

## Material Safety Data Sheet

### 1. Identification of the substance/preparation and of the company / undertaking

Product name: Pairdeer R6 Battery  
Product Designation: R6  
Nominal Voltage: 1.5V  
Chemical system: Zinc/ Manganese Dioxide  
Designed for recharge: Yes\_\_No√  
Company name: Zhongyin Ningbo Battery Co., Ltd.  
128 Xingguang Road, Hi-Tech Park  
Ningbo  
China  
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### 2. Compositions /Information on Ingredients

Chemical Nature: zinc-manganese dioxide batteries

MATERIALS	CAS#	APPROXIMATE PERCENT OF TOTAL WEIGHT (~%)
Manganese Dioxide (MnO <sub>2</sub> )	1313-13-9	24.2
Zinc (Zn)	7440-66-6	31.8
Ammonium chloride (NH <sub>4</sub> Cl) and Zinc chloride (ZnCl <sub>2</sub> ) mixture solution	/	26.4

IMPURITY	CAS#	APPROXIMATE PERCENT OF TOTAL WEIGHT (~%)
Mercury (Hg)	7439-97-6	<0.0001
Lead (Pb)	7439-92-1	<0.4
Cadmium (Cd)	7440-43-9	<0.002

### 3. Hazards identifications

General advice: The common known rules for handling of chemicals should be obeyed. Do not eat and drink batteries. Keep batteries away from small children.

Physical-Chemical Hazards: This preparation is not classified as dangerous according to the criteria of directive 99/45/EEC.

Hazards to environment: N.A..

### 4. First-aid measures

In case of electrolyte leakage, skin will be itchy when contaminated with electrolyte.

In contact with electrolyte can cause server irritation and chemical burns

Inhalation of electrolyte vapors may cause irritation of the upper respiratory tract and lungs.

If electrolyte leakage occurs and makes contact with skin, wash with plenty of water immediately

If electrolyte comes into contact with eyes, wash with copious amounts of water for fifteen minutes, and contact a physician.

If electrolyte vapors are inhaled, provide fresh air and seek medical attention if respiratory irritation develops. Ventilate the contaminated area.

### 5. Fire-fighting measures

Flash Point (Method Used)	Ignition Temp.	Flammable Limits	LEL	UEL
N.A.	N.A.	N.A.	N.A.	N.A.

Extinguishing Media: N.A.  
Special Fire Fighting Procedures: N.A.  
Unusual Fire and Explosion Hazards  
Do not dispose of battery in fire - may explode.  
Do not short-circuit battery - may cause burns.

## 6. Accidental release measures

Steps to Be Taken in Case Material is Released or Spilled  
Batteries that are leakage should be handled with rubber gloves.  
Avoid direct contact with electrolyte.  
Wear protective clothing and a positive pressure Self-Contained Breathing Apparatus (SCBA).

## 7. Handling and storage

Safe handling and storage advice  
The battery is extremely sensitive to adverse effects of humidity. Be sure to store them in a place that is dry and subject to little temperature change. Do not place near the boiler or radiator, nor expose to direct sun light. Do not dispose of the battery in fire. Do not charge the battery. Do not short-circuit the battery. Do not put in backward position. Do not store in disorderly fashion, or allow metal objects to be mixed with stored batteries. Do not disassemble the battery, handing in such manner can cause the battery to explode, leak and injury.

## 8. Exposure controls and personal protection

Exposition/Technical measures: Atmospheric vapour concentrations must be minimized by adequate ventilation.  
Protection of hands, eyes and skin: None required under normal use conditions.  
General safety and hygiene measures: Use only as directed.

## 9. Physical and chemical properties

Boiling Point N.A.	Specific Gravity (H <sub>2</sub> O=1) N.A.
Vapor Pressure (mm Hg) N.A.	Melting Point N.A.
Vapor Density (AIR=1) N.A.	Evaporation Rate (Butyl Acetate=1) N.A.
Solubility in Water N.A.	Appearance and Odor Cylinder and odorless

## 10. Stability and Reactivity

Stability	Unstable		conditions to avoid
	Stable	√	

Incompatibility(Materials to avoid)  
Hazardous Decomposition or Byproducts

Hazardous Polymerization	May Occur		conditions to avoid
	Will not occur	√	

## 11. Toxicological information

Toxicity information is available on the battery ingredients noted in Section 2, but in general, N.A. to intact batteries.

Chronic health effects: N.A.

## **12. Ecological information**

Not available

## **13. Disposable considerations**

Dispose of the batteries according to the government regulations.

## **14. Transport Information**

Batteries are considered to be "Dry cell" batteries and are unregulated for purposes of transportation by the U.S. Department of Transportation (DOT), International Civil Aviation Administration (ICAO), International Air Transport Association (IATA) and International Maritime Dangerous Goods Regulations (IMDG).

Road (ADR/RID): Not regulated

Air (ICAO/IATA):

IATA DGR: Special Provision A123: "Examples of such batteries are: alkali-manganese, zinc-carbon,, nickel-metal hydride and nickel-cadmium batteries. Any electrical battery ... having the potential of a dangerous evolution of heat must be prepared for transport as to prevent (a) a short-circuit (e.g. in the case of batteries, by the effective insulation of exposed terminals...) is forbidden from transport; and (b) accidental activation. The words "Not Restricted" and the Special Provision number must be included in the description of the substance on the Air Waybill as required by 8.2.6, when an Air Waybill is issued."

Sea (IMDG):

IMDG CODE:Special Provision 304 which says: "Batteries, dry, containing corrosive electrolyte which will not flow out of the battery if the battery case is cracked are not subject to the provisions of this Code provided the batteries are securely packed and protected against short-circuits. Examples of such batteries are: alkaline-manganese, zinc-carbon, nickel metal hydride and nickel-cadmium batteries"

Zhongyin Ningbo battery co., ltd hereby certifies that the above captioned goods are non-dangerous and non-hazardous materials for air transport in any nature. The consignment is fully described by Proper Shipping Name and packed (short-circuit prevented), marked and in proper condition for carriage by air. We here certify that the consignment is not classified as dangerous under the current edition of the IATA DANGEROUS GOODS REGULATIONS (edition 54th), with complying with the provision A123 and all applicable carrier and governmental regulations.

Transport Fashion: By air, by sea, by raod, by railway.

## **15. Regulatory Information**

Special requirement be according to the local regulatory.

## **16. Other information**

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