



Material Safety Data Sheet

1. Products and Company Identification

Products name: ALKALINE DRY BATTERY

Supplier: 777 BATTERY INDUSTRY CO., Ltd.

Contact: (+86) 750-3507789

Prepared by: 777 BATTERY INDUSTRY CO., Ltd.

Address: 129 SHENGLI ROAD, JIANGMEN, GUANGDONG, CHINA

Tell: (+86) 750-3507789

Fax: (+86) 750-3507799

2.

2-1. Products name: LR6/LR03

2-2. Composition, Information on Ingredients

Ingredients

Material	CAS No.	Weight/Content (%)
Manganese dioxide : MnO ₂	1313-13-9	40
Zinc: Zn	7440-66-6	16
Potassium Hydroxide: KOH	1310-58-3	8
Water	7732-18-5	10
Iron	7439-89-6	17
Paper	RR-01108-5	1
Copper	7440-50-8	3
Nylon	9008-75-7	2
Graphite	7782-42-5	3
Mercury: Hg	7439-97-6	<0.0001
Lead(added at Zinc Metal): Pb	7439-92-1	<0.0003
Cadmium: Cd	7440-43-9	<0.0003

3. Summary of danger and toxicity

Fatal danger and toxicity: No information available

Adverse human health effects: When electrolyte touches skin, itch may occur.

Physical and chemical hazard: There is the risk of explosion if batteries are disposed in fire, heated above 100degree C. Stacking or jumbling batteries may cause external short circuits, heat generation and explosion.

Effects to environment: Although no information is available as a cell.

Overview of prospective emergency: A cell may break or be shorted by an external mechanical or electrical stress

4. First aid

If inhaled: If a person inhales the vapor of contents because a cell breaks down, moves the person immediately to a place with fresh air. If he/her feels ill, immediately call a doctor for therapy and treatment.

If adhered to skin: If a content adheres to skin because a battery is damaged, immediately wash it with a lot of clean water. If irritating, consult a doctor.

If getting into eyes: If a content enters eyes because of breakage of a cell, rinse eyes with a large amount of clean water for more than 15 minutes, and ask a doctor for therapy and treatment.

If swallowed: Immediately bring the victim to a doctor for treatment.

If liquid leaked from a cell is licked: Immediately gargle, and visit a doctor for therapy.

5. Fire fighting

Fire extinguishers: Dry chemical extinguisher, carbon dioxide gas extinguisher, large amount of dry sand, and big deal of water.

Specific fire fighting method:

In the initial state of a fire, move cells/batteries away from the fire source, to a safe location. At that time, work at a windward location, as far as possible, and be sure to put on a protective breathing mask.

Protection of fire fighting personnel:

Be sure to have them wear protective breathing masks. (Preferably, use a self-feeding type mask.)

6. Action upon leakage and removing method

A cell contains constituents in a vessel, so contents normally may not leak out. However, if a content leaks because of a mechanical or electrical stress, wipe with mop or damp sponge to absorb it, and collect in a vessel. After that, flush the site with a large amount of water. At that time, be sure to put on protective-gloves, glasses and mask. Prevent spills from entering sewers, watercourses.

7. Handling and storing precautions

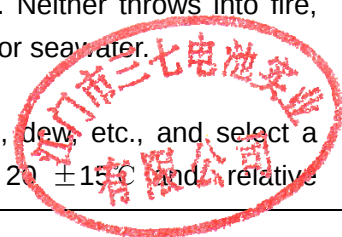
Handling: This cell is not for rechargeable. If the battery is improperly used, it may leak, heat or explode.

Protection of personnel from exposure: Never solder a cell.

Safety precautions for handling:

Do not contact battery terminals between each other, or with another conductor. Neither throws into fire, decompose, heat, dent, deform, charge nor drop a cell. Do not dip a cell in water or seawater.

Storage: Store cells without direct sunlight high temperature, high humidity, rain, dew, etc., and select a storage location with a temperature as low as possible (preferable temperature $20 \pm 15^{\circ}\text{C}$ and relative



humidity 70% or less), In addition, keep cells away from dangerous matter such as combustible or ignitable materials. Absolutely never place a cell in contact with a combustible or conductive substance. Prepare appropriate firefighting equipment.

Note: See handling and storing precautions described in the product catalog, specification, etc.

8. Prevention from exposure

Protection of respiratory organs: Not required in a normal operating state

Protection of eyes: Not required in a normal operating state

Other protective tools etc.: Not required in a normal operating state

9. Physical and chemical properties

Nominal Voltage: 1.5V

Appearance Characters: Silver and black, cylindrical, with odorless battery

Chemical Uses: Electrical appliances power

PH: Not applicable because a cell is not soluble with water.

Boiling point/boiling range (°C): No information

Melting point (°C): No information

Decomposition temperature (°C): No information

Flash point (°C): No information

10. Stability and reactivity

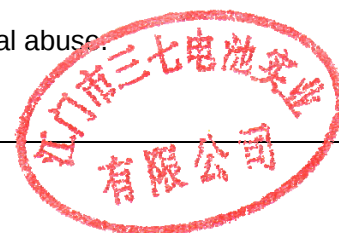
Stability: Stable

Conditions to avoid:

Elevated temperatures fire and ignition sources, mechanical abuse and electrical abuse.

Hazardous Decomposition Products: N/A

11. Information on toxicity





There is no toxicity because chemical substances are sealed in a metal vessel or wrapped with tube. As a reference, chemical substances composing a cell are described below.

-Manganese dioxide

Acute toxicity: LDLO: 45 mg/kg (Intravenous injection, rabbit)

LD: 422 mg/kg (Hypodermic injection, mouse)

Irritation: Irritating eyes, nose, throat and skin,

Chronic toxicity: If a person is exposed to powder for a long time or repeatedly, the lung and the nervous system may be affected, possibly causing bronchitis, pneumonia, nervous disease or mental disease.

Procreation toxicity: TCL0: 49 mg/rn3 (Inhalation, mouse)

-Acetylene black

Acute toxicity: No information

Chronic toxicity: No Information

-Zinc Chloride

Acute toxicity: TCL0: 4800 mg/m3 (30min.)

LD50: 350 mg/kg (oral, rat)

12. Ecological Information:

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

13. Disposal precautions:

Disposal of the substance should be done according to the laws and regulations. Although used cells can be discarded basically as "nonflammable refuse," some local governments sort and collect them at their own discretion. Therefore, observe instructions of the government you belong to, to dispose of the substance.

Keep the following discarding precautions:

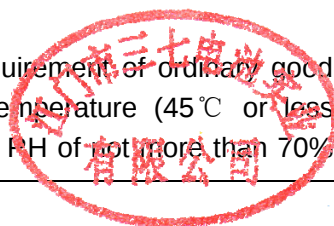
- Even a used cell sometimes stores electric energy. Therefore, to prevent the cell from short-circuit, isolate cells from each other by a method such as taping +, - terminals of batteries, or using the individual housing case of a battery, used when you bought the battery, and orderly encasing cells in a box, then submit an application of disposal to the local government of your residence, using the designated form.
- Pack cells so that they are not shorted, and prevent the package from being wetted.
- If cells must be discarded in a country other than Japan, observe the instructions of the country and local government.

14. Transportation precautions:

Hazards identification: None

Suggestion according to IMO IMDG Code: The substance is not subject to IMO IMDG Code.

Packaging requirements: The goods are packaged according to the packaging requirement of ordinary good. Avoid high temperature, high humidity and condensation. Store cells at room temperature (45°C or less recommendation is 20°C ± 15°C) with minimum temperature variations and a PH of not more than 70%.





Carefully handle containers, and do not strike them so strongly as denting a cell. Pack batteries and prevent them from short-circuit. Also fix cells so as not to result in a load shift during transportation.

Determination of Explosives: The substance presents no explosive hazard.

Determination of Flammability: The screening test of flammability is conducted in accordance with the Regulation; the result indicates that the substance does not belong to flammable solid.

Determination of Oxidizing Substances: The substance does not belong to oxidizing substances.

Determination of Toxic & Infectious Substances: The substance does not belong to toxic substances.

Determination of Radioactive Materials: The substance does not belong to Radioactive Material.

Determination of Corrosives: The substance does not belong to Corrosives.

Determination of other Dangerous properties: Such batteries must be packed in inner packaging in such a manner as to effectively prevent short circuits and to prevent movement which could lead to short circuits.

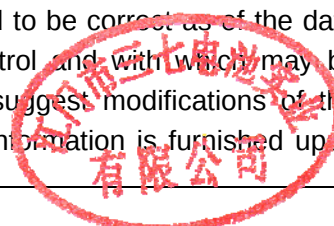
15. Regulatory Information

《Toxic Substances Control Act》 (TSCA)
《Canadian Environmental Protection Act (CEPA) Domestic Substances List》 (DSL)
《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)
《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)

In Accordance with all Federal, State and Local Laws.

16. Additional 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 and 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.





江门市三七电池实业有限公司
777 BATTERY INDUSTRY CO., Ltd.



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Fatal danger and toxicity: No information available

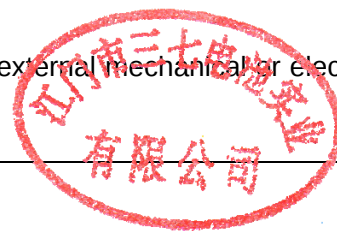
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Physical and chemical hazard: There is the risk of explosion if batteries are disposed in fire, heated above 100degree C. Stacking or jumbling batteries may cause external short circuits, heat generation and explosion.

Effects to environment: Although no information is available as a cell.

Overview of prospective emergency: A cell may break or be shorted by an external mechanical or electrical stress

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中国广东省江门市胜利路129号
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 e-mail: market@china777.com Website: www.china777.com

If inhaled: If a person inhales the vapor of contents because a cell breaks down, moves the person immediately to a place with fresh air. If he/her feels ill, immediately call a doctor for therapy and treatment.

If adhered to skin: If a content adheres to skin because a battery is damaged, immediately wash it with a lot of clean water. If irritating, consult a doctor.

If getting into eyes: If a content enters eyes because of breakage of a cell, rinse eyes with a large amount of clean water for more than 15 minutes, and ask a doctor for therapy and treatment.

If swallowed: Immediately bring the victim to a doctor for treatment.

If liquid leaked from a cell is licked: Immediately gargle, and visit a doctor for therapy.

5. Fire fighting

Fire extinguishers: Dry chemical extinguisher, carbon dioxide gas extinguisher, large amount of dry sand, and big deal of water.

Specific fire fighting method:

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Protection of fire fighting personnel:

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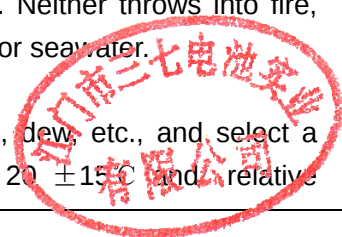
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Note: See handling and storing precautions described in the product catalog, specification, etc.

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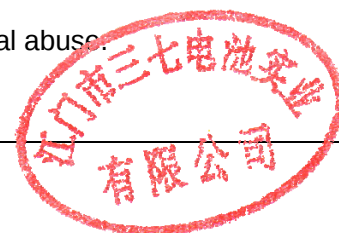
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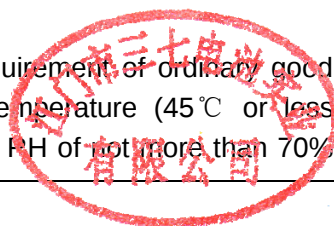
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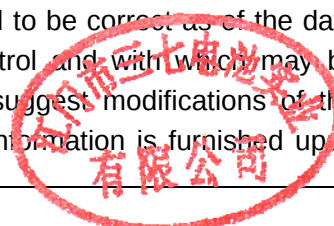
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