

Material Safety Data Sheet

1. Chemical Product and Company Identification

Date of Issue : 1 Jan 2024
Product Name : Zinc-Manganese Battery
Supplier : Guangzhou Tiger Head Battery Group Co., Ltd
Floor 28, Top Plaza East Tower, No.222 Xingmin Road,
Zhujiang New Town, Tianhe District, Guangzhou, China
Emergency Phone No. : 020-85525623 ext. 8901
Manufacturer : YuNan Tiger Head Power Supply Science and Technology Ltd.
Shaziling, Ducheng Town, YuNan County,
GuangDong Province

2. Composition/ Information on Ingredients

Chemical/Size	R03/ER03X	CAS Registry No
Weight	8.8g	
Mercury	< 1ppm	7439-97-6
Cadmium	< 5ppm	7440-43-9
Lead	< 0.02%	7439-92-1
Zinc	36.00%	744-66-6
Carbon	12.00%	7782-42-5
Manganese Dioxide	23.50%	1313-13-9
Paper & Sealing Agent	2.00%	9004-34-6
Plastic	2.70%	900288-4
Tin Plated Steel	3.90%	7439-89-6
Zinc Chloride	5.70%	7446-85-7
Ammonium Chloride	0.80%	12125-02-9
Water	13.40%	7732-18-5
Total	100%	

The components in this section may only represent a hazard, if the batteries are damaged.



Material Safety Data Sheet

3. Hazards Identification:

Warning: When recharge batteries or discard in the fire or use used battery with new one, or connected improperly may cause battery vent, leak or explode.

Damaged batteries may cause skin and eye burn, may cause respiratory tract irritation.

4. First-aid Measure

General speaking it is not expected to result in situation that requires first-aid measure, except the damaged batteries may cause they release the contents.

Inhalation: If vapours or fumes from vented or leaked batteries are irritation, move to fresh air and get medical attention.

Eyes: Check for and remove any contact lens, flush eyes with plenty of water, holding eyelids open, for at least 20 minutes, get medical help.

Skin: Immediately move the metal fragments and chemical components flush skin with plenty of water at least 15 minutes, get medical, if necessary,

Ingestion: Get immediately medical attention, do not induce vomiting or give a liquid to unconscious person.

5. Fire Fighting Measure:

Extinguishing media: Use appropriate agent for adjacent fire.

Flash point: Not available.

Auto-ignition temperature: Not available.

Flammable limits: Not available.

Products of combustion: Zinc oxide, manganese oxide.

6. Accidental Release Measure:

Not available.



Material Safety Data Sheet

7. Handling and Storage:

Precaution: Handling and transfer the products with care, make sure the packing always in good condition.

Damaged packing may cause batteries contact together, in this case batteries may short circuit or improperly connected, it cause batteries venting, leaking or exploding.

Storage: Store in a dry, cool and well-ventilated area.

8. Exposure control / Personal protection

Exposure control: If necessary, set local exhaust ventilation.

Personal protection: Gloves, safety glass, dust respirator.

9. Physical and Chemical Properties

Physical State and Appearance: Solid.

Melting Point : Not applicable.

Vapour pressure: Not available.

PH (1% soln/water): Not available.

Solubility: Insoluble.

Volatility: Not available.

Specific gravity: (water=1) not applicable

Odour: Odourless.

Taste: Not available.

10. Stability and Reactivity

Stability: The products are stable.

Instability temperature: Not available.

Incompatibility: Reactive with acids and alkalis.

Corrosivity: None.

Hazardous Polymerization: Will not occur.

11. Toxicological information

Note: Since the materials in this battery are sealed in the can, the potential for exposure to the components of the battery is negligible, when the battery is used as directed. However technical or electrical abuse of the battery may result in the release of battery contents.

Toxicity to Animals: Not applicable.

Chronic Effects on Human: Not applicable.



Material Safety Data Sheet

12. Ecological information

This product has not been tested for environmental effects.

13. Disposal consideration

Waste disposal: Consult your local or regional authorities, disposal maybe subject to national, state, or local laws.

14. Regulatory information

ACGH: American Conference of Government Industrial Hygiene.

IARC: International Agency for Research Cancer.

NPT: US National Toxicology Program.

NIOSH: National Institute of Occupational Safety and Health

ACGIH, documentation on TLVS and BELS 1992-1993

ACGIH, threshold limit values, current listing

15. Other information

Warning wordings: "Keep out reach of children"

"Do not recharge or discard in fire or use used battery with new one, make sure polarity"

16. Transportation Shipping

The transportation of dry cell batteries manufactured or sold by Guangzhou Tiger Head Battery Group Co., Ltd is not regulated by US Department of Transportation or major international regulatory bodies.

These batteries are also not regulated by International Agencies as hazardous materials or dangerous goods when shipped.

These batteries are also not being considered as a "hazardous material" per US DOT (Dept of Transportation) regulations or "dangerous goods" per IATA (International Air Transport Association) regulations.

Not restricted as per 65th IATA dangerous goods special regulations provision A123.

We, Guangzhou Tiger Head Battery Group Co., Ltd declares that this cargo is not dangerous goods in accordance with the IMDG Code Special Provision 304.

