



Material Safety Data Sheet

MSDS Code: EBO1904038-M327

Date of Issue: April 29, 2019

DRY BATTERY

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1. Identification Of Substance

Product Details

Product Name: DRY BATTERY
Product Model: R6, R03, R20, R14, 6F22, LR6, LR03, LR20, LR14, 6LR61
Manufacturer/Supplier By: SHANDONG HUATAI NEW ENERGY CO., LTD
Tangtou Street, Tangtou Town, Hedong District, Linyi City, China
Tel & Emergency Tel: +86-022-86993188
Fax: +86-022-86993123

2. Composition/Data On Components

COMPONENT	CAS #	% by wt.
ZN	7440-66-6	23%~27%
MNO ₂	1313-13-9	27%~31%
C	7782-42-5	3%~4%
(C3H6)N	9003-07-0	2%~3%
CU	7440-50-8	1%
KOH	1310-58-3	4.5%~5.5%
H2O	7732-18-5	8%~9%
FE	7439-89-6	17%~19%
CR	7440-47-3	4%~5%
NI	7440-02-0	1.5%~2.5%

3. Hazards Identification

Hazard description: These batteries are no “substances” or “mixtures” according to Regulation (EC) No 1907/2006 EC. Instead they have to be regarded as “articles”, no substances are intended to be released during handling. Therefore there is no obligation to supply a “safety data sheet according to Regulation (EC) 1907/2006, Article 31”.

Routes of Entry: Not applicable under normal conditions.

Health Hazards: If battery leaking, exposure to caustic ingredients may occur. Therefore, may cause Sensitization by skin contact.

Hazards to Environment: Not applicable.

Fire and Explosion Hazards: Not applicable.



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4. First aid Measures

Eyes:	Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.
Skin:	Get medical aid at once. Immediately remove contaminated clothes and rinse skin with plenty of water or shower for 15 minutes. Discard contaminated clothing in a manner which limits further exposure.
Inhalation:	Get medical aid immediately. Remove from exposure and move to fresh air immediately. Use oxygen if available. Use oxygen device such as mask or bag.
Ingestion:	Do not induce vomiting. Get medical aid immediately.
Note to Physician:	May be toxic to the body. Wash out the solution with water promptly in an emergency. Treat symptomatically and supportively.

5. Fire Fighting Measures

Flash Point:	N/A.
Auto-Ignition Temperature:	N/A.
Extinguishing Media:	Dry chemical, CO ₂ .
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, and other metal oxide fumes.

6. Accidental Release Measures

Steps to be Taken in case Material is Released or Spilled

If the battery is accidentally broken and electrolyte leaks out, 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 battery to related department unify, dispose of the batteries in accordance with approved local, state, and federal requirements. Consult state environmental agency and/or federal EPA.

7. Handling And Storage

Do not charge. The batteries 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.

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3/F, Building A, Qinye Business Center, Xin'an Sixth Road, 82th District, Bao'an, Shenzhen, China.

Tel: 86-755-33126608 www.MSDS51.com ebo@ebotest.com



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Store in a dry, cool and well-ventilated area.

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

Other Precautions

Batteries may explode or cause burns, if disassembled, crushed or exposed to fire or high temperatures. Do not short or install with incorrect polarity.

8. Exposure Controls And Personal Protection

Respiratory protection:	In case of battery venting, provide as much ventilation as possible. Avoid confined areas with venting batteries. 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 batteries:	Respiratory protection, protective gloves, protective clothing and safety glass with side shields.

9. Physical And Chemical Properties

General Information

Nominal Voltage:	1.5V
Form:	Solid
Color:	Multicolour
Odor:	Odorless

10. Stability And Reactivity

Chemical Stability:	This material is chemically stable under normal and storage and handling conditions.
Conditions to Avoid:	Elevated temperatures fire and ignition sources, mechanical abuse and electrical abuse.



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Hazardous Decomposition

Products: When exposed to fire or extreme heat, batteries may emit toxic fumes.

11. Toxicological Information

Inhalation, skin contact and eye contact are possible when the battery is opened.

Exposure to internal contents, the corrosive fumes will be irritation to skin, eyes and mucous membranes.

Overexposure can cause symptoms of non-fibrotic lung injury and membrane irritation.

12. Ecological Information

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

13. Disposal Considerations

Appropriate Method of Disposal of Substance or Preparation

Dispose of the battery in accordance with approved local, state, and federal requirements. Consult state environmental agency and/or federal EPA.

14. Transport Information

The batteries are considered to be "dry cell" batteries and are unregulated for purposes of transportation by the U.S. Department of Transportation (DOT), International Civic Aviation Administration (ICAO), International Air Transport Association (IATA), the International Maritime Organization (IMO), the "Accord Européen Relatif au Transport International des Marchandises Dangereuses par Route" (ADR) and the "Règlement concernant le transport international ferroviaire de marchandises Dangereuses" (RID).

The requirements for shipping these batteries, in all modes of transportation, are that they be separated from each other to prevent short-circuits and to prevent movement that could lead to short-circuits. Products must also be packed in strong packaging that can withstand the rigors normal to transportation.

All 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 and ICAO Technical Instructions require the words "not restricted" and the IATA Dangerous Goods Regulations 2019 (60th Edition) Special Provision number A123 be provided on the air waybill, when an air waybill is issued.

The packaging shall be adequate to avoid mechanical damage during transport, handling and stacking. The materials and pack design shall be chosen so as to prevent the development of unintentional electrical conduction, corrosion of the terminals and ingress of moisture.

Shock and vibration shall be kept to a minimum. For instance, boxes should not be thrown off trucks, slammed into position or piled so high as to overload battery containers below. Protection from inclement weather should be

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provided.

15. Regulations

Law Information

- 《Dangerous Goods Regulation》
- 《Recommendations on the Transport of Dangerous Goods Model Regulations》
- 《International Maritime Dangerous Goods》
- 《Technical Instructions for the Safe Transport of Dangerous Goods》
- 《Classification and code of dangerous goods》
- 《Occupational Safety and Health Act》 (OSHA)
- 《Toxic Substances Control Act》 (TSCA)
- 《Consumer Product Safety Act》 (CPSA)
- 《Federal Environmental Pollution Control Act》 (FEPCA)
- 《The Oil Pollution Act》 (OPA)
- 《Superfund Amendments and Reauthorization Act Title III (302/311/312/313)》 (SARA)
- 《Resource Conservation and Recovery Act》 (RCRA)
- 《Safety Drinking Water Act》 (CWA)
- 《California Proposition 65》
- 《Code of Federal Regulations》 (CFR)

Date of issue of the transport regulations: ADR 2015, RID 2015, IATA 2016 (57th edition), IMDG 2014, DOT / 49 CFR 2015. Latest covered modification of the European Battery Directive 2006/66/EC: Directive 2013/56/EU.

16. 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 results 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.



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