

MSDS Report

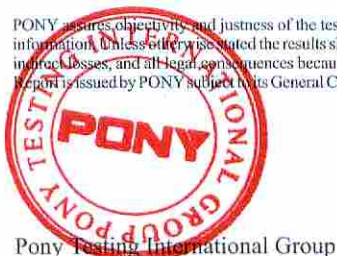
ACCREDITATION CERTIFICATE OF CHINA NATIONAL
ACCREDITATION BOARD FOR LABORATORIES (No. CNAS L3192)

Samples ALKALINE BATTERY (LR03)

Client Unit SHEN ZHEN BAOLILAI BATTERY CO., LTD

Client Address Kangle Dasha Yinhaige 27E, Xuefu Road,
Nanshan District, Shenzhen City, Guangdong
Province, China.

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Material Safety Data Sheet

Section 1 - Chemical Product and Company Identification

Product Name: ALKALINE BATTERY (LR03)

Sample Code: LR03

Manufacture: SHEN ZHEN BAOLILAI BATTERY CO., LTD

Address: Kangle Dasha Yinhaige 27E, Xuefu Road, Nanshan District,
Shenzhen City, Guangdong Province, China.

Post Code: 518052

Tel: 0755-26650010

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Section 2 - Composition/Information on Ingredient

Chemical name		In % by Weight	CAS No.
Negative bottom (SPCE steel band)		10	12597-69-2
Steel shell (SPCE steel band)		10	12597-69-2
Diaphragm paper (PP)		0.1	9003-07-0
Sealing ring (PP)		0.2	9003-07-0
Small bowl (Brass band)		2	7440-50-8
Copper nail (Brass wire)		1	7440-50-8
Conductive coatings (Graphite)		0.5	7782-42-5
Cathode	Manganese dioxide	30	1313-13-9
	Graphite	2.5	7782-42-5
	Calcium stearate	0.7	1592-23-0
Anode	Zinc	30	7440-66-6
	Polyacrylic acid	0.7	9003-01-4
	Polyacrylate sodium	0.3	95077-68-2
	Potassium hydroxide (liquid)	0.3	1310-58-3
	Water	0.5	7732-18-5

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Chemical name		In % by Weight	CAS No.
Anode	Zinc oxide	6	1314-13- 2
	Indium hydroxide	0.2	20661-21-6

Section 3 - Hazards Identification

No specific health hazards for normal use.

Routes of Entry

Eyes, Skin, Inhalation, Ingestion.

Health Hazards

These chemicals are contained in a sealed can. Risk of exposure occurs only if the battery is mechanically or electrically abused. The most likely risk is acute exposure when a battery vents. Leaking material exposure to skin, eyes may cause irritation. Inhalation of fumes may cause respiratory irritation.

Sign/Symptoms of Exposure

May be a reproductive hazard. Leaking can cause thermal and chemical burns upon contact with the skin.

Section 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

Remove contaminated clothes and rinse skin with plenty of water or shower for 15 minutes. Get medical aid.

Inhalation

Remove from exposure and move to fresh air immediately. Use oxygen if available.

Ingestion

Do not induce vomiting. Call a physician immediately.

Section 5 - Fire Fighting Measures

Flash Point: N/A.

Auto-Ignition Temperature: N/A.

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Extinguishing Media

Water, CO₂, dry chemical.

Firefighting

In case of fire in an adjacent area, use water, CO₂ or dry chemical extinguishers if batteries in their original containers since the fuel of the fire is basically paper products. For bulk quantities of unpackaged batteries use suitable extinguishers. In this case, do not use water.

Section 6 - Accidental Release Measures

Steps to be taken in case Material is Released or Spilled

If the battery is accidentally broken and 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 batteries to cool and vapors to dissipate. Provide maximum ventilation. Avoid skin and eye contact or inhalation of vapors. Remove spilled material with absorbent.

Waste Disposal Method

It is recommended to discharge the battery to the end, handing in the abandoned batteries to related department unified, dispose of the batteries in accordance with approved local, state, and federal requirements. Consult state environmental protection agency and/or federal EPA.

Section 7 - Handling and Storage

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.

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. Storage at high temperatures should be avoided.

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

Other Precautions

Do not short or install with incorrect polarity.

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Section 8 - Exposure Controls, 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.

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.

Section 9 - Physical and Chemical Properties

Nominal Voltage: 1.5V

Appearance characters: Yellow and blue, odorless, columned battery.

Section 10 - Stability and Reactivity

Stability

Stable for normal.

Conditions to Avoid

Heating, fire, mechanical abuse and electrical abuse.

Hazardous Decomposition Products

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

Section 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.

Manganese dioxide

Acute oral toxicity LD50 (Rat) : >3478 mg/kg

Zinc

Skin: 300ug/3 Days. Reaction: Mild.

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Potassium hydroxide

Acute oral toxicity LD50 (Rat) : 273 mg/kg

Zinc oxide

Acute oral toxicity LD50 (Rat) : 240 mg/kg.

Section 12 - Ecological Information

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

Section 13 - Disposal Considerations

Appropriate Method of Disposal of Substance or Preparation

Dispose of the batteries in accordance with approved local, state, and federal requirements. Consult state environmental agency.

Section 14 - Transport Information

Alkaline batteries are considered to be "dry cell" batteries and are not subject to dangerous goods regulation for the purpose of transportation by the U.S. Department of Transportation (DOT), the International Civil Aviation Organization (ICAO), the International Air Transport Association (IATA) or the International Maritime Dangerous Goods regulations (IMDG).

The only DOT requirement for shipping Alkaline batteries is Special Provision 130 which states: "Batteries, dry are not subject to the requirements of this subchapter only when they are offered for transportation in a manner that prevents the dangerous evolution of heat (for example, by the effective insulation of exposed terminals). "

International Civil Aviation Administration (ICAO) and International Air Transport Association (IATA), Special Provision A123, i.e. "An electrical battery or battery powered device having the potential of dangerous evolutions of heat that is not prepared so as to prevent a short-circuit (e.g. in the case of batteries, by the effective insulation of exposed terminals; or in the case of equipment, by disconnection of the battery and protection of exposed terminals) is forbidden from transportation."

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International Maritime Dangerous Goods Regulations (IMDG), Special Provision 304, i.e." Batteries, dry, containing corrosive electrolyte which will not flow out of the battery case is cracked are not subject to the provisions of this Code provided the batteries are securely packed and protected against short-circuits.

Examples of such batteries include alkali-manganese, silver oxide, zinc-carbon, nickel metal hydride and nickel-cadmium batteries.

Transport Fashion: By air.

Section 15 - Regulatory Information

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》

OSHA Hazard Communication Standard Status

Toxic Substances Control Act (TSCA) Status

SARA Title III

RCRA

California Proposition 65

U.S. Federal Regulations

European/International Regulations

In accordance with all Federal, State and Local laws.

Section 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 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: November 12, 2008

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