

Safety Data Sheet

According to GB/T 16483-2008 and GB/T 17519-2013

ALKALINE Zn—Mn DRY BATTERY (LR03AAA、LR6AA、LR14C、LR20D、6LR619V、LR61AAAA)

Version 1.0

Issue date: 19-06-2020

Revision date: 19-06-2020

SDS Record Number: CSSS-TCO-010-126234

1. Chemical Product and Company Identification

1.1 Product identifier

Chemical name: ALKALINE Zn—Mn DRY BATTERY (LR03AAA、LR6AA、LR14C、LR20D、6LR619V、LR61AAAA)

Additional identification: Not available

Identification of the product: See section 3

1.2 Relevant identified uses of the substance and uses advised against

1.2.1 Identified uses: Battery, Used as power supply.

1.2.2 Uses advised against: Not available

1.3 Details of the supplier of the safety data sheet

Supplier(Manufacturer): Hengdian Group DMEGC Magnetics Co.,Ltd

Address: 7th Building, East Zone A, Hengdian Hutou Industrial Zone, Dongyang City, Zhejiang Province, China.

Contact person(E-mail): battery@dmegc.com.cn

Telephone: 0579-86588755

Fax: 0579-86588644

1.4 Emergency telephone Number(24h): 0579-86588755

2. Hazards Identification

Emergency Overview: Batteries contain manganese dioxide which may boost combustion of other substances that may vent, ignite and produce sparks when subjected to high temperature, when damaged or abused (e.g., mechanical damage); may burn rapidly with flare-burning effect; may ignite other batteries in clothes proximity. This product should not present a health hazard when used under reasonable conditions. If contact with the internal components of the battery may be irritating to skin, eyes and mucous membranes. Fire will produce irritating, corrosive and/or toxic gases. Burning batteries may produce toxic hydrogen fluoride gas. Fumes may cause dizziness or suffocation. If the battery is discarded into the environment, the harmful contents inside may be dangerous.

2.1 Classification of the substance/mixture

2.1.1 GHS Classification:

Physical hazards Not classified

Health hazards Not classified

Environmental hazards Not classified

2.2 Label elements

Symbols: No hazard pictogram is used.

Signal Word(S): No signal word is used.

Hazard Statement: Not applicable.

Precautionary statement

Prevention: Not applicable.

Response: Not applicable.

Storage: Not applicable.

Disposal: Not applicable.

Physical and chemical hazards: Not applicable.

Health hazards: Not applicable.

Environmental hazards: Not applicable.

3. Composition Information on Ingredients

Substance/Mixture: Mixture

Ingredient(s):

Chemical Name	CAS No.	Concentration
Manganese dioxide	1313-13-9	35.5 - 47.5%
Iron	7439-89-6	22.6 - 27.6%
Zinc	7440-66-6	14.2 - 19.2%
Water	7732-18-5	9.0 - 10.0%
Potassium hydroxide	1310-58-3	4.8 - 9.8%
Carbon	7440-44-0	2.8 - 3.6%
Copper	7440-50-8	1.4 - 3.0%
Nylon-66	32131-17-2	1.1 - 2.6%

4. First Aid Measures

4.1 Description of first aid measures

In case of inhalation:

If inhaled, remove from exposure and move to fresh air immediately. Rinse mouth and nose with water. Get medical aid immediately. DO NOT use mouth-to-mouth resuscitation. If breathing has ceased apply artificial respiration using oxygen and a suitable mechanical device.

In case of skin contact:

In case of contact, immediately flush skin with copious amounts of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing and shoes before reuse. Get medical aid.

In case of eyes contact:

Rinse immediately with plenty of water during at least 15-30 minutes, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses if easily possible. DO NOT rubbing eyes with hand. Get medical aid immediately.

In case of ingestion:

Do not induce vomiting. If the injured is fully conscious: wash mouth out with water, then give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid immediately.

4.2 Most important symptoms and effects, both acute and delayed:

This product should not present a health hazard when used under reasonable conditions. If contact with the internal components of the battery may be irritating to skin, eyes and mucous membranes. Fire will produce irritating, corrosive and/or toxic gases. Burning batteries may produce toxic hydrogen fluoride gas. Fumes may cause dizziness or suffocation.

4.3 To protect playing rescuer advice and the special hints to the doctor:

Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

4.4 Indication of any immediate medical attention and special treatment needed:

Treatment in accordance with the doctor's assessment of the patient's condition. Symptomatic treatment.

5. Fire-fighting Measures

5.1 Suitable extinguishing media:

Dry sand or Class D extinguishing agents. If the battery is burning, water can also be submerged ignition ground.

Unsuitable extinguishing media:

Not available

5.2 Special hazards arising from the chemical:

Battery can be overheated by an external source or by internal shorting and develop metal hydroxide mist. In fire situations fumes containing manganese, Zinc, etc. may evolved. Toxic vapor may release in case of fire. Thermal shock may cause battery case to crack open. Containers may explode when heated. Firefighting water runoff and dilution water may be toxic and corrosive and may cause adverse environmental impacts. On some bad using conditions (e.g., mechanical damage, external short circuit.) and in case of a bad functioning,

some electrolyte can be removed from the cell by the security vent. Exposure to the ingredients contained within the battery pack could be harmful under some circumstances.

5.3 Special fire fighting methods and special protective actions for fire-fighters:

Evacuate personnel to safe areas. Move containers from fire area if you can do it without risk. Cool drums with water spray. Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Stay upwind. Ensure adequate ventilation, especially in confined areas.

6. Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures:

No action shall be taken involving any personal risk or without suitable training. Review Section 5 and Section 7 sections before proceeding with clean-up. Use proper personal protective equipment as indicated in Section 8. Appropriate ventilation. Evacuate and ventilate spill area. Remove all sources of ignition or heat. Stop leak if safe to do so. Move containers from spill area. Keep unnecessary and unprotected personnel from entering. Review Section 5 and Section 7 sections before proceeding with clean-up.

6.2 Environmental precautions:

Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up:

Remove all sources of ignition or heat. Stop leak if safe to do so. Move containers from spill area. Carefully collect undamaged batteries in a clean, dry and appropriate container for reuse or disposal. If electrolyte leaks or spills, collect all released material in an appropriate container before proper disposal.

6.4 Precautions to prevent the occurrence of secondary hazards:

Remove all sources of ignition.

7. Handling and Storage

7.1 Safe handling

Technical measures:

No specific recommendations.

Local and general ventilation:

Provide adequate ventilation.

Precautions:

This product should be stored, handled and used in accordance with good industrial hygiene practices and in conformity with any legal regulation. Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period.

Safe handling advice:

Do not dispose in fire, mix with other battery types, connect improperly, or short circuit, which may result in overheating, explosion or leakage of cell contents. Accidental short circuit will bring high temperature elevation to the battery as well as shorten the battery life. Be sure to avoid prolonged short circuit since the heat can burn attendant skin and even rupture of the battery cell case. Battery bulk container, coins, metal jewelry, metal worktable, metal belt or other equipment for assembly battery may be the source for short circuit. Use effective anti short circuit measures. Do not use organic solvents or other chemical cleaners on battery. Do not disassembly or decompose. Avoid contacting with water, avoid straight sunlight.

7.2 Storage

Technical measures:

No specific recommendations.

Suitable storage conditions:

Store in a cool and dry area, but prevent condensation on cell or battery terminals. High temperature may damage the performance of the battery. Protect from physical damage and short circuits. To avoid risk of fire or explosion, keep sparks and other sources of ignition away from the battery. Do not allow metal objects to simultaneously contact both positive and negative terminal of batteries. Do not stack battery directly on another battery. Do not store batteries on

Incompatible materials:	electrically conductive surfaces. Conductive materials, water, seawater, strong oxidants, strong acid, strong bases, etc.
Safe packaging materials:	Keep it in the original container.

8. Exposure Controls / Personal Protection

8.1 Control parameters

8.1.1 Occupational exposure limits:	Potassium hydroxide(CAS#1310-58-3): OELs(mg/m ³)- MAC : 2 Copper dust(CAS# 7440-50-8): OELs(mg/m ³)-PC-TWA: 1 Copper fume(CAS# 7440-50-8): OELs(mg/m ³)-PC-TWA: 0.2
8.1.2 Engineering controls:	Ensure good ventilation. This can be achieved by localized extraction or general ventilation.

8.2 Personal protection equipment

Respiratory protection:	If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.
Hand protection:	Under normal condition of use and handling no special protection is required for sealed battery. In the event of battery case breakage, should be wear appropriate safety gloves.
Eye protection:	Under normal condition of use and handling no special protection is required for sealed battery. Use appropriate safety glasses when there is the risk of splash.
Skin and body protection:	Under normal condition of use and handling no special protection is required for sealed battery. It is recommended to wear appropriate protective clothing when the battery case is broken.
Hygiene measures:	Do not get in eyes. Wash hands before breaks and immediately after handling the product.

9. Physical and Chemical Properties

9.1 Information on basic physical and chemical properties

Appearance

Physical state:	Solid
Form:	Solid
Color:	Not available
Odor:	Odorless
pH:	Not available
Melting point/freezing point:	> 450°C(CAS#1313-13-9)
Boiling point, initial boiling point, and boiling range:	Not available
Flash point:	Not available
Auto-ignition temperature:	Not available
Flammability limit - lower (%):	Not available
Flammability limit - upper (%):	Not available
Explosive limit - lower (%):	Not available
Explosive limit - upper (%):	Not available
Vapor pressure (25°C):	Not available
Vapor density:	Not available
Relative density:	5.21(21 °C, CAS#1313-13-9)
Solubility:	Insoluble in water
Partition coefficient (n-octanol/water):	Not available
Decomposition temperature:	Not available

Ignition temperature:	Not available
9.2 Other data	
Solubility (other):	Not available
Evaporation rate:	Not available
Flammability (solid, gas):	Not flammable
Explosive properties	Not explosive

10. Stability and Reactivity

10.1 Stability:	Material is stable under normal conditions.
10.2 Possibility of hazardous reactions:	When a battery cell is exposed to an external short-circuit, crushed, modification, high temperature, open flames, it will be the cause of heat generation and ignition.
10.3 Conditions to avoid:	Exposed to an external short-circuit, crushed, modification, high temperature, open flames, incompatible materials, direct sunlight and high humidity.
10.4 Incompatible materials:	Conductive materials, water, seawater, strong oxidants, strong acid, strong bases, etc.
10.5 Hazardous decomposition products:	In case of a fire or high temperature, metal oxides and irritating/harmful fumes/smoke may be generated.

11. Toxicological Information

11.1 Toxicokinetics, metabolism and distribution:	Not available.
11.2 Information on toxicological effects	
Acute toxicity:	
LD50(Oral, Rat):	Not available
LD50(Dermal, Rabbit):	Not available
LC50(Inhalation, Rat):	Not available
Skin corrosion/Irritation:	Not classified
Serious eye damage/irritation:	Not classified
Respiratory or skin sensitization:	Not classified
Germ cell mutagenicity:	Not classified
Carcinogenicity:	Not classified
Reproductive toxicity:	Not classified
STOT- single exposure:	Not classified
STOT-repeated exposure:	Not classified
Aspiration hazard:	Not classified

12. Ecological Information

12.1 Toxicity:	
Fish	Not available
Daphnia	Not available
Algae	Not available
12.2 Persistence and degradability:	Not available
12.3 Bioaccumulative potential:	Not available
12.4 Mobility in soil:	Not available
12.5 Other hazardous effects:	Not available

13. Disposal Considerations

13.1 Residual waste	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of
----------------------------	---

13.2 Contaminated packaging

in a safe manner (see: Disposal instructions).

Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

13.3 Local disposal regulations

Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations.

14. Transport Information

This product is not a dangerous goods for air or sea transportation.

The air transportation information has been confirmed with the 61st edition of Dangerous Goods Regulations (DGR) of International Air Transport Association (IATA).

The sea transportation information has been confirmed with the 38th edition of International Maritime Dangerous Goods Code (IMDG).

UN-Number:	Not regulated
UN Proper shipping name:	Not regulated
Transport hazard Class:	Not regulated
Packaging group:	Not regulated
Environmental hazards:	No
Special precautions for user:	<p>The product is "Not regulated" under ADR, IMDG, UN Model regulation, ICAO.</p> <p>The product is "Not restricted, as per 49 CFR 172.102 Provision 130" under US DOT</p> <p>For air transportation, the words "Not Restricted, as per Special Provision A123" must be included in the description of the substance on the Air Waybill under IATA.</p> <p>This battery requires the following attentions.</p> <p>(1) Protect the terminals of batteries and prevent them from short circuit so as not to cause dangerous heat generation.</p> <p>(2) During the transportation of a large amount of batteries by ship, trailer or railway, do not leave them in the places of high temperatures and do not allow them to be exposed to dew condensation.</p> <p>(3)Avoid transportation with the possibility of the collapse of cargo piles and the packing damage.</p>

15. Regulatory Information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

Regulations names	information	
Regulations on the safety administration of dangerous chemicals	Catalog of Hazardous Chemicals	Zinc, Potassium hydroxide listed, others not listed.
	List of Hazardous Chemicals for Priority Management	Not listed.
Regulations on the environmental management of first import of toxic chemicals	List of Toxic Chemicals Restricted to be Imported/Exported	Not listed.

Measures for environmental management of new chemical substances	Inventory of Existing Chemical Substances Produced or Imported in China (IECSC)	Listed.
--	---	---------

15.2 Note for downstream users:

Disposal of products/containers according to local regulations.

16. Other Information

16.1 Indication of changes

Version 1.0 Amended by GB/T16483-2008 and GB/T17519-2013.

16.2 Training instructions:

Not applicable.

16.3 Further information:

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.

16.4 Notice to reader:

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgment of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.

16.5 Abbreviations:

ADR: 《European Agreement Concerning the International Carriage of Dangerous Goods by Road》

RID: Regulations Concerning the International Transport of Dangerous Goods by Rail (European law)

IMDG: International Maritime Dangerous Goods

EINECS: European Inventory of Existing commercial Chemical Substances

IATA: International Air Transport Association

ICAO-TI: International Civil Aviation Organization 《The International Civil Aviation Covenant》 (ICAO)

CAS: Chemical Abstracts Service

LC50: Lethal Concentration 50

EC50: Concentration for 50% of maximal effect

LD50: Lethal dose 50%

This material safety data sheet is compiled based on our best understanding on the safety and correct use of this product. However, we could guarantee neither its timeliness nor the implied or expressed information. For the above contents, our company would not take any liability due to its usage. Users shall identify the best information on each specific use by their survey. Each user should read this specification carefully before use it. If you need further information for a correct assessment, please contact us.

Author: Hangzhou C&K Testing Technic Co., Ltd Website: www.cirs-ck.com Tel: 0571-89900715 Email: cust@cirs-group.com

