



PREMIUM LITHIUM BATTERY
BUILT TO POWER ⚡ ENGINEERED TO LAST

Material Safety Data Sheet

| | |
|--|---------------------------------------|
| Identity (As Used on Label and List) 3V Lithium manganese dioxide button cell | Part Number CR1620, CR2025, CR2032 |
|--|---------------------------------------|

Section I: Information of Manufacturer

| | |
|--|---|
| Product Imported to Australia by: PECAT Parts Pty Ltd ensures compliance with Australian safety standards, offering high-quality, child-resistant packaging and safety warnings. Company Details: PECAT Parts Pty Ltd Ballarat, VIC, Australia contact@pecat.com.au | Emergency Telephone Number |
| | Telephone Number for information |
| | Date of prepared and revision 2024-01-01 |
| | Signature of Preparer (optional) |

Section II: Hazardous Ingredients/Identity Information

| Ingredient | CAS NO. | Content(wt%)of total weight |
|---------------------|-----------|-----------------------------|
| Lithium | 7439-93-2 | 2.2 |
| Propylene Carbonate | 108-32-7 | 6.0 |
| Manganese dioxide | 1313-13-9 | 28 |
| 1,2-Dimethoxyethane | 110-71-4 | 3.6 |
| Lithium perchlorate | 7791-03-9 | 1.1 |
| Iron | 7439-89-6 | 45 |
| Polypropylene | 9003-07-0 | 14.1 |
| Lead | 7439-92-1 | Not Detected |
| Cadmium | 7440-43-9 | Not Detected |
| Mercury | 7439-97-6 | Not Detected |

Section III: Physical/Chemical Characteristics

| | |
|---------------|----|
| Form | NA |
| Boiling Point | NA |



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|--|--|
| Vapor Pressure (mm Hg) NA | Specific Gravity (H ₂ O =1) NA |
| Vapor Density (AIR=1) NA | Melting Point NA |
| Solubility in Water NA | Evaporation Rate (Butyl Acetate=1) NA |
| | Ph NA |
| Section IV: Hazard classification NA | Appearance and Odor NA |

Section V: Reactivity Data

Stability
 Yes= (X)

| | | |
|--|-----------------|---------------------|
| Incompatibility (Materials to Avoid) Hazardous Decomposition or By products NA | Unstable () | Conditions to Avoid |
| | Stable (X) | |

Hazardous Reactions
 Yes = (X)

| | | |
|---|-------------------------|---------------------|
| Section VI: Health Hazard Data | May Occur () | Conditions to Avoid |
| | Will Not Occur (X) | |

Route(s) of Entry Yes=(X) Inhalation? (NA) Skin? (NA) Ingestion? (NA)

Health Hazard (Acute and Chronic) / Toxicological information

In case of electrolyte leakage, skin will be itchy when contaminated with electrolyte.



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Section VII – First Aid Measures

First aid Procedures

If electrolyte leakage occurs and makes contact with skin, wash immediately.

If electrolyte comes into contact with eyes, wash with copious amounts of water for fifteen minutes, and contact a physician.

Section VIII: Fire and Explosion Hazard Data

| Flash Point (Method Used) | Ignition temp | Flammable Limits | LEL | UEL |
|----------------------------|---------------|------------------|-----|-----|
| NA | NA | NA | NA | NA |

Extinguishing Media
NA

Special Fire Fighting Procedures
NA

Unusual Fire and Explosion Hazards

Do not dispose of battery in fire – may explode.

Do not short – circuit battery – may cause burns.

Section IX: Accidental Release or Spillage

Steps to Be Taken in Case Material is Released or Spilled

Batteries that are leaking should be handled with rubber gloves.

Avoid direct contact with electrolyte.

Section X: Handling and Storage

Safe handling and storage advice

The battery is extremely sensitive to adverse effects of humidity. Be sure to store them in a place that is dry and subject to little temperature change. Do not place near the boiler or radiator, nor expose to direct sun light. Do not dispose of the battery in fire. Do not charge the battery. Do not short- circuit the battery. Do not put in backward position. Do not store in disorderly fashion, or allow metal objects to be mixed with stored batteries. Do not disassemble the battery, handling in such manner can cause the battery to explode, leak and injury.



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Section XI: Exposure Controls / Personal Protection

Occupational Exposure Limits : LTEP
 NA

Respiratory Protection (Specify Type)
 NA

| | |
|-------------|------------|
| Ventilation | STEP NA |
|-------------|------------|

| | | |
|---|----------------------------|---------------|
| Protective Gloves A Other Protective Clothing or Equipment A | Local Exhausts NA | Special NA |
| | Mechanical (general) NA | Other NA |

| | |
|---------------------------------|----------------------|
| Work / Hygienic Practices NA | Eye Protection NA |
|---------------------------------|----------------------|

Section XII: Ecological Information

NA

Section XIII: Disposal Method

Do not incinerate or subject cells to temperature in excess of 80°C. Dispose of in accordance with local regulations.

Section XIV: Transportation Information

Lithium battery is considered as "Not Restricted" cargo because they complied UN Recommendations.

Shipping Name Lithium Metal Batteries
 UN Number UN3090

Organizations governing the transport of lithium batteries

| Area | Method | Organization | Special Provision |
|------|--------|--------------|-------------------|
|------|--------|--------------|-------------------|



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|---------------|-------|------------|-------------------|
| International | Air | IATA, ICAO | Best Practice 008 |
| International | Ocean | IMO / IMDG | 188 |

The substance is not restricted to IMO IMDG Code according to special provision 188. These regulations are based on the UN Recommendations. Each special provision provides specifications on exceptions for shipping lithium batteries. All Yufeng's batteries meet all special provisions. If all of following 2 requirements are satisfied, lithium metal batteries can be transported as "Not Restricted" cargo.

1) Lithium weight or equivalent lithium content must be less than value in table.

| | Lithium Cell/Battery (Lithium weight) |
|---------|--|
| Cell | 1g or less |
| Battery | 2g or less |

Equivalent lithium content (g) is calculated as 0.3 (g/Ah) times the rated capacity (Ah) .

2) Each cell or battery is of the type proven to meet the requirements of each test in the UN Manual of Tests and Criteria, Part III, section 38.3. T1 - T8 Test.

Because the consignor has to take the responsibility, the customer has to confirm the exception conditions when shipping.

Lithium battery international transportation rules. Based on a United Nations recommendation, the regulation for lithium metal cell and batteries has been revised in the international Air Transport Association (IATA) dangerous goods regulations (DGR Rev.65). Each cell or battery pack meets the requirements of each test in the UN Manual of Tests and Criteria III, sub section 38.3. The Cells / Batteries are "Not Restricted" Cargo

1. Must comply with Section II of PI968-PI970 accordingly.
2. For cells, the lithium content should not be more than 1 g; while for batteries, the aggregate lithium content should not be more than 2 g.
3. For those Lithium metal cells / batteries contained in equipment, the equipment must be equipped with an effective means of preventing accidental activation.

Section XV: Regulatory Information

IATA Dangerous Goods Regulations.

ICAO Technical Instructions for the safe transport of dangerous goods by air.



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Section XVI: Other Information

This MSDS is described on the basis of present materials, information and data, so, please notice that it will be revised by new information. Also this sheet is supplied to entrepreneurs as reference information in order to handle batteries safely. Please notice that entrepreneur have to deal with batteries as they think fit.

References (1) UN Recommendations on the Transportation of Dangerous Goods Model Regulations (ST/SG/AC.10/1/rEV.12)
(2) Federal Resister / Vol.65, No. 174 / Thursday, September 7, 2000 / Notices
(3) IATA Dangerous Goods Regulations 65th Edition (2024)

Section XVII: Measures for fire extinction

Suitable fire extinguishing agent: CO₂, fire extinguisher, ABC dry powder extinguisher, sand, etc.
Can't quench, a small amount of can cover with the sand first, burn and need to use the fire extinguisher in a large amount. Much water can put out a fire was aroused a few battery. The fire fighter's special shelter is equipped: Wearing the air respirator, protects the helmet, glasses, etc.
