

# Changzhou Anyida Power Source Technology Co., Ltd

## Material Safety Date Sheet

Product name: Lithium metal Cell

Sheet No.: MSDS-180103

### 1. Product name and Supplier information

|   |                  |
|---|------------------|
| Product name: Primary lithium manganese dioxide button cell<br>CR2032/CR2025/CR2016/CR2430/CR2450 |                  |
| Supplier Name: Changzhou Anyida Power Source Technology CO.,LTD                                   |                  |
| Address: NO.60, Tianshan Road, Changzhou City, Jiangsu Prov, China                                |                  |
| Tel: 0519-83270474  | Postcode: 213016 |

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|--------------------|-----------------|-----------------|--------------------|
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### 2. Component information

Pure  Mixture

Hazardous Constituents: Lithium

| Chemical Composition                  | Percentage of concentration | CAS NO.   |
|---------------------------------------|-----------------------------|---|
| Lithium (Li)                          | <4%                         | 7439-93-2 (Lithium contents not more than 1g (cells)) |
| Manganese Dioxide (MnO <sub>2</sub> ) | <31%                        | 1313-13-9   |
| Stainless steel (Fe)                  | <65%                        | 12597-68-1  |

### 3. Hazard identification information:

|                                 |  |
|---------------------------------|--|
| Pathways:                       | Devour   |
| Hazard Rating                   | 0  |
| * Health hazards effect:        | If they inadvertently swallowed, may cause digestive ulcers or mechanical injury.  |
| * Environmental impact:         | Pollution-free   |
| * Physical and chemical hazards | If the battery on fire, or other high temperature environments, the batteries will burst, and even have a personal risk. |

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4. First aid measures

|           |   |
|-----------|---|
| ● Devour: | If they inadvertently swallowed urged rushed to hospital. |
|-----------|---|

5. Fire-fighting measures

|  |   |
|--|---|
| Application of fire extinguishing agent: | Powder fire extinguishing agent, dry sand can be used to cover up           |
| Fire Note:                               | As with lithium can be seen in the water, do not water extinguishing agents |

6. Leaking approach

|   |
|---|
| Battery is solid, under normal circumstances is safe, but if the accident caused internal lithium battery-exposed, please note away from the fire source and water. In the event of dry yellow sand can be used to cover up the fire-fighting and when not to water leaking massive fire. |
|---|

7. Safe disposal and storage methods

|  |
|--|
| 1. Store in cool, dry place, away from fire, heat and prevent prolonged exposure under the hot sun |
| 2. Prohibition of the Use easily generate sparks of mechanical equipment and tools                 |
| 3. Watt-hour rating should not be more than 20 Wh per cell or 100 Wh per battery.                  |

8. Access control/ Personal protective

|  |
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| Lithium batteries for green products, and physical contact is safe and therefore do not need any protection. |
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9. Toxicity data

|                |      |
|----------------|------|
| Toxic Effects: | None |
|----------------|------|

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10. Ecological data

|                          |  |
|--------------------------|--|
| Environmental pollution: | The environment will not be seriously polluted, a green product. |
|--------------------------|--|

11. Physical and Chemical Properties

|                     |   |
|---------------------|---|
| Material state:     | Solid   |
| Appearance / Color: | The silvery white   |
| Odor:               | None  |
| Melting point:      | The melting point Lithium internal components for 180.5 °C  |
| Solubility:         | ----  |
| PH:                 | ----  |
| Volatile:           | ----  |
| The main purpose:   | As calculators, toys, remote controls, computer motherboards, and other electrical appliances used battery power. |

12. Safety and reactivity

|                                  |   |
|----------------------------------|---|
| Safety:                          | It is stable at room temperature  |
| Against reaction:                | Can not take place  |
| Special attention to the matter: | Avoid open flame near the body and fever  |
| The material should be avoided:  | Avoid the large direct contact with metal or liquid, the battery will short-circuit |

13. Waste disposal methods

|                         |  |
|-------------------------|--|
| Waste disposal methods: | Battery recycling sector should be linked. For large scrap batteries, do not make them short, or else they might fire. |
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14. Transport information

Batteries identified by manufacturer as being defective for safety reason, or that have been damaged, that have the potential of producing a dangerous evolution of heat, fire or short circuit are forbidden for transport(e.g. those being returned to the manufacturer for safety reasons)

Except when installed in equipment, for air shipment that contain one or more cells or batteries, They are necessary to meet the following items.

1. Each consignment must be accompanied with a document such as air waybill with an indication that; The package must be handled with care and that a flammability hazard exists if the package is damaged;  
Special procedures should be followed in the event the package is damaged, to include inspection and repacking if necessary ; and a telephone number for additional information
2. Each package must be labeled with a lithium battery handling label The width 120mm \* length 110mm sized lithium battery handling label must be labeled onto the side of a package without bending it.
3. Each package must be capable of withstanding a 1.2m drop test in any orientation.  
Damage to cells or batteries contained therein;  
Shifting of the contents so as to allow battery to battery(or cell to cell)contact; Release of contents
4. Quantity per package shall not exceed 12g per cell and 500g per battery
5. Each package containing more the five cells or more than three batteries installed in equipment must be complied with above item 1 and 2;  
During the transportation of a large amount of cells by ship, trailer or railway, do not leave them in the places of high temperatures and do not allow them to be exposed to condensation During the transportation do not allow packages to be fallen down or damaged.

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| <p>6. Each cell is of the type proven to meet the requirements of each test in the UN Manual of Tests and Criteria Part III, sub-section of 38.3 and they are out of scope for Special Provision A154 and comply with Special Provision A164(2)</p> <p>7. The product is not classified as dangerous under the current edition of the ICAO &amp; IATA dangerous goods regulations and according PI968 all applicable carriers ,The product is safe for Air and sea transport and nt regulated by ICAO &amp; IATA DGR</p> |
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15. Regulations information

|                        |   |
|------------------------|---|
| Reference regulations: | IATA Dangerous Goods Regulations 59th Edition |
|------------------------|---|

16. Other information

|             |   |
|-------------|---|
| References: | GJB 2374-1995 (Lithium battery safety requirements) |
|-------------|---|