



REPORT No. : SZ16060015R01

Material Safety Data Sheet

APPLICANT : Fujian Quanzhou Dahua Battery Co., Ltd.
ADDRESS : Heshi Industrial Area, Luojiang District, Quanzhou,
Fujian, China
BRAND NAME : N/A
SAMPLE NAME : Non-spillable Rechargeable Sealed Lead-Acid
Battery
MODEL NAME : DHB 1270
ISSUE DATE : 2016-07-12



SHENZHEN MORLAB COMMUNICATIONS TECHNOLOGY Co., Ltd.

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1. Product and Company Identification

Product Name	Non-spillable Rechargeable Sealed Lead-Acid
Model Name	DHB 1270
Manufacturer	Fujian Quanzhou Dahua Battery Co., Ltd.
Manufacturer Address	Heshi Industrial Area, Luojiang District, Quanzhou, Fujian, China
Emergency Telephone Number	+86-0595-22034744

2. Hazards Identification

NOTE: Under normal conditions of battery use, internal components will not present a health hazard. The following information is provided for battery electrolyte (acid) and lead for exposure that may occur during battery production or container breakage or under extreme heat conditions such as fire.

EMERGENCY OVERVIEW:

Acid filled battery. Contact with the electrolyte will cause burns to the eyes and skin. Contains lead. Absorption of lead potentially may cause poisoning and reproductive effects.



ROUTES OF ENTRY:

EYE CONTACT: Contact with the battery electrolyte can cause severe irritation, burns, and cornea damage upon contact.

SKIN CONTACT: Battery electrolyte (acid) can cause severe irritation, burns and ulceration.

SKIN ABSORPTION: Not a significant route of entry.

INHALATION: Acid mist generated during battery charging or spillage of the electrolyte in a confined area may cause respiratory irritation.

INGESTION: Hands contaminated by contact with internal components of a battery can cause ingestion of lead/lead compounds. Ingestion of battery electrolyte will cause severe burns to mouth and gastrointestinal tract.

ACUTE HEALTH EFFECTS:

Acute effects of overexposure to lead compounds are GI (gastrointestinal) upset, loss of appetite, diarrhea, constipation with cramping, difficulty in sleeping, and fatigue. Exposure and/or contact with battery electrolyte (acid) may lead to acute irritation of the skin, corneal damage of the eyes, and irritation of the mucous membranes of the eyes and upper respiratory system, including lungs.

CHRONIC HEALTH EFFECTS:

Lead and its compounds may cause chronic anemia, damage to the kidneys and nervous system. Lead may also cause reproductive system damage and can affect developing fetuses in pregnant



women. Battery electrolyte (acid) may lead to scarring of the cornea, chronic bronchitis, as well as erosion of tooth enamel in mouth breathers in repeated exposures.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE:

Inorganic lead and its compounds can aggravate chronic forms of kidney, liver, and neurological diseases. Contact of battery electrolyte (acid) with the skin may aggravate skin diseases such as eczema and contact dermatitis.

3. Composition Information

Hazardous Ingredients	CAS Number	Approximate% of total weight
Lead	79	7439-92-1
Electrolyte(Sulfuric Acid)	14	7664-93-9
ABS resin	7	9003-56-9

4. First Aid Measures

EYE CONTACT: Immediately rinse with cool running water for at least 15 minutes. Seek medical attention immediately after rinsing.

SKIN CONTACT: Wash thoroughly with soap and water. If acid is splashed on clothing, remove and discard. If acid is splashed in shoes, remove them immediately and discard. Acid cannot be removed from leather.

INHALATION: Remove from exposure and consult a physician if any of the acute effects listed above develop.

INGESTION: Lead: Consult a physician. Battery Electrolyte: Do not induce vomiting. Refer to a physician immediately.

5. Fire Fighting Measures

FLASHPOINT: For Hydrogen - N/A as this is a gas.

TEST METHOD: N/A

AUTOIGNITION TEMPERATURE: Hydrogen - 580° C

EXTINGUISHING MEDIA: Dry chemical, foam, or CO₂

SPECIAL FIRE FIGHTING PROCEDURES: Use positive pressure, self-contained breathing apparatus.

UNUSUAL FIRE AND EXPLOSION HAZARD: Hydrogen and oxygen gases are produced in the cells during normal battery operations, 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 from the battery.

6. Accidental Release Measures

Remove combustible materials and all sources of ignition. Contain spill by diking with soda ash



(sodium carbonate) or quicklime (calcium oxide). Cover spill with either chemical. Mix well. Make certain the mixture is neutral, and then collect residue and place in a drum or other suitable container. Dispose of as a hazardous waste. Wear acid-resistant boots, chemical face shield, chemical splash goggles, and acid-resistant gloves.

DO NOT RELEASE UNNEUTRALIZED ACID!

7. Handling and Storage

WORK PRACTICES: Place a minimum of two layers of corrugated cardboard between layers of batteries. When stacking in trailer, stack no more than three layers high. Use a battery carrier to lift a battery or place hands at opposite corners. Avoid contact with internal components of the batteries. Wash hands thoroughly before eating, drinking or smoking after handling batteries.

SPECIAL PECAUTIONS: Keep open flames and sparks away from charging batteries.

STORAGE: Store lead acid batteries with adequate ventilation. Room ventilation is required for batteries utilized for standby power generation. Never recharge batteries in an unventilated, enclosed space.

8. Exposure Controls/Personal Protection

VENTILATION: Store lead acid batteries with adequate ventilation. Room ventilation is required for batteries utilized for standby power generation or in area designated for battery charging.

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. If irritation occurs, wear a respirator suitable for protection against acid mist.

GLOVES: Vinyl-coated, PVC, gauntlet-type gloves with rough finish.

EYE PROTECTION: Chemical splash goggles are preferred. Also acceptable are "Visor-Gogs" or a chemical face shield worn over safety glasses with solid side shields.

OTHER PROTECTIVE EQUIPMENT: Safety shoes worn with rubber or neoprene boots or steel-toed rubber or neoprene boots worn over socks. Place pants legs over boots to keep acid out of boots.

9. Physical and Chemical Properties

PHYSICAL STATE: Battery has a solid case with solid and absorbed liquid internal components.

APPEARANCE AND ODOR: Battery Electrolyte (acid) is a clear to cloudy liquid with slight acidic odor. Acid saturated lead oxide is a dark reddish-brown to gray solid with slight acidic odor.

pH: electrolyte - 1.0

SPECIFIC GRAVITY: electrolyte - 1.215-1.350

BOILING POINT: Lead - 1755°C electrolyte - 110°C

VAPOR PRESSURE: Not determined

MELTING POINT: Lead 327.4°C

VAPOR DENSITY: Not determined



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SOLUBILITY IN WATER: electrolyte – 100%

COEFFICIENT WATER/OIL: N/A

PERCENT VOLATILE: Not determined.

EVAPORATION RATE: Not determined

10. Stability and Reactivity

STABILITY: ☐ Unstable ☒ Stable

CONDITIONS TO AVOID: Sparks and other sources of ignition may ignite hydrogen gas.

INCOMPATIBILITY: 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, sulfur trioxide.

HAZARDOUS POLYMERIZATION: Will not occur.

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

11. Toxicological Information

ACUTE TOXICITY DATA: Lead/lead compounds: No data is available.

Sulfuric Acid: LD50 oral rat: 2140 mg/kg

LD50 inhalation: 510 mg/m³/2 hour

CARCINOGENICITY: The National Toxicological Program (NTP) and The International Agency for Research on Cancer (IARC) have classified “strong inorganic acid mist containing sulfuric acid” as a Category 1 carcinogen, a substance that is carcinogenic to humans. The ACGIH has classified “strong inorganic acid mist containing sulfuric acid” as an A2 carcinogen (suspected human carcinogen). These classifications do not apply to liquid forms of sulfuric acid or sulfuric acid solutions contained within a battery. Inorganic acid mist (sulfuric acid mist) is not generated under normal use of this product. Misuse of the product, such as overcharging, may result in the generation of sulfuric acid mist.

The NTP and the IARC have classified lead as an A3 carcinogen (animal carcinogen). While the agent is carcinogenic in experimental animals at relatively high doses, the agent is unlikely to cause cancer in humans except under uncommonly high levels of exposure. For further information, see the ACGIH’s pamphlet, 1996 Threshold Limit Values and Biological Exposure Indices.

REPRODUCTIVE TOXICITY: Lead is known to cause birth defects in human and animals.

TERATOGENICITY: Lead is known to cause birth defects in human and animals.

MUTAGENICITY: Lead has been found to be mutagenic.

SYNERGISTIC EFFECTS: Other heavy metals (arsenic, cadmium, mercury) may cause additive toxic effects.



12. Ecological Information

EFFECTS OF MATERIALS ON PLANTS OR ANIMALS: Lead and its compounds may cause an adverse effect to animals and plants that come into contact with them.

EFFECTS ON AQUATIC LIFE: Lead and its compounds may cause an adverse effect to animals and plants in an aquatic environment that come into contact with them.

13. Disposal Considerations

Battery Electrolyte (Acid): Neutralize as above for a spill, collect residue, and place in a drum or suitable container. Dispose of as a hazardous waste.

Batteries: Send to lead smelter for reclamation following applicable Canadian, provincial, and local regulations.



14. Transport Information

US DOT SHIPPING NAME: UN2800, Battery, Wet, Non-Spillable, Class 8, PG, III.

All Interstate Batteries brand and Power Patrol brand sealed lead-acid batteries are “non-spillable batteries” as defined by the United States Hazardous Materials Regulations in Title 49 Code of Federal Regulations Part 173.159a and by the Transport Canada Dangerous Goods Regulations Part 12.9(11)(a)(ii)(B). These batteries pass both the Vibration Test and the Pressure Differential Test that are described in 49 CFR 173.159(f).

Non-spillable batteries may be transported by air, truck, and boat and are excepted from the packaging requirements of §173.159 under the following conditions which are found in 49 Code of Federal Regulations 173.159a, the ICAO/IATA Special Provision A67, the ICAO/IATA Packing Instruction # 872, and IMDG Special Provision 238 which are printed below

49 CFR 173.159a says:

- (1) The battery must be securely packed in strong outer packaging, terminals are protected against short circuits, and meet the requirements of 49 CFR §173.159(a).
- (2) A non-spillable battery which is an integral part of and necessary for the operation of mechanical or electronic equipment must be securely fastened in the battery holder on the equipment and protected in such a manner as to prevent damage and short circuits.
- (3) The battery and outer packaging must be plainly and durably marked “NON-SPILLABLE” or “NON-SPILLABLE BATTERY.” The requirement to mark the outer package does not apply when the battery is installed in a piece of equipment that is transported unpackaged.



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If the battery complies with the 3 conditions listed above then the Shipping Paper does not need to show the UN Number, the shipping name, hazard class, and Packing Group. Also, Hazardous labels are not required.

For Shipment by Air: ICAO/IATA SPECIAL PROVISION A67

For Shipment by Air: ICAO/IATA PACKING INSTRUCTION 872

Compatibility Requirements

Substances must be compatible with their packaging as required by 5.0.2.6;

Metal packaging must be corrosion resistant or with protection against corrosion.

Closure Requirements

Closures must meet the requirements of 5.0.2.7;

IMDG Special Provision 238

IATA SHIPPING NAME: UN2800, Battery, Wet, Non-Spillable, Class 8, PG, III.

15. Regulatory Information

TSCA REGISTRY: Ingredients listed in the TSCA Registry are lead, lead oxide, lead sulfate and sulfuric acid.

CALIFORNIA PROPOSITION 65 WARNING: The state of California has listed lead as a material known to cause cancer or cause reproductive harm (July 9, 2004 California List of Chemicals Known to Cause Cancer or Reproductive Toxicity)

SARA TITLE III: The contents of this product are toxic chemicals that are subject to the reporting requirements of section 302 and 313 of the Emergency Planning and Community Right-To-Know Act of 1986 (40CFR 355 and 372).

CANADIAN ENVIRONMENTAL PROTECTION ACT: These products are manufactured articles and are exempt from regulation.

CANADIAN WHMIS CLASSIFICATION: This product has been classified according to the hazard criteria of the CPR and the MSDS contains all the information required by the CPR.

16. Other Information

The information contained in this Safety data sheet is based on the present state of knowledge and current legislation.

This safety data sheet provides guidance on health, safety and environmental aspects of the product and should not be construed as any guarantee of technical performance or suitability for particular applications.

DISCLAIMER

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. We make no warranty of merchantability or any other warranty express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigation to determine the suitability of the information for their particular purposes. In no way shall we be liable for any claims, losses, or damages of any third



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party or for lost profits or any special, indirect, incidental consequential or exemplary damages, howsoever arising from using the above information.

Checked by: *SunZhu*

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***** End of Material Safety Data Sheet *****