

COMPONENTS	%W	CSHAPEL(TLV)	LD50 Oral	LD50 Inhalation	LD Contact
AGM battery/AGM DC battery					
Lead(Pb, PbO2, PbSO4)	70%	N/A	<500mg/kg	N/A	N/A
Sulfuric acid	20%	1mg/m3	2.135mg/kg	N/A	N/A
Fiberglass separator	5%	N/A	N/A	N/A	N/A
Container (ABS resin)	5%	N/A	N/A	N/A	N/A
GEL battery					
Lead (Pb, PbO2, PbSO4)	About 70%	0.050mg/m3	Š, (500) mg/Kg	N/A	N/A
Gelled Sulfuric Acid	About 20%	1 mg/m3	(2.14) mg/Kg	N/A	N/A
PE/PP separator	About 5%	N/A	N/A	N/A	N/A
Container (ABS resin)	About 5%	N/A	N/A	N/A	N/A

Classification of the chemical

Chemical Name	CAS NO.:	Weight%
Lead	7439-92-1	65～75
Sulfuric Acid/Gelled 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

SULFURIC ACID PRECAUTIONS :
Skin Contact: Flush with water, see physician if contact area is large or if blisters form.
Eye Contact: Call physician immediately and flush with water until physician arrives.
Inhalation: Immediate medical attention is required. Call a physician or poison control center immediately. If not breathing, give artificial respiration, if breathing is difficult, give oxygen.
Ingestion: Call physician. If patient is conscious, flush mouth with water, have patient drink milk or sodium bicarbonate solution.
LEAD COMPOUNDS PRECAUTIONS:
Skin contact: Wash immediately with soap and water.
Ingestion: May cause abdominal pain, nausea, vomiting, diarrhea, and severe cramping. Acute ingestion should be treated by a physician.

Section 5---Fire-Fighting Measures

Components	Flashpoint	Explosive limits	Comments
Lead	None	None	
Sulfuric acid/Gelled sulfuric acid	None	None	
Hydrogen	268℃	4%-72.4%	Sealed batteries can emit hydrogen if over charged(float voltage>2.40VPC)
Fiberglass/PE/PP separator	N/A	N/A	Toxic vapors may be released. In case fire, wear self-contained breathing

			apparatus.
ABS Plastic	None	N/A	Temp. over 300℃(573℉) may release combustible gases. In case of fire: wear positive pressure self-contained breathing apparatus.

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.

Section 6---Accidental Release Measures

Steps to take in case of leak or spill:
If sulfuric acid is spilled from a battery, neutralize acid with bicarbonate (baking soda), sodium carbon (soda ash), or calcium oxide (lime). Flush area with water and discard to the sewage system. Do not allow neutralized acid into sewage system.

Section 7--- Handling & Storage

1) Examine the appearance of the battery before use.
2) Store the battery in a cool place.
3) Recharge the battery that has been stored more than 3 months.
4) Charge the battery in a well-ventilated environment.
5) Secure the battery firmly installed in equipment.
6) Don’t load and unload the battery roughly.
7) Prohibit to dissecting the battery.
8) Don’t attempt to use a cracked, deformed or leaky battery.
9) Don’t subject the battery to excess vibration or violent jolted.
10) Prohibit to burning the battery or put it near the fire.

Section 8--- Exposure Controls/ Personal Protection

SKIN: Rubber gloves, Apron
RESPIRATORY: Respirator (for lead)
EYES: Safety goggles, Face Shield
COMMENTS: Protective equipment must be worn if the battery is cracked or otherwise damaged. A respirator should be worn during reclaim operations if the TLV is exceeded.

Section 9---Physical & Chemical Properties

Components	Density	Melting Points	Solubility in Water	Odor	Appearance
Lead	11.34	327.4℃	None	None	Silver-Grey Metal
Lead Sulfuric	6.2	1070℃	40mg/L(15℃)	None	White Powder

Lead dioxide	9.4	290℃	None	None	Brown Powder
Sulfuric acid	About 1.3	114℃	100%	Acidic	Clean Colorless liquid
Fiberglass /PE/PP separator	N/A	N/A	Slight	Toxic	White Fibrous Glass
ABS Plastics	N/A	N/A	None	None	Solid plastics

Section 10---Stability & Reactivity Data

COMPONENT	Sulfuric Acid/Gelled Sulfuric Acid
STABILITY	Stable at all temperature
COLYMERIZATION	Will not polymerize
INCOMPATIBILITY	Reactive metals, strong bases, most organic compounds
DECOMPOSITION PRODUCTS	Sulfuric dioxide, trioxide, hydrogen sulfide, hydrogen
CONDITIONS AVOID	Prohibit smoking, sparks, etc. from battery charging area. Avoid mixing acid with other chemicals.

Section 11---Toxicological Information

LEAD: The toxic effects of lead are accumulative and slow to appear. It affects the kidneys, reproductive, and central nervous systems. The symptoms of lead overexposure are anemia, vomiting, headache, stomach pain (lead colic), dizziness, loss of appetite, and muscle and joint pain. Exposure to lead from a battery most often occurs during lead reclaim operations through the breathing or ingestion of lead dust or fumes.

SULFURIC ACID: Sulfuric acid is a strong corrosive. Contact with acid can cause severe burns on the skin and in eyes. Ingestion of sulfuric acid will cause GI tract burns. Acid can be released if the battery case is damaged or if vents are tampered with.

FIBERGLASS SEPARATOR/PE/PP: Fiber glass/PE/PP is an irritant of the upper reparatory tract, skin and eyes. For exposure up to 10F/CC use MSA Camphol with type H filter. Above 10F/CC up to 50F/CC use Ultra-Twin with type H filter. This product is not considered carcinogenic by NTP or OSHA.

Marks: NTP is short for NATIONAL TOXICITY PROGRAM;

OSHA is short for OCCUPATIONAL SAFETY & HEALTH ADMINSTRATION

Section 12--- Electrical Safety

Due to the battery's low internal resistance and high power density, high levels of short circuit current can be developed across the battery terminals. Do not rest tools or cables on the battery. Use insulated tools only. Follow all installation instructions and diagrams when installing or maintaining battery systems.

Section 13---Disposal Considerations

Neutralized acid may be flushed down the sewer. Spent batteries must be treated as hazardous waste and disposed of according to local, state, and federal guidelines. A copy of this MSDS must be supplied to any scrap dealer or secondary lead smelter with battery.

Section 14 --- Transportation Information

We hereby certify that all BAOTE Valve regulated Sealed Lead Acid batteries conform to the UN2800 classification as "Batteries, wet, Non- Spillable, and electric storage" as a result of passing the Vibration and Pressure Differential Test descripted in United Nations Recommendations on the Transport of Dangerous Goods Model Regulations(Rev.19) Chapter 3.3 Clause 238, 2015 and IATA/ICAO [Special Provision A67] under the most update IATA Dangerous Goods Regulation (DRG) 60th edition of 2019.

“class 8,Group III UN No.2800 Batteries,wet,non-spillable,electric storage,special provision A67”.These batteries are classified as non-spillable because they have been shown to meet the requirements of packing Instruction 806.

Special Provision A67,contained in IATA Dangerous Goods Regulations and the ICAO publication,Technical Instructions for the safe Transport of Goods by Air and states that “Non-spillable batteries are not subject to these Instructions if,at temperature of 55℃， the electrolyte will not flow from a ruptured or cracked case and there is no free liquid to flow and if, when packaged for transport, the terminals are protected from short circuit.”

Our batteries having met the related conditions after testing by Shanghai Research Institute of Chemical industry Testing Center, who state that the batteries could be regarded as non-dangerous. Several other independent internationally recognised laboratories are also in agreement that these battery types are non-dangerous.

Section 15 --- Control Measure

Engineering Controls:
Store and handle in well-ventilated area. If mechanical ventilation is used, components must be acid-resistant.

Work Practices:
Handle batteries cautiously to avoid spills. Make certain vent caps are on securely. Avoid contact with internal components. Wear protective clothing when filling or handling batteries.

Respiratory Protection:
None required under normal conditions. When concentrations of sulfuric acid mist are known to exceed PEL, use NIOSH or MSHA-approved respiratory protection.

Protective gloves:
Rubber or plastic acid-resistant gloves with elbow-length gauntlet.

Eye Protection:
Chemical goggles or face shield.

Other Protection:
Acid-resistant apron. Under severe exposure or emergency conditions, wear acid-resistant clothing and boots.

Emergency Flushing:
In areas where sulfuric acid is handled in concentrations greater than 1%, emergency eyewash stations and showers should be provided, with unlimited water supply.

Section 16 --- Other Information

This information is based on our current level of knowledge and relates to the products in the states in which it is delivered. It is intended to describe our products from the point of view of safety requirements and is not intended to guarantee any particularity.

ALL DATA MUST BE PASSED TO ANY SCRAP DEALER OR SMELTER WHEN BATTERY IS RESOLD.

Note: This is valid from Jan.1st,2019 to Dec.31st,2020