

## **Safety Data Sheet for (0.%Hg) Alkaline Button Cell (LR44) Series**

**Document Number: MSDS-LR44 (0.%Hg) Series \*\*Not for recharge\*\*** (Version : 2025)

### **SECTION 2 – Hazardous Identification**

#### **IMPORTANT NOTE :**

Use under normal conditions, the Zinc Manganese alkaline battery is hermetically sealed.

**Ingestion:** Swallowing a battery can be harmful. Contents of an open battery can cause serious chemical burns of mouth , esophagus, and gastrointestinal tract . ***IMMEDIATELY SEE DOCTOR***;Do not induct vomiting or give food or drink.

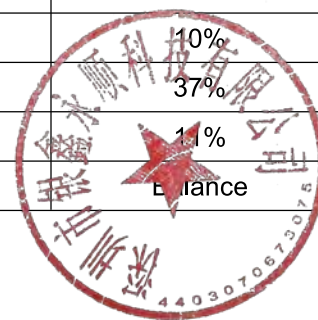
**Inhalation:** Contents of an open battery can cause respiratory irritation .

**Skin Contact:** Contents of an open battery can cause skin irritation. and/or chemical burns.

**Eye Contact:** Contents of an open battery can cause severe irritation.and/or chemical burns.

### **SECTION 3 –Composition/ information on ingredients**

<b>Substance Name</b>	<b>Chemical Identification CAS#</b>	<b>% Weight</b>
<b>Zinc</b>	7440 - 66 – 6	8%
<b>Graphite</b>	7782 - 42 – 5	3%
<b>Manganese Dioxide</b>	1313 - 13 - 9	30%
<b>Potassium Hydroxide</b>	1310 - 58 – 3	10%
<b>Iron</b>	7439 - 89 – 6	37%
<b>Distilled Water</b>	7732 – 18 - 5	1%
<b>Others</b>	N/A	Balance



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### **SECTION 4 – First Aid Measures**

Route(s) of Entry

Inhalation : N.A.

Skin : N.A.

Ingestion : N.A.

Health Hazard (Acute and Chronic) / Toxicological information

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

In contact with electrolyte can cause severe irritation and chemical burns

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

Ingestion: Do not induce vomiting or give food or drink. Seek medical attention immediately. Call National Battery Ingestion Hotline for advice.

*Inhalation* : Provide fresh air and seek medical attention.

*Skin Contact* : Remove contaminated clothing and wash skin with soap and water. If a chemical burn occurs or if irritation persists, seek medical attention

*Eye Contact* : Immediately flush eyes thoroughly with water for at least 15 minutes, lifting upper and lower lids, until no evidence of the chemical remains. Seek medical attention.

### **SECTION 5 – Control Fire Measures**

In case of fire, it is permissible to use any class of extinguishing medium on these batteries or their packing material. Cool exterior of batteries if exposed to fire to prevent rupture.

Fire fighters should wear self-contained breathing apparatus.



### **SECTION 6 – Accidental release measures**

Ventilation Requirements: Room ventilation may be required in areas where there are open or leaking batteries

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Eye Protection: Wear safety glasses with side shields if handling an open or leaking battery

Gloves: Use neoprene or natural rubber gloves if handling an open or leaking battery.

Battery materials should be collected in a leak-proof container

### **SECTION 7 – Handling and Storage**

*Storage* : Store in a cool, well ventilated area. Elevated temperatures can result in shortened battery life.

*Mechanical Containment*: If potting or sealing the battery in an airtight or watertight container is required, consult your BaiGuan Battery Limited representative for precautionary suggestions. Batteries normally evolve hydrogen which, when combined with oxygen from the air can produce a combustible or explosive mixture unless vented. If such a mixture is present, short circuits, high temperature, or static sparks can cause an ignition.

Do not obstruct safety release vents on batteries, Encapsulation (potting) of batteries will not allow cell venting and can cause high pressure rupture.

*Handling*: Accidental short circuit for a few seconds will not seriously affect the battery. Prolonged short circuit will cause the battery to lose energy, and can cause the safety release vent to open. Sources of short circuits include jumbled batteries in bulk containers, metal jewelry, metal covered tables or metal belts used for assembly of batteries into devices.

*Charging*: This battery is manufactured in a charged state. Its is not designed for recharging. Recharging can cause battery leakage or in some case, high pressure rupture. Inadvertent charging can occur if a battery is installed backwards



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### **SECTION 8 – Exposure Controls / Person Protection**

Ventilation Requirements : N.A.

Respiratory Protection : N.A..

Eyes Protection : N.A.

Gloves : N.A.

### **SECTION 9 –Physical and Chemical properties**

Boiling Point : N.A.

Specific Gravity (H<sub>2</sub>O = 1) : N.A.

Melting Point : N.A.

Vapor Pressure (mm Hg) : N.A.

Vapor Density (AIR = 1) : N.A.

Evaporation Rate (Buty1 Acetate) : N.A.

Solubility in Water : N.A.

Appearance and Odor , Cylindrical Shape, Odorless

### **SECTION 10 –Stability and reactivity**

Stability : stable

Conditions to Avoid : Stable

Hazardous Decomposition or Byproducts :

The Alkaline Button Battery do not meet any of the criteria established in 40 CFR 261.2 of reactivity

### **SECTION 11– Toxicological Information : N.A.**

### **SECTION 12– Ecological Information : N.A.**

### **SECTION 13 – Disposal considerations : Dispose of the batteries according to government regulations.**



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### SECTION 14 – Transport Information

The Batteries in all forms of transportation (e.g. Truck, air, or sea) must be packaged in a safe and responsible manner. Regulatory concerns from all agencies for safe packaging require that batteries be packaged in a manner that prevents short circuits and be contained in (Strong Carton / Packaging) that prevents spillage of contents.

### SECTION 15 – Transport Regulations

Alkaline battery (sometime referred to as **“Dry Cell”**) are not listed as dangerous goods under the **ADR** European Agreement Concerning the International Carriage of Dangerous Goods by Road, The **IMDG** International Maritime Dangerous Goods Code, **UN** Dangerous Good Regulations, **IATA** Dangerous Goods Regulation, **ICAO** Technical Instructions and the U.S. hazardous materials regulations (49 CFR). These batteries are not subject to the dangerous goods regulations provided they meet the requirement contained in the following special provisions.

**ADR** European Agreement Concerning the International Carriage of Dangerous Goods by Road, The **IMDG** International Maritime Dangerous Goods Code, **UN** Dangerous Good Regulations, **IATA** Dangerous Goods Regulation, **ICAO** Technical Instructions and the U.S. hazardous materials regulations (49 CFR)

This battery is also not a dangerous goods under the following shipping regulations:

Regulatory Parties	Special Provisions
ADR	Not Regulated
IMDG	Not Regulated
UN, ICAO	Not Regulated
US DOT	49 CFR 172.102 Provision 130
IATA,	A123,

Ref: Summary of Packing Instruction (IATA Dangerous Goods Regulations 66<sup>th</sup> Edition, 2025) the minimum requirements necessary to transport as non-restricted goods are as follows

**\*\*All Alkaline Batteries are packed in such a way to prevent short circuits or the generation of dangerous quantities of heat and meet the special provisions listed above. In addition, The IATA Dangerous Goods Regulations ICAO Technical Instructions require the words “ Not Restricted” and the Special Provision No: A123 be provided on the air waybill, when an air waybill is issued.**



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### **SECTION 16 – Regulatory Information**

Batteries are not classified as dangerous goods by US Department of Transportation or the major international regulatory bodies and are therefore not regulated.

SARA/TITLE III – As an article, this battery and its contents are not subject to the requirements of the Emergency Planning and Community Right to Know Act.

**SECTION 17 – Other Information :** None

