



## Material Safety Data Sheets

### Section 1 - Product and Company Identification

**Product Identification:** Environmentally friendly Zinc-manganese button cell

**Supplier Name:** GUANGZHOU HUADU LIYOU INDUSTRIAL CO., LTD

**Supplier Address:** Jiuzi Village Huadong Town Huadu Area Guangzhou City

**Sample Model:** LR41kingcore,

LR521 kingcore, LR621kingcore, LR726 kingcore, LR41 kingcore, LR626 kingcore,  
LR754 kingcore, LR920 kingcore, LR926 kingcore, LR1120 kingcore, LR936 kingcore ,  
LR1130 kingcore, LR721kingcore, LR43kingcore, LR44kingcore, LR521, LR621,  
LR726, LR41, LR626, LR754, LR920, LR926, LR1120, LR936, LR1130, LR721,  
LR43, LR44, AG0, AG1, AG2, AG3, AG4, AG5, AG6, AG7, AG8, AG9, AG10,  
AG11, AG12, AG13, 23A, 27A, 27Akingcore, 23Akingcore, 23Amincell, 27Amincell,  
23Aglitter, 27Aglitter, LR632, LR932, SR621SW, SR626SW, SR41SW, SR1130SW,  
SR44SW, 364Akingcore, 377Akingcore, SR920SW, 364A, 377A,  
LR41mincell, LR1130mincell, LR44mincell, SR621SW kingcore, SR626SW kingcore.

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**Signed for and on behalf of**

**Andy Zheng/ Technical Director**

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### Section 2 – Composition/Information on Ingredients

**Ingredient Name:** Environmentally friendly Zinc-manganese button cell

**The difference between the single product and mixture:** mixture

Constitutes:

Chemical Formula	CAS No.	Content/%
Zinc	7440-66-6	4-13
Manganese dioxide	1313-13-9	25-40
Potassium Hydroxide	1310-58-3	0-22
Graphite	7782-42-5	5-10
Sodium hydroxide	1310-73-2	0-12

### Section 3 - Hazards Identification information

#### **Health Hazards (Acute & Chronic):**

These chemicals are contained in a sealed can. Risk of exposure occurs only if the battery is mechanically or electrically abused. Contact of electrolyte and extruded substance with skin and eyes should be avoided.

#### **Signs & Symptoms of exposure:**

A shorted battery can cause thermal and chemical burns upon contact with the skin. May be a reproductive hazard.

### Section 4 - First Aid Measures

#### **First Aid:**

**Eyes:** Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention.

**Skin:** Remove contaminated clothes and rinse skin with plenty of water or shower for 15 minutes. Get medical attention.

**Inhalation:** Remove from exposure and move to fresh air immediately. Use oxygen if available.

**Ingestion:** Give at least 2 glasses of milk or water. Include vomiting unless patient is unconscious. Call a physician.

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### Section 5 - Fire Fighting Measures

**Extinguishing Media:** Dry chemical, carbon dioxide, water spray/ regular foam.

**Special Fire-fighting Procedures:** Self-contained breathing apparatus.

**Unusual Fire and Explosion Hazards:** Cell may vent when subjected to excessive heat-exposing battery contents.

**Hazardous Combustion Products:** Carbon monoxide, carbon dioxide, metal oxide, irritate fume and toxic gas.

### Section 6 - Accidental Release Measures

**Steps to be taken in case Material is Released or Spilled:** If the battery material is released, remove personnel from area until fumes dissipate. Provide maximum ventilation to clear out hazardous gases. Wipe it up with a cloth, and dispose of it in a plastic bag and put into a steel can. The preferred response is to leave the area and allow the battery to cool and vapors to dissipate. Provide maximum ventilation. Avoid skin and eye contact or inhalation of vapors. Remove spilled liquid with absorbent and incinerate.

**Waste disposal method:** It is recommended to discharge the battery to the end, handing in the abandoned batteries to related department unified, dispose of the batteries in accordance with approved local, state, and federal requirements. Consult state environment protection agency and/or federal EPA.

### Section 7 - Handling and Storage

The battery should not be opened, destroyed or incinerate, since they may leak or rupture and release to the environment the ingredients that they contain in the hermetically sealed container.

If the battery material is released, remove personnel from area until fumes dissipate. Provide maximum ventilation to clear out hazardous gases. Wipe it up with a cloth, and dispose of it in a plastic bag and put into a steel can. The preferred response is to leave the area and allow the battery to cool and vapors to dissipate, Provide maximum ventilation. Avoid skin and eye contact or inhalation of vapors, Remove spilled liquid with absorbent and incinerate. Do not short circuit terminals, or over charge the battery, forced over-discharge, throw to fire, Do not crush or puncture the battery, or immerse in liquids.

#### **Precautions to be taken in handling and storing**

Avoid mechanical or electrical abuse, storage preferably in cool, dry and ventilated area, which is subject to little temperature change. storage at high temperatures should be avoided.

Do not place the battery near heating equipment, nor expose to direct sunlight for long periods.

**Other Precautions:** The battery may explode or cause burns, if disassembled, crushed or exposed to fire or high temperatures. Do not short or install with incorrect polarity.

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### Section 8 - Exposure Controls & Personal Protection

#### **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.

**Ventilation:** Not necessary under conditions of normal use.

**Protective Gloves:** Not necessary under conditions of normal use

#### **Other Protective Clothing or Equipment:**

Not necessary under conditions of normal use.

#### **Personal Protection is recommended for venting battery:**

Respiratory protection, protective Gloves, protective clothing and safety glass with side shields

### Section 9-Physical and Chemical Properties

**Substance estate:** mixture

**Shape:** solid

**Size:**  $\Phi 7.8 \times 3.6$  (mm)

**Nominal voltage:** 38mAh, 1.5 V

### Section 10 - Stability & Reactivity Data

**Chemical Stability:** Stable.

**Conditions to Avoid:** Heating, mechanical abuse and electrical abuse.

**Hazardous Decomposition Products:** Carbon monoxide, carbon dioxide, metal oxide, irritate fume and toxic gas.

**Hazardous Polymerization:** N/A.

If leaked, forbidden to contact with strong oxidizers, mineral acids, strong alkalis, halogenated hydrocarbons.

### Section 11 - Toxicological Information

#### **Toxicological Information:**

Inhalation, skin contact and eye contact are possible when the battery is opened. Exposure to internal contents, the corrosive fumes will be very irritating to skin, eyes and mucous membranes, Overexposure can cause symptoms of non-fibrotic lung injury and membrane irritation

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### Section 12 - Ecological Information

#### **Ecological Information:**

When promptly used or disposed the battery does not present environmental hazard, When disposed, keep away from water, rain and snow.

### Section 13 - Disposal Considerations

#### **Appropriate Method Of Disposal Of Substance Or Reparation:**

It is recommended to discharge the battery to the end, handing in the abandoned batteries to related department unified, dispose of the batteries in accordance with approved local, state, and federal requirements, Consult state environmental protection agency and/or federal EPA..

### Section 14 - Transport Information

#### **Not a hazrd material or hazard goods for transportation:**

Separate Zinc-Manganese Button Cell when shipping to prevent short-circuiting. They should be packed in strong packaging for support during transport.Take in a cargo of them without falling, dropping, and breakage.Prevent collapse of cargo piles and wet by rain. The container must be handled carefully. Do not give shocks that result in a mark of hitting on a cell. Pealse refer to Section 7-HANDLING AND STORAGE also.

**Transport Fashion:** By air, by sea, by railway, by road.

### Section 15 - Regulatory Information

#### **LAW Information:**

《Dangerous Goods Regulation》

《Recommendations on the Transport Of Dangerous Goods Model Regulations》

《International Maritime Dangerous Goods》

《Technical Instrctions for the Safe Transport of Dangerous Goods》

《Classification and code of dangerous goods》

OSHA Hazard Commuication Standard Status

Toxic Substances Control Act ( TSCA ) Status

SARA Title III

RCRA

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## Material Safety Data Sheets

U.S. Federal Regulations

European/International Regulations

In accordance with all Federal, State and Local laws.

### **Section 16 - Other Information**

**Other Information:** the above information is based on the data of which we are aware and is believed to be correct as of the data hereof. Since this information may be applied under conditions beyond our control and with which may be unfamiliar and since data made available subsequent to the data hereof may suggest modifications of the information, we do not assume any responsibility for the result of its use, this information is furnished upon condition that the person receiving it shall make his own determination of the suitability of the material for his particular purpose.

BST confirmed the ninth item, the above content as reference information only. Please the user according to the demand to judge it usability. BST has no any responsibility.

\*\*\* End \*\*\*

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