

MATERIAL SAFETY DATE SHEET

According the European directive 2006/66/EC

Date : 2011-1-5

Rev :CD-001

1. Chemical Product

MSDS Name: Daily-max Alkaline Battery (LR6, LR03, LR14, LR20, 6LR61, LR1)

Manufacturer:Changzhou Daily-max Battery Co. Ltd

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2. Composition /Information on Ingredients:

Chemical Nature: Alkaline Manganese Dioxide

Chemical Nature:

CAS-No/EINECS NO.: Graphite (CAS# 7782-42-5)

POTASSIUM HYDROXIDE(CAS# 1310-58-3)

MANGANESE DIOXIDE (CAS# 1313-13-9)

ZINC(CAS# 7440-66-6)

Dangerous ingredients which have to be mentioned acc. To 99/45/EEC and it adaptations

Component	Content(% wt)	Appearance	Odor	Corrosion	Toxicity	Flammability
Zinc	18.0	Metal Can	None	None	None	None
Manganese Dioxide	42.0	Black-brown Powder	None			
Graphite	3.0~3.5	Black Solid	None	None		
Potassium Hydroxide	9.0~12.5	White solid	None	Strong Corrosion		
Steel	18.0	Metal Solid	None	None	None	None
Brass	1.0	Plate	None	None	None	None
Plastic	2.0	Solid	None			
Mercury	<1ppm	Atom State	None			None
Cadmium	<20ppm	Atom State	None			None
Lead	<40ppm	Atom State	None			None

3. Hazards identifications

General

The battery should not be opened or discarded in fire or recharged or used improperly, or it could exposure. The ingredient and their combustion could be harmful .

Material or Ingredient	PEL (OSHA)	TLV (ACGIH)
Graphite	15.0mg/m ³ TWA (total dust) 5.0mg/m ³ TWA (respirable)	2.0mg/m ³ TWA (respirable fraction)

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	fraction)	
Potassium Hydroxide	None established	2.0mg/m ³ CEILING
Manganese Dioxide	5.0mg/m ³ CEILING (as Mn)	0.2mg/m ³ TWA (as Mn)
Zinc	15.0mg/m ³ TWA (Total dust as particulates not otherwise regulated) 5.0mg/m ³ TWA (Respirable fraction as particulates not otherwise regulated)	10.0mg/m ³ TWA (Inhalable particulate) 3.0mg/m ³ TWA (Respirable particulate)

The Common known rules for handing of chemicals should be obeyed. Do not eat drink the product.

Physical-Chemical Hazards: This preparation is not classified as dangerous according to the criteria of directive 99/45/EEC

Hazards to man: This is preparation is classified Xi, N R38-43 according to the CE directive , May cause sensitization by skin contract

Hazards to environment: When spilled, this product may raze the surface of plastic, leather and paint, underground and surface water.

4. First –aid measures:

Inhalation: In case of excessive inhalation remove the person to fresh air and at rest Obtain medical advice.

Skin Contact: Remove contaminated clothing. Wash affected areas with plenty of water and soap. If irritation occurs, consult a physician.

Eye contact: Rinse eyes immediately with running water for at least ten minutes. Consult an ophthalmologist.

Ingestion: Rinse mouth with water. Give plenty of water to drink. Do not induce vomiting. Obtain medical advice.

5. Fire-fighting measures

Suitable extinguishing media: Carbon dioxide (CO2), foam, dry chemical powder.

Extinguishing media not to be used: Never use a direct water jet.

Exposure hazards from combustion products: In case of fire, carbon dioxide, carbon monoxide and other toxic organic substances will be generated. Do not inhale fumes and smoke.

Personal protective equipments: Wear full protective clothing. Use self contained breathing apparatus.

Remark: Because of only keep about 10ml auto perfume in care. Even if fire, It ca be extinguished by car extinguisher.

6. Accidental release measures:

Personal precautions Wear protective clothing. Keep unprotected persons away.

Environmental precautions: Avoid discharge and penetration into sewerage systems,

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waterways, pits, and cellars.
Methods for cleaning up: Collect spilled material with an inert standard absorbent like sand or silica. Care for well-Ventilated conditions. Recycle or dispose of the materials in an appropriate way.

7. Handling and storage

General Obey the common known rules and precautions for handling with chemicals.

Fire/Explosion protection Product vapors and oxygen/air may lead to potentially explosive mixtures. Keep ignition sources away. Do not smoke. Avoid electrostatic charge. Provide fire extinguisher.

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

Charging: This battery is not designed for recharging. Recharging can cause battery leakage or high pressure rupture, in some cases. Inadvertent charging can happen if a battery is installed backwards.

Storage: Store product in well-filled, appropriate coated and tightly closed containers avoiding influence of oxygen/air, light and humidity .Store at a cool and constant temperature.

Disposal: Dispose in accordance with all applicable federal, state, and local regulations. Appropriate disposal technologies include incineration and landfill.

8. Exposure controls/Personal protection

Exposition/ Technical measures Atmospheric vapor concentrations must be minimized by adequate ventilation.

Protection of hands, eyes and skin: To protect hands, eyes and skin, the use of appropriate chemical resistant gloves, safety glasses and suitable protective clothing is strictly recommended.

9. Physical and chemical properties

Physical state	Liquid	Solubility in water	soluble	
Color	Any colors	Vapor pressure	no applicable	
Odor	COOL COLOGNE	Smell	Explosion limit	not applicable
pH value	not determined	Oxidizing properties	not applicable	
Specific gravity	0.990-1.040 (at 25oC)	Flashpoint	10-200oC(closed cup)	

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Refractive index	1.480-1.515 (at 20oC)	Auto flammability	not determined
Solubility in ethanol	soluble	Partition coefficient	not determined
Melting Point	not applicable	Boiling Point	not determined
Freezing Point	not determined		

10. Stability and Reactivity

Good stability at standard temperature. Avoid temperatures above or close to the flash point. Never heat sealed containers. This product presents no significant reactivity hazard, by itself or in contact water.

Reactivity: Avoid contact with acids. Alkali or strong oxidizing agents.

Hazardous decomposition products: carbon monoxide and unidentified organic compounds may be formed during combustion.

11. Toxicological information

The product is multi component mixture for which no toxicological data exists.

This preparation is classified XI, N R38-43.

12. Ecological information

In general, no ecological data is available for preparations.

Precautions Avoid disposing into drainage systems and in the environment.

13. Disposable considerations

Do not dispose of in environment or into sewerage. If recycling is not possible, the product and its container have to be disposed of in accordance with your local legislation and regulations.

14. Transport Information

In general, all batteries in all forms of transportation (ground, air or ocean) must be packaged in a safe and responsible manner that prevent short circuits and be contained in "strong outer packaging" that prevents spillage of contents. All original packaging for alkaline batteries has been designed to be compliant with these regulatory concerns.

Alkaline batteries (sometimes refers to "dry cell batteries") are not listed as dangerous goods under the IMO regulations, IATA dangerous goods regulations, ICAO technical instructions and the U.S. HAZARDOUS MATERIALS REGULATIONS (49 CFR). These batteries are not subject to dangerous goods regulations provided they meet the requirements provided in the following special provisions. Special provision in A123 in IATA dangerous goods regulations and ICAO technical instructions and Special provision 130 in 49 CFR 172.102 of the U.S hazards materials regulations required alkaline batteries are packed in such a way to prevent short circuits or generating a dangerous qty of heat. In addition, IATA dangerous goods regulations and ICAO technical instructions require the words "not restrict" and the special provision number A123 be provided on the air waybill, when an air waybill is issued.

15. Regulatory Information

Symbol: N/A

Contains: Expiration date is on the battery bottom.

R/S-Phrases:

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R38	Irritation to skin
R43	May cause sensitization by skin contact
S2	Keep out of reach of children
S24	Avoid contact with skin
S37	Wear suitable gloves
S61	Avoid release to environment. Refer to special instructions.

16.Other information

The information on this Material Safety Date Sheet (MSDS) was obtained form current and reputable sources. However, the data is provided without any warranty; expressed or implied, regarding its correctness or accuracy. It is the user's responsibility to assume liability on loss, injury, damage, or expense resulting from improper use of this product. Any previous MSDS of this product mentioned above are hereby replaced with this new document. We urge you to make this information available as appropriate in your organization and to any others with whom you arrange to handle this product.

Since the materials in this battery are sealed in the can, the potential for exposure to the components of the battery is negligible, when the battery is used as directed however, technical or electrical abuse of the battery may result in the release of battery contents.