

# Material Safety Data Sheet

**Sample Name:** zinc-manganese dry battery

**Model:** R03(AAA)

**Applicant:** NINGBO FEILU BATTERY CO.,LTD

**Report No.:** FLDC20251219MSDS10

**Category:** MSDS

Guangzhou CPUP Certification Technology Service Co., Ltd.



Section 1 - Chemical and Company Identification		
Sample Name	zinc-manganese dry battery	
Model	R03(AAA)	
Ratings	1.5V, 400mAh	
Applicant	NINGBO FEILU BATTERY CO.,LTD	
Applicant address	NO.172 Xidian South Road, Xidian Town, Ninghai County, Ningbo Zhejiang, China	
Manufacturer	NINGBO FEILU BATTERY CO.,LTD	
Manufacturer Contact information	address	NO.172 Xidian South Road, Xidian Town, Ninghai County, Ningbo Zhejiang, China
	Tel.	13958247688
	Email	50492343@qq.com

Section 2 - Hazards Identification
<p><b>Hazards Identification:</b>            Not dangerous with normal use. Do not dismantle, open or shred the battery ingredients contained within or their ingredients products could be harmful.</p>
<p><b>Primary Route (s) of Exposure:</b>            inhalation, ingestion, Skin contact and Eye contact.</p>
<p><b>Potential Health Effects:</b>  <b>inhalation:</b> Vapors or mists from a ruptured battery may cause respiratory irritation.  <b>Ingestion:</b> The battery ingredients contained within or their ingredients products can cause serious chemical burns of mouth, esophagus, and gastrointestinal tract.  <b>Skin:</b> Skin contact with contents of an open battery can cause severe irritation or burns to the skin.  <b>Eye:</b> Eye contact with contents of an open battery can cause severe irritation or burns to the eye.</p>

Section 3- Composition/Information on Ingredients		
Chemical Name	CAS Number	Concentration or concentration ranges (%)
Manganese dioxide	1313-13-9	36~44
Zinc	7440-66-6	15.8~19.3
Stainless steel	12597-68-1	14.9~18.2
Water	7732-18-5	12.9~15.7
Graphite	7782-42-5	2.8~3.4
Potassium hydroxide	1310-58-3	2.5~3.0
Brass	12597-71-6	1.8~2.2
Polyethylene	9002-88-4	1.6~2.0

Acrylic resin	9003-01-4	1.5~1.8
Note: CAS number is Chemical Abstract Service Registry Number. N/A=Not apply.		

<b>Section 4- First Aid Measure</b>	
<b>Inhalation</b>	Remove source of contamination or move victim to fresh air. Obtain medical advice.
<b>Ingestion</b>	Please rinse mouth thoroughly with water, induce vomiting under the guidance of professional personage. Please seek medical treatment in time.
<b>Skin contact</b>	Remove contaminated clothes and rinse skin with plenty of water or shower for 15 minutes. Get medical aid.
<b>Eye contact</b>	Irrigate with flowing water for 15 minutes. If irritation persists, consult a physician.

<b>Section 5- Fire Fighting Measures</b>	
<b>Characteristics of Hazard</b>	Toxic fumes, gases or vapors may evolve on burning.
<b>Hazardous Combustion Products</b>	Carbon monoxide, carbon dioxide, lithium oxide fumes and so on.
<b>Fire-extinguishing Methods and Extinguishing Media</b>	Please use water, dry sand and other proper fire extinguishing media.
<b>Attention in Fire-extinguishing</b>	The firemen should put on antigas masks and full fire-fighting suits.

<b>Section 6- Accidental Release Measure</b>	
<b>Personal Precautions, protective equipment, and emergency procedures</b>	Restrict access to area until completion of clean-up. Do not touch the spilled material. Wear adequate personal protective equipment as indicated in Section 8.
<b>Environmental Precautions</b>	Prevent material from contaminating soil and from entering sewers or waterways.
<b>Methods and materials for Containment</b>	Stop the leak if safe to do so. Contain the spilled liquid with dry sand or earth. Clean up spills immediately.
<b>Methods and materials for cleaning up</b>	Absorb spilled material with an inert absorbent (dry sand or earth). Scoop contaminated absorbent into an acceptable waste container. Collect all contaminated absorbent and dispose of according to directions in Section 13. Scrub the area with detergent and water; collect all contaminated wash water for proper disposal.

<b>Section 7- Handling and Storage</b>
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<b>Handling</b>	Don't handling the batteries in manner that allows terminals to short circuit. Do not open, disassemble, crush or burn battery.
<b>Storage</b>	<p>If the battery is subject to storage for such a long term as more than 3 months, it is recommended to recharge the battery periodically.</p> <p>Long period storage: 25±5°C, 60±25%R.H</p> <p>Do not storage the battery haphazardly in a box or drawer where they may short-circuit each other or be short-circuited by other metal objects.</p> <p>Keep out of reach of children.</p> <p>Do not expose the battery to heat or fire. Avoid storage in direct sunlight.</p> <p>Do not store together with oxidizing and acidic materials.</p>

### Section 8 - Exposure Controls/Personal Protection

<b>Engineering Controls</b>	No engineering controls are required for handling batteries that have not been damaged. Personal protective equipments for damaged batteries should include chemical resistant gloves and safety glasses.
<b>Personal Protective Equipment</b>	<p>Respiratory Protection: in case of battery venting, provide as much ventilation as possible. Avoid confined areas with venting cell cores. Respiratory Protection is not necessary under conditions of normal use. Not necessary under conditions of normal use.</p> <p>Protective Gloves: Not necessary under conditions of normal use.</p> <p>Other Protective Clothing or Equipment: Not necessary under conditions of normal use.</p> <p>Personal Protection is recommended for venting battery: Respiratory Protection, Protective Gloves, Protective Clothing and safety glass with side shields.</p>

### Section 9- Physical and Chemical Properties

<b>Physical state:</b> Solid
<b>Odor:</b> Odorless
<b>Solubility:</b> Partial soluble in water

### Section 10 - Stability and Reactivity

<b>Stability</b>	Stable under normal temperatures and pressures.
<b>Conditions to Avoid</b>	Heat above 70°C or Incinerate, Deform, Mutilate, Crush, Disassemble, Overcharge, Short circuit, Expose over a long period to humid conditions.
<b>Hazardous Decomposition Products</b>	Toxic Fumes, and may form peroxides.
<b>Possibility of Hazardous Reaction</b>	If leaked, forbidden to contact with strong oxidizers, mineral acids, strong alkalis, halogenated hydrocarbons.

<b>Section 11 - Toxicological Information</b>	
<b>Irritation</b>	In the event of exposure to internal contents, vapor fumes may be very irritating to the eyes and skin.
<b>Sensitization</b>	Not applicable.
<b>Reproductive Toxicity</b>	Not applicable.
<b>Toxicologically Synergistic Materials</b>	Not applicable.

<b>Section 12-Ecological Information</b>	
<b>General note</b>	Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
<b>Anticipated behavior of a chemical product in environment/possible environmental impact/ecotoxicity</b>	Not applicable.
<b>Mobility in soil</b>	Not applicable.
<b>Persistence and Degradability</b>	Not applicable.

<b>Section 13 - Disposal Considerations</b>	
<b>Waste Treatment</b>	Recycle or dispose of in accordance with government, state & local regulations.
<b>Attention for Waste Treatment</b>	Deserted batteries couldn't be treated as ordinary trash. Couldn't be thrown into fire or placed in high temperature. Couldn't be dissected, pierced, crushed or treated similarly. Best way is recycling.

<b>Section 14-Transport Information</b>	
<p>The battery shall be protected so as to prevent short circuits. This includes protection against contact with conductive materials within the same packaging that could lead to short circuit.</p> <p>The packaging shall be adequate to avoid mechanical damage during transport, handling and stacking.</p> <p>With regard to transport, the following regulations are cited and considered:</p> <ul style="list-style-type: none"> <li>-The international Civil Aviation Organization (ICAO) Technical Instructions.</li> <li>-The international Air transport Association (IATA) Dangerous Goods Regulations.</li> </ul> <p>UN Proper shipping name/Description (technical name): N/A</p> <p>UN number: N/A</p> <p>UN Classification (Transport hazard class): N/A</p> <p>The battery can be shipped by air in according to special provision A123 of the 2026 IATA Dangerous Goods regulations 67<sup>th</sup>Edition.</p>	

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-The international Maritime Dangerous Goods (IMDG) Code.  
 UN number: N/A  
 UN Proper shipping name/Description (technical name): N/A  
 UN Classification (Transport hazard class): N/A  
 The battery is deal with according to IMO IMDG Code (inc. Amendment 42-24).

### Section 15 - Regulatory Information

The international Civil Aviation Organization (ICAO) Technical Instructions.  
 The international Air transport Association (IATA) Dangerous Goods Regulations.  
 The international Maritime Dangerous Goods (IMDG) Code.

### Section 16 - Additional Information

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**Other Information:**

The information above is believed to be accurate and represents the best information currently available to us. However, we makes 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 investigations to determine the suitability of the information for their particular purposes. Although reasonable precautions have been taken in the preparation of the data contained herein, it is offered solely for your information, consideration and investigation. This safety data sheet provides guidelines for the safe handling and use of this product; it does not and cannot advise on all possible situations, therefore, your specific use of this product should be evaluated to determine if additional precautions are required.

--End of report--