MSDS REPORT

Applicant : HUIZHOU DEANDA BATTERY CO., LTD

Applicant Address: Jin Nengyuan Industrial Park, Shuikou Road 25, Huicheng District, Huizhou city, Guangdong, China

Manufacturer : HUIZHOU DEANDA BATTERY CO., LTD

Manufacturer Address: Jin Nengyuan Industrial Park, Shuikou Road 25, Huicheng District, Huizhou city, Guangdong, China

Product Description: Alkaline batteries

Product Code : LR03(DEANDA), LR03(DSCELL)

Trade Mark : DEANDA, DSCELL

******FOR FURTHER DETAILS, PLEASE REFER TO THE FOLLOWING PAGE(S)******

Signed for and on behalf of

Jiangshu 3E-TEST Technology Co.,Ltd.

Prepared by: Rita

Rita, project Leader

Approved by: Irwin

Irwin, Technical Director

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MATERIAL SAFETY DATA SHEET
(according to ISO 11014: 2009)

SECTION 1: Identification of Product and Supplier

Product Name: Alkaline batteries
Sample Model No.: LR03(DEANDA), LR03(DSCELL)
Manufacturer: HUIZHOU DEANDA BATTERY CO., LTD
Address: Jin Nengyuan Industrial Park, Shuikou Road 25, Huicheng District, Huizhou city, Guangdong, China
Tel: +86-752-209 1659 Fax: +86-752-209 1593
Email: xiajh@desaypow.com
Emergency telephone number: [Weekday] +86-752-209 1659
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SECTION 2: Hazards Identification

This chemical is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

This product is an article which is a sealed battery and as such does not require an MSDS per the OSHA hazard communication standard unless ruptured.

The hazards indicated are for a ruptured battery.

Classification of the substance or mixture.

Classification according to Regulation (EC) No 1272/2008:

Acute toxicity, Oral (Category 4), H302

Acute toxicity, Inhalation (Category 4), H332

For the full text of the H-Statements mentioned in this Section, see Section 16.

Classification according to EU Directives 67/548/EEC or 1999/45/EC:

Xn Harmful R20/22

For the full text of the R-phrases mentioned in this Section, see Section 16.

Label elements

Labelling according Regulation (EC) No 1272/2008

Pictogram:

Signal word: Warning

Hazard statement(s)

H302 + H332 Harmful if swallowed or if inhaled

Precautionary statement(s) : none

Supplemental Hazard Statements: none

Other hazards:

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

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SECTION 3: Composition / Information on Ingredients

Substance or preparation : Preparation

Information about the chemical nature of product :

Common chemical name / General name	CAS number	Concentration / Concentration range	Classification and hazard labeling
Manganese dioxide (MnO2)	1313-13-9	37.3%	Health: 2 Flammability: 0 Reactivity: 0
Graphite (C)	7782-42-5	3.24%	Health: 1 Flammability: 1 Reactivity: 0
Potassium hydroxide (KOH)	1310-58-3	6.77%	Health: 3 Flammability:0 Reactivity: 2
Steel (Fe)	7439-89-6	32.54%	Health: 1 Flammability: 2 Reactivity: 1
Zinc oxide (ZnO)	1314-13-2	0.2%	Health: 2 Flammability: 0 Reactivity: 0
Zinc (Zn)	7440-66-6	14.54%	Health: 1 Flammability:3 Reactivity: 1
Indium hydroxide (In(OH)3)	20661-21-6	0.01%	Health: 1 Flammability: 0 Reactivity: 0
Nylon 66	28757-63-3	1.19%	Health: 1 Flammability: 1 Reactivity: 0
Copper (Cu)	7440-50-8	4.21%	Health: 1 Flammability: 1 Reactivity: 0

SECTION 4: First Aid Measures

Only in case of contact with internal components of the battery:

Skin contact : Wash off skin thoroughly with water.
Remove contaminated clothing and wash before re-use.
In severe cases obtain medical attention.

Eye contact : Do not rub one's eyes.
Immediately flush eyes with water continuously for at least 15 minutes.
Seek medical attention immediately.

Inhalation : Provide fresh air.
In severe cases obtain medical attention.

Ingestion : Wash out mouth thoroughly with water.
Do not induce vomiting or give food or drink.
Seek medical attention immediately.

SECTION 5: Fire Fighting Measures

Flash Point: N/A

Auto-Ignition Temperature: N/A

Extinguishing media: Dry chemical, CO2, do not use water in case of battery leakage

Special hazards: Corrosive gas may be emitted during fire.

Special Fire Fighting Procedures: Self-contained breathing apparatus

Unusual Fire and Explosion Hazards: Thermal degradation may produce hazardous fumes of zinc and manganese; hydrogen gas; caustic vapours of potassium hydroxide and other toxic by-products. Batteries may burst and release hazardous decomposition products when exposed to a fire situation.

SECTION 6: Accidental Release Measures

Spilled internal cell materials, such as electrolyte leaked from a battery cell, are carefully dealt with according to the followings:

Steps to be Taken in case Material is Released or Spilled: If the battery is accidentally broken and organic electrolyte 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 liquid with absorbent and incinerate.

Precautions for human body: Remove spilled materials with protective equipment (protective glasses and protective gloves). Do not inhale the gas as much as possible. Moreover, avoid touching with as much as possible.

Environmental precautions: Do not throw out into the environment.

Method of cleaning up: The spilled solids are put into a container. The leaked place is wiped off with dry cloth.

Prevention of secondary hazards: Avoid re-scattering. Do not bring the collected materials close to fire.

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 recharge the battery, forced over-discharge, throw to fire. Do not crush or puncture the battery, or immerse in liquids.

Precautions

Avoid mechanical or electrical abuse.

DO NOT short circuit or install incorrectly.

Batteries may explode, pyrolize 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

The following occupational exposure limits are provided for informational purposes. No exposure to the battery components should occur during normal consumer use.

Chemical Name	Exposure Limits
Manganese Dioxide	5 mg/m3 Ceiling OSHA PEL 0.2 mg/m3 TWA ACGIH TLV
Potassium Hydroxide	2 mg/m3 TWA ACGIH TLV
Graphite	15 mg/m3 TWA OSHA PEL 2 mg/m3 TWA (respirable dust) ACGIH TLV
Zinc Oxide	5 mg/m3 TWA OSHA PEL 10 mg/m3 TWA ACGIH TLV

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.

Eye Protection:

None required for normal use.

Wear safety goggles when handling leaking batteries.

SECTION 9: Physical and Chemical Properties

Appearance:

-Physical state: Solid

-Appearance: Cylindrical shape.

-Color: Depend on the design

-Odor: Odorless

-**pH:** N/A

-**Specific temperatures/temperature ranges at which changes in physical state occur:**

There is no useful information for the product as a mixture.

-**Flash point:** N/A

-**Explosion properties:** N/A

-**Density:** N/A

-**Solubility ,with indication of the solvent(s):** Insoluble in water

-**Voltage:** 1.5 Volts

SECTION 10: Stability and Reactivity

Stability: Stable under normal use

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

Materials to avoid: Conductive materials, water, seawater, strong oxidizers and strong acids.

Hazardous decomposition products: Thermal decomposition may produce hazardous fumes of zinc and manganese; and other toxic by-products.

SECTION 11: Toxicological Information

Acute Toxicity Data:

Manganese Dioxide: LD50 oral rat >3478 mg/kg

Chronic Effects: 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.

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

Persistence/ degradability: Since a battery cell and the internal materials remain in the environment, do not bury or throw out into the environment.

SECTION 13: Disposal Consideration

Recommended methods for safe and environmentally preferred disposal:

Product (waste from residues) : Do not throw out a used battery cell. Recycle it through the recycling company.

Contaminated packaging: Neither a container nor packing is contaminated during normal use. When internal materials leaked from a battery cell contaminates, dispose as industrial wastes subject to special control.

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.

For finished packaged product transported by ground (US DOT):-- not regulated
For finished packaged product transported by sea (IMDG) -- not regulated
For finished packaged product transported by air (IATA): -- not regulated

Special provisions apply and shippers should consult the most current versions of the transportation regulations.

Special Provision A123 in the IATA Dangerous Goods Regulations and ICAO Technical Instructions and Special Provision 130 in 49 CFR 172.102 of the U.S. DOT regulations require alkaline batteries be packed in such a way to prevent short circuits or generating a dangerous quantity of heat.

In addition, the IATA Dangerous Goods Regulations and ICAO Technical Instructions require the words "not restricted" and the Special Provision number "A123" be provided on the air waybill, when an air waybill is issued.

Special Provision 304 of the IMDG Code (Amdt. 33-06) provides batteries, dry, containing corrosive electrolyte which will not flow out of the battery if 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 are zinc-manganese, alkali-manganese, zinc-carbon, nickel-metal hydride and nickel-cadmium batteries.

SECTION 15: Regulation Information

Law Information:

《Dangerous Goods Regulation》
《Recommendations on the Transport of Dangerous Goods Model Regulation》
《International Maritime Dangerous Goods》
《Classification and code of dangerous goods》
OSHA hazard communication standard (29 CFR 1910.1200)
US Department of Transportation DOT (49 CFR 100-185)
The International Air Transport Association (IATA) Dangerous Goods Regulations (58th Edition (Year 2017)
EU Directive 2006/66/EC& 2013/56/EU
Toxic Substances Control Act (TSCA) Status SARA Title III
RCRA
In accordance with all Federal, State and Local laws.

SECTION 16: Other Information

Full text of H-Statements referred to under sections 2 and 3.

Acute Tox.	Acute toxicity
H302	Harmful if swallowed.
H302 + H332	Harmful if swallowed or if inhaled
H332	Harmful if inhaled.

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Full text of R-phrases referred to under sections 2 and 3

Xn Harmful

R20/22 Harmful by inhalation and if swallowed.

Further information

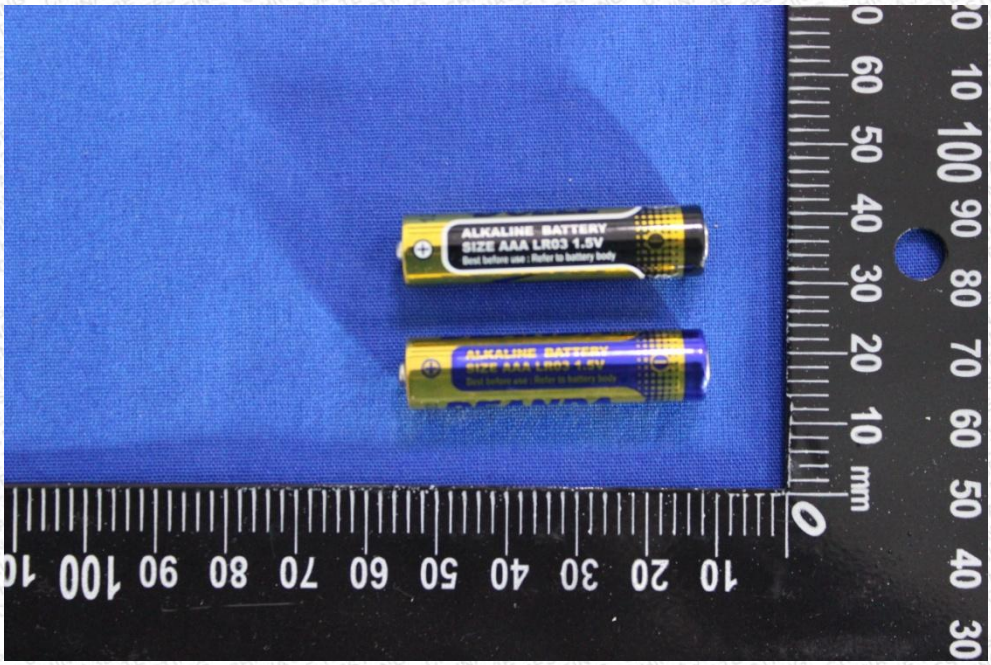
The information contained in this Safety data sheet is based on the present state of knowledge and current legislation.

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.

This safety data sheet provides guidance on health, safety and environmental aspects of the product and should not be construed as any guarantee of technical performance or suitability for particular applications.

Photo of Samples



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