

## 1. IDENTIFICATION

### Product Identifier

**Name of Product:** Manganese Dioxide Primary Lithium Battery

### Other means of identification

**Product Models:** CR2

**Weight:** 13g

### Recommended use of the chemical and restriction on use

**Recommended Use:** Lithium Primary Battery

**Restriction On Use:** No information available

### Information Of Supplier:

**Company Name:** EVE Energy Co., Ltd

**Address:** EVE Industrial Park, NO.36,Hui Feng 7th Road , Zhongkai Hi-Tech Zone, HuiZhou, Guangdong, China

**Zip code:** 516006

**Contact person:** zhang depeng

**Tel:** +86-752-2606966

**E-mail:** zhangdepeng@evebattery.com

### Emergency Telephone

+86-752-5753824

## 2. Hazard(s) Identification

### Classification:

This product is an article which is a sealed battery and as such does not require an SDS per the OSHA hazard communication standards unless ruptured. The sealed Battery is not hazardous in normal use.

**Signal Word:** No signal word

### Hazard Statements and Symbol

Hazard statement:	No hazard statement
Pictogram(s):	No pictogram
Precautionary Statements:	No Precautionary Statements

### Description of any hazards not otherwise classified

In case of mistreatment(external short circuit...) and in case of fault some electrolyte can leak from the cell through the safety device. In these case refer to the risk of the electrolyte. Contact with internal components may cause irritation or severe burns. Irritating to eyes, respiratory system and skin. The electrode materials are only hazardous, If the material are released by mechanical damaging of the cell or if exposed to fire.

#### **Skin touch**

Contact with battery electrolyte may cause burns and skin irritation.

#### **Eye touch**

Contact with battery electrolyte may cause burns. Eye damage is possible.

**Inhalation**

Inhalation of a large number of vapors or fumes released due to heat may cause respiratory.

**Ingestion**

Ingestion of battery contents may cause mouth, throat and intestinal burns and damage.

**Unknown Toxicity**

No information available.

**3. Composition/ Information on Ingredients**

Chemical Name	CAS No.	Weigh%
Manganese Dioxide	1313-13-9	40%
Lithium	7439-93-2	1.7%
Iron	7439-89-6	8%
Graphite	7782-42-5	4%
Perchloric acid, lithium salt	7791-03-9	16%
Propylene carbonate	108-32-7	7%
Ethylene glycol dimethyl ether	110-71-4	6.3%
Polytetrafluoroethylene	9002-84-0	5%
Polypropylene	9003-07-0	5%
Aluminum	7429-90-5	7%

**4. First Aid Measures****General Advice**

First aid is Applicable only in the case of cell rupture.

**Skin Contact:**

Washing immediately with plenty of water and soap for at least 15 minutes. In the case of skin irritation or allergic reaction see a physician.

**Eye contact:**

If symptoms persist, call a physician. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Remove contact lenses, if present and easy to do. Continue rinsing. Do not rub affected area.

**Inhalation of Vented Gas:**

Remove to fresh air. If symptoms persist, call a physician. Get medical attention immediately if symptoms occur.

**Ingestion:**

Do not induce vomiting. Rinse mouth immediately and drink plenty of water. Call a physician or poison control center immediately.

**Most important symptoms and effects, both acute and delayed**

No information available

**Indication of any immediate medical attention and special treatment needed**

No information available

**5. Fire –Fighting Measures****Suitable Extinguishing Media**

Use foam , dry powder or dry sand, CO<sub>2</sub> as appropriate.

**Unsuitable Extinguishing Media:**

CAUTION: DON'T Use water.

**Specific Hazards Arising from the chemical**

Under fire conditions, batteries may burst and release hazardous decomposition products when exposed to fire situation. This could result in the release of flammable or corrosion materials.

**Hazardous Combustion product:**

CO, CO<sub>2</sub>, Metals oxides, Irritating fumes.

**Protective equipment and precautions for firefighters**

Firefighters must wear fire resistant protective equipment and appropriate breathing apparatus. The staff must equipment filter mask (full mask) or isolated breathing apparatus. The staff must wear the clothes which can defense the fire and the toxic gases. Put out the fire in the upwind direction. Remove the container to open space as soon as possible. Spray water on the containers in the fireplace to keep them cool until finish extinguishment.

## 6. Accidental Release Measures

**Personal precautions, protective equipment and emergency procedures**

If the battery material is released, remove personnel from area until fumes dissipate. Provide maximum ventilation to clear out hazardous gases. The preferred response is to leave the area, dispose the case after the batteries cool and vapors dissipate. Provide maximum ventilation. Avoid contact with skin, eyes or inhalation of vapors.

**Methods for containment**

Prevent further leakage or spillage if safe to do so.

**Methods for cleaning up**

Collect all released material in a plastic lined container. Dispose off according to the local law and rules. Avoid leached substances to get into the earth, canalization or waters.

## 7. Handling and Storage

**Precaution for safe handling**

Always follow the warning information on the batteries and in the manuals of devices. Only use the recommended battery types. Keep batteries away from children. For devices to be used by children, the battery casing should be protected against unauthorized access. Unpacked batteries shall not lie about in bulk. In case of battery change always replace all batteries by new ones of identical type and brand. Do not swallow batteries. Do not throw batteries into water. Do not throw batteries into fire. Avoid deep discharge. Do not short-circuit batteries use recommended charging time and current.

**Conditions for safe storage, including any incompatibilities**

**Storage:**

Keep containers tightly closed in a dry, cool and well-ventilated place. Store locked up. Keep out of the reach of children.

**Incompatible products:** Strong acids. Strong oxidizing agent.

## 8. Exposure Controls/Personal Protection

**Control parameters**

No data available.

**Appropriate engineering controls**

Under normal conditions ( during charge and discharge) release of ingredients does not occur.

**Individual protection measures**

**Respiratory protection:**

No personal respiratory protective equipment normally required. In case of inadequate ventilation wear respiratory protection

**Eye /face protection:**

No personal protective equipment normally required.

**Skin protection:**

Wear protective clothing to prevent contact

**Hand protection:**

Wear protective gloves

9. **Physical and Chemical Properties**

**Physical State:** Solid

**Color:** Orange \ Black \ Red

**Odor:** Odorless

**Odor Threshold:** No information available

**PH:** No data available

**Melting/freezing point:** No data available

**Boiling point/boiling range:** No data available

**Flash Point:** No data available

**Evaporation Rate:** No data available

**Flammability (Solid, gas):** No data available

**Flammability Limit in Air:**

**Upper flammability limit:** No data available

**Lower flammability limit:** No data available

**Vapor pressure:** No data available

**Vapor density:** No data available

**Specific Gravity:** No data available

**Solubility:** Insoluble in water

**Partition coefficient:n-octanol/water:** No data available

**Autoignition temperature:** No data available

**Decomposition temperature:** No data available

**Kinematic viscosity:** No data available

**Dynamic viscosity:** No data available

10. **Stability and Reactivity**

**Reactivity:**

No data available

**Chemical stability:**

Stable under recommended storage conditions.

**Possibility of Hazardous Reactions:**

When heated above 150°C the risk of rupture occurs. Due to special safety construction, rupture implies controlled release of pressure without ignition

**Conditions to avoid:**

Do not subject battery to mechanical shock. Keep away from open flames, high temperature.

**Incompatible materials:**

Strong acids, strong oxidizing agents.

**Hazardous decomposition products:**

Under fire conditions, the electrode materials can form carcinogenic cobalt oxides

## 11. Toxicological Information

### Information on likely routes of exposure

**Inhalation:**

Inhalation of a large number of vapors or fumes released due to heat may cause respiratory.

**Eye Contact:**

Contact with battery electrolyte may cause burns. Eye damage is possible.

**Skin Contact:**

Contact with battery electrolyte may cause burns and skin irritation.

**Ingestion:**

Ingestion of battery contents may cause mouth, throat and intestinal burns and damage.

Under normal conditions (during charge and discharge) release of ingredients does not occur. If accident release occurs see information in section 2,3, and 4. Swallowing of battery can be harmful. Call the local Poison Control Centre for advice and follow-up.

### Information on toxicological characteristics

**Acute toxicity:**

No data available.

**Skin corrosion/irritation:**

The liquid in the battery irritates.

**Serious eye damage/ irritation:**

The liquid in the battery irritates.

**Respiratory sensitization:**

The liquid in the battery may cause sensitization to some person.

**Skin sensitization:**

The liquid in the battery may cause sensitization to some person.

**Carcinogenicity:**

No data available.

**Germ Cell Mutagenicity:**

No data available.

**Reproductive Toxicity:**

No data available.

**STOT-single Exposure:**

No data available.

**STOT-repeated Exposure:**

No data available.

**Aspiration Hazard:**

No data available.

## 12. Ecological Information

**Ecotoxicity:**

Water hazard class1(Self-assessment): slightly hazardous for water

**Persistence and Degradability:**

No information available

**Bioaccumulation:**

No information available

**Other adverse effects:**

No information available

## 13. Disposal Considerations

**Waste treatment methods****Disposal methods:**

Should not be released into the environment.

**Contaminated Packaging:**

Dispose of in accordance with federal, state and local regulations.

## 14. Transportation Information

According to Packing Instruction 965-970 of IATA DGR 56rd Edition for transportation, the special provision 188 of IMDG ( inc Amdt36-12). The batteries should be securely packed and protected against short-circuits. Examine whether the package of the containers are integrate and tighten closed before transport. Take in cargo of them without falling, dropping, and breakage. Prevent collapse of cargo piles. Don't put the goods together with oxidizer and chief food chemicals. The transport vehicle should prevent exposure, rain and high temperature. For stopovers, the vehicle should be away from fire and heat sources. When transported by sea, the assemble place should keep away from bedroom and kitchen, and isolated from the engine room, Power and fire sources. Under the condition of road transportation, the driver should drive in accordance with regulated route, don't stop over in the residential area and congested area. Forbid to use wooden, cement for bulk transport:

Lithium batteries shipped as "Lithium batteries", Lithium batteries packed with equipment", or "lithium batteries contained in equipment" may not be classified as "No Dangerous Goods" when shipped in accordance with Packing Instruction 965-970 of IATA-DGR" or "Special provision 188of IMO-IMDG Code".

DOT: NOT REGULATED

Proper Shipping Name: NON REGULATED

Hazard Class: N/A  
 TDG: Not regulated  
 MEX: Not regulated  
 ICAO: Not regulated  
 IATA: Not regulated  
 Proper Shipping Name: NON REGULATED  
 Hazard Class: N/A  
 IMDG/IMO: Not regulated  
 Hazard Class: N/A  
 Ems No.: F-A,S-1  
 RID: Not regulated  
 ADR: Not regulated  
 AND: Not regulated

## 15. Regulatory information

### Safety, health and environmental regulations specific in question

CAS No.	USA TSCA	EU EINECS	China IECSC	Canada DSL
1313-13-9	Listed	Listed	Listed	Listed
7439-93-2	Listed	Listed	Listed	Listed
7439-89-6	No Listed	Listed	Listed	Listed
7782-42-5	Listed	Listed	Listed	Listed
7791-03-9	Listed	Listed	Listed	Listed
108-32-7	Listed	Listed	Listed	Listed
110-71-4	Listed	Listed	Listed	Listed
9002-84-0	Listed	Listed	Listed	Listed
9003-07-0	No Listed	Listed	Listed	Listed
7429-90-5	Listed	Listed	Listed	Listed

## 16. Other Information

### Disclaimer:

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used material used in combination with any other materials or in any process, unless specified in the test

**Prepared By:** EVE Energy Co., Ltd

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