



电池及其应用方案总体供应商
Battery and Its Applications Overall Supplier

东莞市立量电子有限公司

DONGGUAN LILIANG ELECTRONICS CO.,LTD

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Report NO.:LL200102-001

MSDS Report

Sample	Zinc-manganese Battery (R03 UM-4 SIZE AAA 1.5V)
Glient Unit	DONGGUAN LILIANG ELECTRONICS CO.,LTD.
Client Address	Floor 3,Building A, Wanjia Technology Park,NO.88,Yayuan Industrial Road,, Nancheng Subdistrict, Dongguan city

Material Safety Data Sheet

Section 1 – Chemical Product and Company Identification

Product Name: Zinc-manganese Battery

Battery Type: R03 UM-4 SIZE AAA 1.5V

Trade Name: POEAE

Manufacturer: DONGGUAN LILIANG ELECTRONICS CO.,LTD.

Address: Floor 3, Building A, Wanjia Technology Park, NO.88, Yayuan Industrial Road,, Nancheng Subdistrict, Dongguan city

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Tel: 0769-23034357

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Section 2 – Composition/Information on Ingredient

Chemical composition	Molecular formula	CAS No.	Weight(%)
Manganese Dioxide	MnO ₂	1313-13-9	30
Carbon Nanotubes	C	1333-86-4	5
Zinc Chloride	ZnCl ₂	7646-85-7	5.2
Ammonium Chloride	NH ₄ Cl	12125-02-9	0.8
Water	H ₂ O	14314-42-2	15.5
Zinc Oxide	ZnO	1314-13-2	0.15
Graphite	C	7782-42-5	0.1
Zinc	Zn	7440-66-6	35

Section 3 – Hazards Identification

NO specific health hazards for normal use.

Routes of Entry

Eyes, Skin, Inhalation, Ingestion

Health Hazards

Sign/symptoms of Exposure

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

Leaking can cause thermal and chemical burns upon contact with the skin

Section 4 – First Aid Measures

Eye

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

Extinguishing Media

Water,CO₂, dry chemical.

Special Fire-Fighting Procedures

Self-contained breathing apparatus.

Hazardous Combustion Products

Carbon monoxide,carbon diocide,other metal oxide gases.

Section 6 – Accidental Release Measures

Steps to be Taken in case Material is Released or Spilled

If the battery is accidentally broken and 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 battery to cool and vapors to dissipate.provide maximum ventilation.Avoid skin and eye contact or inhalation of vapors.

Waste Disposal Method

It is recommended to discharge the battery to the end,handing in the abandoned battery to related department unify,dispose of the batteries in accordance with approved local,state,and federal requirements.Consult state environmental 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 tempeatures 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.

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: Black, cylindrical ,with odorless battery.

Section 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.

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.

Manganeae Dioxide

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

Zinc

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

Section 12 – Ecological Information

When promptly used or disposed the battery does not present severe 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 battery in accordance with approved local, state, and federal requirements. Consult state environmental agency and/or federal EPA.

Section 14 – Transport Information

Zinc-manganese Battery (R03UM4 SIZE AAA 1.5V) is exempt from dangerous goods. It is considered non-dangerous goods by the International Civil Aviation organization (ICAO), the International Air Transport Association (IATA). International Maritime Dangerous Goods regulations (IMDG)

Separate batteries when shipping to prevent short-circuiting. They should be packed in strong packaging for support during transport.

Transport Fashion: By air, by sea,

The company promised to send dry cell in conformity with terms of A123 of IATA DGR 61th Edition for transportation

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>>
<<Occupational Safety and Health Act>>(OSHA)
<<Toxic Substances Control Act>>(TSCA)
<<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.

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: 2020.01.02

