



GLOSO CO., LTD. 瑞璟實業有限公司

5F-1 NO. 103. Rui-Hu Street, Nei-Hu District, TAIPEI, TAIWAN. R. O. C

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MATERIAL SAFETY DATA SHEET

The batteries are exempt articles and are not subject to the OSHA Hazard Communication Standard Requirement. This sheet is provided as technical information only. The information and recommendations set forth are made in good faith and believed to be accurate as of the date of preparation. However, Power Glory makes no warranty expressed or Implied.

Reference No.:Mitsubishi-CR203223

Section 1-Product and Company Identification

| | | | |
|--|---------------------------|---|--|
| Product Name : Lithium Manganese Dioxide Batteries | | CHEMICAL SYSTEM: Lithium Manganese Dioxide | Volts: 3 V |
| Size: CR2032 | Trade Mark: Mitsubishi | | Approximate Weight: 3.2 g |
| Designed for Recharge: NO | | Date of preparation: Jan 01 2023 | |
| Company: Power Glory Battery Tech (Shenzhen) Co.,Ltd. | | | Telephone Numbers: 86- (0)755-27543060 27543061 |
| Address (Number, Street, City, State, and ZIP Code): Room 306 , West Four Row , Heshuikou Village , Heshuikou Community , Gongming Town , Guangming New District , Shenzhen , China | | | Fax Numbers: 86- (0)755-27543062 |

Section 2- Composition/Information on Ingredients

| Ingredient | CAS NO. | Content (wt%) |
|---------------------|-----------------------|------------------|
| Lithium | 7439-93-2 | 2.0 (0.064 gram) |
| Propylene Carbonate | 108-32-7 | 6.1 |
| Manganese dioxide | 1313-13-9 | 29.0 |
| 1,2-Dimethoxyethane | 110-71-4 | 4.2 |
| Lithium perchlorate | 7791-03-9 | 0.9 |
| Graphite | 7782-42-5 、 1333-86-4 | 3.4 |
| Polypropylene | 9003-07-0 | 4.1 |
| Teflon | 9002-84-0 | 0.3 |



| | | |
|-----------------|-----------|------|
| Stainless steel | 7439-89-6 | 50.0 |
|-----------------|-----------|------|

Section 3 – Hazards Identification

Hazards Identification:

The battery has passed the test items of UN Model Regulations, Manual of Test and Criteria Section UN38.3

Emergency Overview :

Caution : Avoid contact and inhalation the electrolyte contained inside the battery

Section 4 – First Aid Measures

None unless internal materials exposure. If contents are leaked out, observe following Instructions

- Inhalation Fumes can cause respiratory irritation . Remove to fresh air and consult a physician.
- Skin Immediately flush skin plenty of water. If itch or irritation by chemical bum persists, consult a physician.
- Eyes Immediately flush eye with plenty of water for at least 15 minutes.
Consult a physician immediately
- Ingestion If swallowing a battery, consult a physician immediately.
If contents come into mouth, immediately rinse by plenty of water and consult a physician.

Section 5-Fire Fighting Measures

Extinguishing Media Extinguisher of alkaline metal fire is effective.
Plenty of cold water is also effective to cool the surrounding area and control the spread fire. But hydrogen gas may be evolved by the reaction of water and lithium and it can form an explosive mixture. Therefore in the case that lots of lithium batteries are burning in a confined space ,use a smothering agent.

Fire fighting procedure Use self-contained breathing apparatus and full protective gear not to inhale harmful gas .

Section 6-Accidental Release Measures

Accidental Releases: Do not breathe vapors or touch liquid with bare hands (see section 4).
Waste Disposal Methods: Evacuate area. If possible, a trained person should attempt to stop or contain the leak by neutralizing spill with soda lime or baking soda. A NIOSH Approved Acid Gas Filter Mask or Self-Contained Breathing Apparatus should be worn. Seal leaking battery and soda lime or baking soda in a plastic bag and dispose of as hazardous waste.
Other: Follow North American Emergency Response Guide (NAERG)#138 for cells involved in an accident, cells that have vented, or have exploded.

Section 7-Handling and Storage

- 1) Handling
Never swallow. Never reverse the positive and negative terminals when mounting . Never short-circuit the battery. Never heat. Never expose to open flame. Never disassemble. Never weld the terminal or wire to the body of the battery



directly. Never touch the liquid leaked out of battery . Never bring fire close to battery liquid. Never keep in touch with battery.

2) Storage

Never let the battery contact with water. Never store the battery in hot and high humid place. Don't push the battery excessively and destroy the battery packaging, often wet and ventilating the dry place to keep in the normal atmospheric temperature, find the unusual battery is dealt with in time

Section 8 – Exposure Controls, Personal Protection

| | | |
|---------------------------|---------------|----|
| Respiratory Protection | | NA |
| Ventilation | Local Exhaust | NA |
| | Mechanical | NA |
| | Special | NA |
| | Other | NA |
| Eye Protection | | NA |
| Protective Gloves | | NA |
| Other protective clothing | | NA |

Section 9 – Physical/Chemical Characteristics

State of matter: Solid state

Form : Button type

Color: True quality of stainless steel

Smell : Tasteless (At the time of the fullness)

Resolve temperature: NA

Spontaneous combustion temperature: NA

Explosion demarcation line : Higher than 170 degrees Centigrade of batteries will be burnt

To the density (Water =1): NA

Dissolving: NA

| | |
|----------------------|---|
| Boiling Point: | 1,2-Dimethoxyethane : 83°C |
| Vapor Pressure: | 1,2-Dimethoxyethane :6.40(20°C) |
| Vapor Density: | 1,2-Dimethoxyethane : 3.11 |
| Solubility in Water: | 1,2-Dimethoxyethane : :diffluence contact with water |
| Specific Gravity: | 1,2-Dimethoxyethane :1.63 |
| Melting Point: | 1,2-Dimethoxyethane :-67°C |
| Evaporation Rate: | N/A |
| Water Reactive: | 1,2-Dimethoxyethane : :diffluence contact with water |
| Appearance & Odor: | 1,2-Dimethoxyethane : achromatism liquid; slight aether odor. |

Section 10 – Stability and Reactivity



| | |
|---------------------------------------|-----------------|
| Stability | Stable |
| Incompatibility | Water |
| Hazardous polymerization | Will not occur. |
| Condition to avoid | See section 7. |
| Hazardous Decomposition or Byproducts | Hydrogen |

Section 11 – Toxicological Information

Acute Toxicity:

1,2-Dimethoxyethane:

LC₅₀ (Inhalation): N/A

LD₅₀: N/A

Eye Effects: Corrosive

Skin Effects: Corrosive

Section 12 –Ecological Information

Aquatic Toxicity: Do not let internal components enter marine environments. Avoid releases into waterways, wastewater or groundwater.

Section 13 – Disposal condition

The battery may be regulated by national or local regulation. Please follow the instructions of Proper regulation. As electric capacity is left in a discarded battery and it comes into contact With other metals, it could lead to distortion, leakage, overheating, or explosion, so make sure to cover the (+) and (-) terminals with friction tape or some other insulator before disposal.

Section 14 – Transportation Information

| | |
|--------------|--|
| IATA: | Proper shipping Name : Lithium metal batteries/packed with equipment/contained in equipment |
| | UN Number: UN3090/UN3091 |
| | The battery has passed the test items of UN Model Regulations, Manual of tests and Criteria, part III,Sub-section 38.3. According to to IATA DGR 64th Edition ,PACKING INSTRUCTION 968-970 of section II or IB for transportation. |
| IMO : | Proper shipping Name : Lithium metal batteries/packed with equipment/contained in equipment |
| | UN Number: UN3090/UN3091 |
| | The battery has passed the test items of UN Model Regulations, Manual of tests and Criteria, part III, Sub-section 38.3. The goods is not restricted to IMO IMDG code (Amend 39-2018) according To special provision 188. |

Section 15-Regulatory Information



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US DOT.

Effective December 29, 2004, the DOT requires that the outside of each package that contains primary lithium batteries, regardless of size or number of batteries, be labeled with the following statement, "PRIMARY LITHIUM BATTERIES-FORBIDDEN FOR TRANSPORT ABOARD PASSENGER AIRCRAFT". The labeling requirement covers shipments via highway, rail vessel or cargo-only aircraft and covers all shipment inside, into or out of the US. The label must be in contrasting color and the letters must be 12mm(0.5 in) in height for packages weighing more than 30Kg and 6mm (0.25 in) in height for packages weighing less than 30Kg

Section 16-Other Information

If you want further information, please contact:

General Manager

Wang Baojun

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