



# MSDS Report

**Samples Name:** Zinc Chloride Battery

**Model:** R03, R6, R14, R20, 6F22

**Client Unit :** Ninghai Hengjiu Battery Co. , Ltd

**Client Address:** No 81, North Jianshe RD, Xidian, Ninghai, Zhejiang, China

**Signed for AOV Ltd.**

Written by

Inspected by

Approved by

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### Material Safety Data Sheet

#### Section 1 - Chemical Product and Company Identification

Product Name: Zinc Chloride Battery

Manufacture: /

Address: /

Tel: 0574-65177199

Emergency Telephone: 0574-65177199

Fax: 0574-65177885

Email: hjcell@163.com

#### Section 2 - Hazards Identification

Fatalness grade: In accordance with Directive 1999/45/EC, the sample is dangerous.

Invasion route: Skin touch: Contact with battery contents may cause severe irritation and burns.

Eyes touch: Contact with battery contents may cause severe irritation and burns. Eye damage is possible.

Inhalation: Inhalation of vapors or fumes released due to heat or a large number of leaking batteries may cause respiratory and eye irritation.

Ingestion: Swallowing is not anticipated due to battery size. Ingestion of battery contents may cause mouth, throat and intestinal burns and damage.

Health hazards: The chemicals and metals in this product are contained in a sealed can. Exposure to the contents will not occur unless the battery leaks, is exposed to high temperatures or is mechanically, physically, or electrically abused.

Environment hazards: /

Burn & burst danger: It is apt to inflaming.

#### Section 3 – Composition/Information on Ingredient

Pure                      Admixture

Chemical Composition:

Chemical Name	In % By Weight	CAS No.
Carbon	4.7%	1333-86-4
Manganese Dioxide	21.3%	1313-13-9
Zinc Chloride	6.5%	7646-85-7
Ammonium Chloride	1.1%	12125-02-9
ROD	7.0%	/
Zinc-Can	37.3%	/
Mercury	< 0.0001%	7439-97-6
Water	18%	7732-18-5
Others	4.1%	/

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**Section 4 - First Aid Measures**

**Skin touch:** If battery is leaking and material contacts the skin, remove any contaminated clothing and flush exposed skin with copious amounts of running water for at least 15 minutes. If irritation, injury or pain persists, seek medical attention.

**Eyes touch:** If battery is leaking and material contacts the eye, flush thoroughly with copious amounts of running water for 30 minutes. Seek immediate medical attention.

**Inhalation:** If battery is leaking, contents may be irritating to respiratory passages. Move to fresh air. If irritation persists, seek medical attention.

**Ingestion:** If battery contents are swallowed, do not induce vomiting. If the victim is alert, have them rinse their mouth and the surrounding skin with water for at least 15 minutes. Seek immediate medical attention.

**Section 5 - Fire Fighting Measures**

**Danger characteristic:** Batteries may burst and release hazardous decomposition products when exposed to a fire situation.

**Hazardous combustion products:** Thermal degradation may produce hazardous fumes of zinc and manganese; hydrogen gas, caustic vapors of potassium hydroxide and other toxic by-products.

**Fire-Fighting method & media:** Firefighters should wear positive pressure self-contained breathing apparatus and full protective clothing. Fight fire from a distance or protected area. Cool fire exposed batteries to prevent rupture. Use caution when handling fire-exposed containers (containers may rocket or explode in heat of fire).

**Section 6 - Accidental Release Measures**

Notify safety personnel of large spills. Caustic potassium hydroxide may be released from leaking or ruptured batteries. Clean-up personnel should wear appropriate protective clothing to avoid eye and skin contact and inhalation of vapors or fumes. Increase ventilation. Carefully collect batteries and place in an appropriate container for disposal.

**Section 7 - Handling and Storage**

Avoid mechanical or electrical abuse. DO NOT short circuit or install incorrectly. Batteries may explode pyrolyze or vent if disassembled, crushed, recharged or exposed to high temperatures. Install batteries in accordance with equipment instructions. Do not mix battery systems, such as alkaline and zinc carbon, in the same equipment. Replace all batteries in equipment at the same time. Do not carry batteries loose in a pocket or bag. Do not remove battery tester or battery label.

**Storage:** Store batteries in a dry place at normal room temperature. Do not refrigerate- this will not make them last longer.

**Section 8 - Exposure Controls, Personal Protection**

**Maximum admissible concentration:** No standard yet.

**Ventilation:** No special ventilation is needed for normal use.

**Respiratory Protection:** None required for normal use.

**Skin Protection:** None required for normal use. Use neoprene, rubber or latex gloves when handling leaking batteries.

**Eyes Protection:** None required for normal use. Wear safety goggles when handling leaking batteries.

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### Section 9 - Physical and Chemical Properties

**Flash Point:** Not applicable

**Appearance and Odor:** Copper top battery

**Specific Gravity:** Not applicable

**Water Solubility:** Not applicable

**Vapor Pressure:** Not applicable

**Vapor Density:** Not applicable

**Boiling Point:** Not applicable

**Melting Point:** Not applicable

**Autoignition Point:** Not applicable

### Section 10 - Stability and Reactivity

**Stability:** This product is stable.

**Conditions to Avoid:** Contents are incompatible with strong oxidizing agents. Do not heat, crush, disassemble, short circuit or recharge.

**Hazardous Polymerization:** Will not occur

**Hazardous Decomposition Products:** Thermal decomposition may produce hazardous fumes of zinc and manganese; caustic vapors of potassium hydroxide and other toxic by-products.

### Section 11 - Toxicological Information

**Chronic Toxicity:** The chemicals in this product are contained in a sealed can and exposure does not occur during normal handling and use. No chronic effects would be expected from handling a leaking battery.

**Irritation:** /

**Target Organs:** Skin, eyes and respiratory system.

**Carcinogenicity:** None of the components of this product are listed as carcinogens by ACGIH, IARC, NTP or OSHA.

### Section 12 - Ecological Information

**Eco-toxicity: Ecological inert:** /

**Biodegradable:** /

**Non-biodegradable:** /

**Bioconcentration or biological accumulation:** /

**Other harmful effects:** /

### Section 13 - Disposal Considerations

Alkaline batteries can be safely disposed of with normal household waste. Due to concerns about mercury in the municipal solid waste stream, Duracell has voluntarily eliminated all of the added mercury from its alkaline batteries since 1993. Individual

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#### Shenzhen AOV Testing Technology Co., Ltd. Kunshan Branch

Southern China Add: AOV Building, Xueyuan Road East, University City, Shenzhen (Tangliang Village, Xili Town, Nanshan District)  
East China Add: No. 8 Minguang Road, Xin Town, Kunshan City, Jiangsu  
Tel: 86-512-5510 8000 Fax: 86-512-5510 8808  
Http: //www.aovt.com





consumers may dispose of spent (used) batteries with household trash. Duracell does not recommend that spent batteries be accumulated and disposed of in large quantities. Do not incinerate expect for disposal in a controlled incinerator.

**Handling Method:** Refer to National or Local regulations before handling.

**Section 14 - Transport Information**

Products covered by this MSDS, in their original form, are considered "dry cell" batteries and are not regulated for transportation as "DANGEROUS GOODS". The batteries must be packaged in a manner that prevents the generation of a dangerous quantity of heat and short circuits.

**Transport Attentions:** The package should be integrated when loaded. With steady and soft handling. No divulgence, no collapse, no precipitation or no damage during the course of transportation. Don't put the goods together with oxidizer or edibel chemicals. To avoid sunshine and getting wet. To prevent high temperature.

**Section 15 - Regulatory Information**

**United States**

**OSHA Status:** While the finished product(s) is considered an article and not covered by the OSHA Hazard Communication Standard, 29 CFR 1910. 1200, this MSDS contains valuable information critical to the safe handling and proper use of the product.

**EPA TSCA Status:** All intentionally-added components of this product are listed on the US TSCA Inventory.

**SARA 313/302/304/311/312 chemicals:** Manganese compounds 35-40%, Zinc 10-25%

**California:** This product has been evaluated and does not require warning labeling under California Proposition 65.

**Section 16 - Additional Information**

**References:** /

**Guidance departments:** /

**Data audit unit:** /

**Laws Help:** /

**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.

MSDS Creation Date: May 27, 2009

- Photo is included

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Photographs of Samples



Zinc Chloride Battery

\*\*\*End of Report\*\*\*

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