



MSDS Report

Prepared For :	HZH Marine Group Co.,Ltd. NO.268 Maogang Road Huangpu Guangzhou China
Product Name:	BATTERY
Model:	2V, 4V, 6V, 12V, 0.5AH~400AH
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Date of Report :	Nov.29,2021
Report No.:	HTT202111350CH

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Date : Nov.29,2021



Section 1- Chemical Product & Company Identification

Product Name: BATTERY

Manufacture: HZH Marine Group Co.,Ltd.

NO.268 Maogang Road Huangpu Guangzhou China

Section 2- Composition/Information on Ingredients

Chemical Name	CAS No.	Weight(%)
Pb, PbO ₂	7439-92-1,1309-60-0	65
Ca	7440-70-2	0.15
Sn	7440-31-5	1
H ₂ SO ₄	7664-93-9	15
ABS	9003-56-9	10
Manganese powder	7439-96-5	4

Section 3- Hazards Identification

Fatalness: Under normal operating conditions, the internal material will not be hazardous to your health. Only internally exposed material during production or case breakage or extreme heat (fire) may be hazardous to your health.

Invasion route: Skin touch: Acid may cause irritation, burns and/or ulceration.

Eyes touch: Acid may cause sever irritation, burns, cornea damage and/or blindness.

Inhalation: There will be no dangerous during normal use.

Ingestion: Ingestion of internal chemical materials may cause mouth, throat and intestinal buns irritation and damage. Get medical aid.

Installation: Acid mist from formation process may cause respiratory irritation.

Acute Effects: Over exposure to lead may lead to loss of appetite, constipation, sleeplessness and fatigue. Over exposure to acid may lead to skin irritation, corneal damage of the eyes and upper respiratory system.

Chronic Effects: Lead and its components may cause damage to kidneys and nervous system. Acid and its components may cause lung damage and pulmonary

Potential to Cause Cancer: The International Agency for Research on Cancer has classified



"strong inorganic acid mist containing sulfuric acid" as a Category 1 carcinogen, a substance that is carcinogenic to humans. This classification does not apply to liquid forms of sulfuric acid or sulfuric acid solutions contained within a battery. Inorganic acid mist is not generated under normal use of this product. Misuse of the product, such as overcharging, may however result in the generation of sulfuric acid mist.

Section 4- First Aid Measures

The battery is not hazard with eye and skin contact under normal circumstance. In case of the enclosure is damaged, the battery can not be used and touched. It is safety except that the battery is damaged by fire or rupture. The leakage of internal hazardous substance and formation of hazardous substance would occur, take the following measures if contact with the battery.

Skin touch: If there is any unwell reaction, wash thoroughly with soap & water, flush with plenty of water. If irritation persists, seek medical advice.

Eyes touch: Rinse immediately with plenty of water for at least 15 mins. Contact a doctor if symptoms persist.

Inhalation: Remove from exposure site to fresh air. Keep at rest. Obtain medical attention.

Ingestion: Rinse mouth out with water. Seek medical advice immediately.

California Proposition 65: The State of California has determined that certain battery terminals and related accessories contain lead and lead compounds, chemicals known to the State of California to cause cancer and reproductive harm. Warning: Wash hands thoroughly after handling batteries.

Section 5- Fire Fighting Measures

Flash Point:

Hydrogen = 259

Auto ignition Temperature:

Hydrogen = 580

Extinguishing Media:

Dry chemical, foam, CO2

Unusual Fire and Explosion Hazards: Hydrogen and oxygen gases are produced in the cells during normal battery operation (hydrogen is flammable and oxygen supports combustion). These gases enter the air through the vent caps. To avoid the chance of a fire or explosion, keep sparks and other sources of ignition away.



Section 6- Accidental Release Measures

Personal precautions: If the battery is released, remove personnel from area until fumes dissipate. Provide maximum ventilation to clear out hazardous gases. The preferred response is to leave the area and allow the vapors to dissipate. Avoid skin and eyes contact or inhalation of vapors.

Remove spilled liquid with absorbent and incinerated. If leakage of the battery happens, liquid could be absorbed with sand, earth or other inert substance and contaminated area should be ventilated meantime.

Environment precautions: Make an limitation for burning and throwing into garbage. Do not flush into surface water.

Cleaning up methods: N/A

Section 7- Handling and Storage

Precautions in handling: Do not expose the battery to excessive physical shocked or vibration. Short-circuiting should be avoided. Prolonged short circuits may damage the battery. Charge the battery according to manufacture's specifications.

Storage conditions: Store in a well-ventilated area away from incompatible substances. Use only in a well-ventilated area, don't place the battery near heating equipment, nor expose to direct sunlight for long periods. Elevated temperatures can result in shortened battery life and degrade performance.

Section 8 - Exposure Controls/Personal Protection

Respiratory protection: None required under normal handling conditions. During battery formation (high-rate charge condition), acid mist can be generated which may cause respiratory irritation. Also, if acid spillage occurs in a confined space, exposure may occur. If irritation occurs, wear a respirator suitable for protection against acid mist.

Eyes and Face: Chemical splash goggles are preferred. Also acceptable are 'visor-gogs' or a chemical face shield worn over safety glasses.

Hands, Arms, Body: Vinyl coated, VC, gauntlet type gloves with rough finish are preferred.

Other Special Clothing and Equipment: Safety shoes are recommended when handling batteries. All footwear must meet requirements of ANSI Z41.1 - Rev. 1972.



Section 9- Physical and Chemical Properties

Physical State: Solid state

Electrolyte:

Boiling Point:	230°F/110°C	Melting Point Lead:	327.4°C
Specific Gravity:	1.215 - 1.350	Vapor Density:	Not determined
% Volatiles By Weight:	Not Applicable	Vapor Pressure:	Not determined
Solubility in Water:	100% (electrolyte)	Evaporation Rate:	Not determined

Appearance and Odor: Electrolyte is a clear liquid with an acidic odor.

Section 10 – Stability and Reactivity

Stability: Stable during normal operation conditions.

Conditions to Avoid: Sparks and other sources of ignition.

Incompatibility: (materials to avoid)

Lead/lead compounds: Potassium, carbides, sulfides, peroxides, phosphorus, sulfur.

Battery electrolyte (acid): Combustible materials, strong reducing agents, most metals, carbides, organic materials, chlorates, nitrates, picrates, and fulminates.

Hazardous Decomposition Products:

Lead/lead compounds: Oxides of lead and sulfur.

Battery electrolyte (acid): Hydrogen, sulfur dioxide, and sulfur trioxide.

Conditions to Avoid: High temperature. Battery electrolyte (acid) will react with water to produce heat. Can react with oxidizing or reducing agents.

Section 11 – Toxicological Information

Not applicable under normal conditions of use. Chemicals within the battery have the following properties: Lead is considered as a class 2B carcinogen by IARC. Electrolyte vapors are categorized as corrosive and irritants.



Section 12-Ecological Information

Degradability: N/A

Precautions: Not available

Section 13 – Disposal Considerations

Nature of waste: Hazardous Waste

Waste disposal methods:

- a. Disposal of the battery should be performed by permitted, professional disposal firms knowledgeable in federal, state or local requirements of hazardous waste treatment and hazardous waste transportation.
- b. Incineration should never be performed by battery used. The batteries contained recyclable materials. Recycling options available in your local area should be considered when disposing of this battery, through licensed waste carrier.
- c. The battery should have their terminal insulated in order to prevent short circuits during transportation to the disposal site.

Note: Consult your local or region authorities, disposal maybe subject to national, state, or local laws.

Section 14 – Transport Information

This report applies to by sea, by air and by land;

The 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 described in DOT [49 CFR 173.159(d)] and IATA/ICAO [Special Provision A67] and IMDG CODE 2010 Edition Chapter 3.3 item 238.

The battery having met the related conditions are EXEMPT from hazardous goods regulations for the purpose of transportation by DOT, IATA/ICAO and IMDG, and therefore are unrestricted for transportation by any means.



Section 15 – Regulatory Information

UN NO. : 2800

CLASS 8

The lead-acid battery is classified as "non-spillable" for the purpose of transportation by DOT, and IATA/ICAO as result of passing the Vibration and Pressure Differential Test described in DOT [49 CFR 173.159 (d)] and IATA/ICAO [Special Provision A67].TI

Section 16 – Additional Information

Note: The above information is based on the data of which we are aware and is believed to be correct as of the data hereof. Since this information may be applied under conditions beyond our control and with which may be unfamiliar and since data made available subsequent to the data hereof may suggest modifications of the information, we do not assume any responsibility for the results of its use. This information is furnished upon condition that the person receiving it shall make his own determination of the suitability of the material for his particular purpose.

End of report