

## Material Safety Data Sheet

Document Number: LR-0001

**Product Name:** Alkaline Zinc Manganese Dry Battery

**Battery Applicable Models/Sizes:** AAA/LR03 Not for recharge .

IDENTITY ( As used on Label and List )

Note : Blank spaces are not permitted if any item is not applicable or no information is available, the space must be marked to indicate that.

### SECTION 1 - Identification

Manufacturer's Name : Dongguan Tuobu Electronic Co.,Ltd.

Emergency & Information Phone No: 86-769-82123458

Address :No.A,Building 6,Binhe Road,Tianxin Quarter,Huangjiang Town,Dongguan,  
Guangdong Province .China

URL : <http://www.highestsz.com>

E-mail: [highestsz@126.com](mailto:highestsz@126.com)



### SECTION 2 - Hazard(s) Identification

IMPORTANT NOTE :

Use under normal conditions, the 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.

**Eye Contact:** Contents of an open battery can cause severe irritation.

### SECTION 3:Composition/Information on Ingredients

Substance Name	CAS No.	EC#	Approx % Weight
Zinc	7440 - 66 - 6	231-175-3	19.5%
Graphite	7782 - 42 - 5	231-955-3	2.8%
Manganese Dioxide	1313 - 13 - 9	215-202-6	41.5%
Potassium Hydroxide	1310 - 58 - 3	215-181-3	8.5%
Iron	7439 - 89 - 6	231-096-4	14.5%
Distilled Water	7732 -18 - 5	231-791-2	9.5%
Zinc Oxide	1314-13-2	215-222-5	0.4%
Copper	7440-50-8	231-159-6	1.2%
Polyhexamethylene adipamide	32131-17-2	608-706-6	2.1%

### SECTION 4:First Aid Measures

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:Fire-Fighting 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.

Respiratory Protection : Avoid exposure to electrolyte fumes from open or leaking batteries.

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 Tuobu 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/Personal 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 (Butyl Acetate) : N.A.

Solubility in Water : N.A.

Appearance and Odor:Cylindrical Shape, Odorless

### SECTION 10:Stability and Reactivity

Stability:stable.

Unstable Conditions to Avoid.

Hazardous Decomposition or Byproducts .

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

### SECTION 11:Toxicological Information

Toxicity information is available on the battery ingredients in Section 2,but ,generally not applicable to intact batteries as Used by customers.

### SECTION 12:Ecological Information

N.A.

### SECTION 13:Disposal Considerations

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Dispose of the batteries according to government regulations.

### SECTION 14:Transport Information

Transport Fashion:by air,by sea,byrailway,by road

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.

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.

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 **63rd Edition**) the minimum requirements necessary to transport as non-restricted goods are as follows.

**\*\*All Zinc Chloride Batteries are packed in such a way to prevent short circuits or the generation 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.**

**\*\*\*IMO international Maritime Dangerous goods Code(2020 Edition),** The substance is not subject to IMO IMDG Code

### SECTION 15: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 16:Other Information

A. Special requirement be according to the local regulatory.

B. Date of preparation :01.Jan, 2022

C. Latest revision and changes Date :01. Jan, 2022

D. Explanation : This MSDS (Material Safety Data Sheets) contains health, safety and environment information, and was written by reflecting our company’ s current technology. This data is not a guarantee for the product’s character or quality, and should be used only as a reference in relation to safe use of the product.