MSDS Report

Sample Name & Model
3.0V Lithium-Dioxide Manganese Button Cell (CR2032)

Applicant
Shenzhen Lidea Battery Co., Ltd.

Address
3/F, No. 5 Bldg., Houhai Xufa Tech. Park, Loucun, Gongming, Shenzhen, China

No.: I02243024316D
Code: i665ez
Material Safety Data Sheet
According to ISO11014:2009 & GB16483-2008

Section 1 - Chemical Product and Company Identification

Chemical product identification
Product Name: 3.0V Lithium-Dioxide Manganese Button Cell
Battery Model: CR2032

Company identification
Manufacturer: Shenzhen Lidea Battery Co., Ltd.
Address: 3/F, No. 5 Bldg., Houhai Xufa Tech. Park, Loucun, Gongming, Shenzhen, China
Tel: +86-755-25179975
Fax: +86-755-25179976
Post code: 518106

Further Information obtainable from
Emergency telephone: +86-755-25179975
E-mail: sales@lideabattery.com

Section 2 - Hazards Identification

No harm at the normal use. If contact the electrolyte in the battery, reference as follows:

Classification of the substance or mixture

Classification according to GHS
Acute toxicity. Oral (Category 4)
Acute toxicity. Dermal (Category 3)
Skin, irritate (Category 1B)
Eyes, irritate (Category 1)

Label elements
Labelling according to Regulation (EC) No 1272/2008[CLP]

Hazard pictogram(s):

Signal word:
Danger

Hazard statement(s):
H311: Toxic in contact with skin.
H314: Causes severe skin burns and eye damage
**Precautionary statement(s):**

**Prevention:**
- P280: Wear protective gloves/protective clothing/eye protection / face protection.

**Response:**
- P312: Call a POISON CENTER or doctor/physician if you feel unwell.
- P302 + P350 - IF ON SKIN: Gently wash with plenty of soap and water
- P301 + P330 + P331 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting
- P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

**Disposal:**
- P501: Dispose of contents/container in accordance with local/national regulations

**Other hazards**
- No information available.

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### Section 3 - Composition, Information on Ingredients

**Chemical characterization: Mixture**

<table>
<thead>
<tr>
<th>Chemical Composition</th>
<th>CAS No.</th>
<th>EC#</th>
<th>Weight (%)</th>
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<td>Propylene Carbonate</td>
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<tr>
<td>DME</td>
<td>7791-03-9</td>
<td>232-237-2</td>
<td>2.1</td>
</tr>
</tbody>
</table>
Section 4 - First Aid Measures

Description of first aid measures
General information No special measures required.
After eye contact
Flush eyes with plenty of water for several minutes while holding eyelids open. Get medical attention if irritation persists.
After skin contact
Remove contaminated clothing and shoes. Immediately wash with water and soap and rinse thoroughly. Wash clothing and shoes before reuse. If irritation occurs, get medical attention.
After inhalation
Remove victim to fresh area. Administer artificial respiration if breathing is difficult. Seek medical attention.
After swallowing
Do not induce vomiting. Get medical attention.

Information for doctor:
Indication of any immediate medical attention and special treatment needed
No further relevant information available.

Section 5 - Fire Fighting Measures

Flammability: Not available.
Extinguishing media
Suitable extinguishing agents
Use extinguishing agent suitable for local conditions and the surrounding environment. Such as dry powder, CO₂.
Special hazards arising from the substance or mixture
Battery may burst and release hazardous decomposition products when exposed to a fire situation. Lithium ion batteries contain flammable electrolyte that may vent, ignite and produce sparks when subjected to high temperature (>150°C(302°F)), when damaged or abused (e.g. mechanical damage or electrical overcharging); may burn rapidly with flare-burning effect; may ignite other batteries in clothes proximity.

Advice for firefighters

Section 6 - Accidental Release Measures

Personal precautions, protective equipment and emergency procedures
Wear protective equipment. Keep unprotected persons away. Ensure adequate ventilation

Environmental precautions
Do not allow material to be released to the environment without proper governmental permits.

Steps to be taken in case material is spilled or released
Remove ignition sources, evacuate area. Sweep up using a method that does not generate dust. Collect as much of the spilled material as possible, placed the spilled material into a suitable disposal container. Keep spilled material out of sewers, ditches and bodies of water.

Waste disposal method
All waste must refer to the United Nations, the national and local regulations for disposal.

Reference to other sections
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

Section 7 - Handling and Storage

Handling
Precautions for safe handling
Consumption of food and beverage should be avoided in work areas.
Wash hands with soap and water before eating, drinking.
Ground containers when transferring liquid to prevent static accumulation and discharge.

Information about fire and explosion protection
Batteries may explode or cause burns, if disassembled, crushed or exposed to fire or high temperatures. Do not short or install with incorrect polarity.

Conditions for safe storage, including any incompatibilities
Requirements to be met by storerooms and receptacles
Store in a cool, dry, well-ventilated place.

Information about storage in one common storage facility
Keep away from heat, avoiding the long time of sunlight.

**Further information about storage conditions**
Keep container tightly sealed.

**Specific and use**
No further relevant information available.

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**Section 8 - Exposure Controls, Personal Protection**

**Control parameters**

<table>
<thead>
<tr>
<th>Ingredients with limit values that require monitoring at the workplace:</th>
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<tbody>
<tr>
<td>Not available.</td>
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</table>

**Exposure controls**

**Personal protective equipment**

**General protective and hygienic measures**
The usual precautionary measures for handling chemicals should be followed.
Keep away from foodstuffs, beverages and feed.
Remove all soiled and contaminated clothing immediately.
Wash hands before breaks and at the end of work.

**Respiratory Protection**
Use suitable respirator when high concentrations are present.

**Personal Protection**

**Protection of hands**

![Protective gloves]

**Eye protection**

![Tightly sealed goggles]

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**Section 9 - Physical and Chemical Properties**

Information on basic physical and chemical properties
General information
Appearance: Silver.
Form: Button.
Odour: Odorless.
$pH$: Not available.
Change in condition
Melting point: Not available.
Boiling point: Not available.
Freezing point: Not available.
Flash point: Not available.
Flammability: Not available.
Ignition temperature: Not available.
Decomposition temperature: Not available.
Self-igniting: Not available.
Danger of explosion: Not available.
Explosion limits
Lower: Not available.
Upper: Not available.
Oxidizing properties: Not available.
Vapour pressure: Not available.
Density: Not available.
Relative density: Not available.
Vapour density: Not available.
Evaporation rate: Not available.
Solubility in/Miscibility with water: Not available.
$n$-octanol/water partition coefficient: Not available.
Viscosity: Not available.
Dynamic: Not available.
Kinematic: Not available.
Other information:
Voltage: 3.0V
Electric capacity: 210mAh

Section 10 - Stability and Reactivity
Reactivity: Data not available.
Chemical stability: Stable.
Possibility of hazardous reactions: Data not available.
Conditions to Avoid
Flames, sparks, and other sources of ignition, incompatible materials.
Incompatibilities
Oxidizing agents, acid, base.
Hazardous Combustible Products
Carbon monoxide, carbon dioxide, lithium oxide fumes.
Hazardous Polymerization
N/A.

Section 11 - Toxicological Information

Information on toxicological effects
Acute toxicity

LD/LC50 Values relevant for classification:
Not available.

Primary irritant effect
No further relevant information available.

Sensitization:
No further relevant information available.

Additional toxicological information:
Toxicological, metabolism and distribution:
No further relevant information available.

Acute effects (acute toxicity, irritation and corrosivity):
No further relevant information available.

CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction):
No further relevant information available.

Section 12 - Ecological Information

Toxicity

Aquatic toxicity: No further relevant information available.

Persistence and degradability: No further relevant information available.

Behaviour in environmental systems
Bioaccumulative potential: No further relevant information available.
Mobility in soil: No further relevant information available.

Ecological effects
Additional ecological information

General notes:
Do not allow material to be released to the environment without proper governmental permits.
Other adverse effects: No further relevant information available.

Section 13 - Disposal Considerations

Waste treatment methods
Recommendation:
Consult state, local or national regulations to ensure proper disposal.

Uncleaned packaging
Recommendation: Disposal must be made according to official regulations.

Section 14 - Transport Information

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www.ponytest.com Hotline 400-819-5688
Add: 北京市海淀区苏州街49号 3号楼B座25层 北京市顺义区顺平路18号 3号楼B座25层
Tel: (010) 62614116 (010) 64181999
Add: 上海市徐汇区华山路30号 3号楼B座25层 上海市徐汇区龙华路53号 3号楼B座25层
Tel: (021) 64181999 (021) 64181999
Add: 深圳市南山区后海路中兴工业区C座15A 东莞市南城区宏远路6号 25层
Tel: (0755) 3351000 (0769) 2231999
Add: 广州市海员路18号 3号楼B座25层 青岛市崂山区科学园19号
Tel: (020) 1922318110 (0532) 88766866
Transport information: The 3.0V Lithium-Dioxide Manganese Button Cell (CR2032) has passed the test UN38.3, according to the report ID: 1010230731111D and 1010230731111D~1.
According to the Packing Instruction 966 section II of IATA DGR 55th Edition for transportation.
According to the special provision 188 of IMDG (36-12) or the <<Recommendations On The Transport Of Dangerous Goods-Model Regulations>> (18th). The products are not subject to dangerous goods.

More information concerning shipping, testing, marking and packaging can be obtained from Label master at http://www.labelmaster.com.
Separate Lithium-ion batteries when shipping to prevent short-circuiting. They should be packed in strong packaging for support during transport. Take in a cargo of them without falling, dropping, and breakage. Prevent collapse of cargo piles and wet by rain.

Transport Fashion: By air, by sea, by railway, by road.

Section 15 - Regulatory Information

This Material Safety Data Sheet complies with the requirements of Regulation (EC) No. 1907/2006.

Safety, health and environmental regulations/legislation specific for the substance or mixture

<table>
<thead>
<tr>
<th>Composition</th>
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<th>EC#</th>
<th>EINECS</th>
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</table>

**Section 16 - Additional Information**

**Abbreviations and acronyms**

- CLP: EU regulation (EC) No 1272/2008 on classification, labelling and packaging of chemical substances and mixtures.
- CAS: Chemical Abstracts Service (Division of the American Chemical Society).
- ACGIH: American Conference of Governmental Industrial Hygienists
- TLV: Threshold Limit Value
- IATA: International Air Transport Association
- IMDG: International Maritime Dangerous Goods
- LC50: lethal concentration, 50 percent kill
- LD50: lethal dose, 50 percent kill
- TWA: Time Weighted Average
- TSCA: United States Toxic Substances Control Act Section 8(b) Inventory
- EINECS: European Inventory of Existing Commercial Chemical Substances
- Model: Recommendations on the Transport of Dangerous Goods Model
- Regulation: Regulations

**Declare to reader**

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.

Prepared by: Liu Xiaohui  Checked by: Chengpeng  Approved by: Liyou

MSDS Creation Date: February 28, 2014

***End of report***