

# SDS

## SAFETY DATA SHEET

According to 2012 OSHA Hazard Communication Standard  
(29 CFR 1910.1200)

**Prepared For** : **Huizhou Gateway Plastic And Hardware Lighting  
Co., Ltd.**  
**Xinjiang Village intersection, Changfu Road,  
Changning Town, Boluo County, Huizhou City,  
Guangdong Province. China Zip 516133**

**Prepared By** : **Shenzhen LCS Compliance Testing Laboratory Ltd.**  
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Baoan District, Shenzhen, Guangdong, China**

**Issue Date** : **2023.06.21**

**Report Number** : **A06013005SE**

**Written by:** Kante Li

**Approved by:** Hu Li



# Safety Data Sheet

Version: V1.5

According to 2012 OSHA Hazard Communication Standard  
(29 CFR 1910.1200)

REPORT NO.: A06013005SE

\* The SDS is prepared based on the information provided by client. The contents and formats of this SDS are revised as per client's request.

## Section 1- Identification

### (a) Product identifier

|              |  |
|--------------|--|
| Product name | Lithium-Manganese Dioxide Button Battery |
|--------------|--|

### (b) Other means of identification

|                     |   |
|---------------------|---|
| Product description | Model: CR1632<br>Nominal Voltage: 3V<br>Nominal capacity: 120mAh<br>Lithium Content: 0.33g<br>Weight: 1.84g |
|---------------------|---|

### (c) Recommended use of the chemical and restrictions on use

|                 |                                 |
|-----------------|---------------------------------|
| Recommended use | Lithium Primary/Metal Batteries |
|-----------------|---------------------------------|

|                      |                           |
|----------------------|---------------------------|
| Uses advised against | No information available. |
|----------------------|---------------------------|

### (d) Details of the supplier of the safety data sheet

|                |   |
|----------------|---|
| Applicant Name | Huizhou Gateway Plastic And Hardware Lighting Co., Ltd. |
|----------------|---|

|                   |   |
|-------------------|---|
| Applicant Address | Xinjiang Village intersection, Changfu Road, Changning Town, Boluo County, Huizhou City, Guangdong Province. China Zip 516133 |
|-------------------|---|

|                     |   |
|---------------------|---|
| Manufacture Company | Huizhou Gateway Plastic And Hardware Lighting Co., Ltd. |
|---------------------|---|

|                     |   |
|---------------------|---|
| Manufacture Address | Xinjiang Village intersection, Changfu Road, Changning Town, Boluo County, Huizhou City, Guangdong Province. China Zip 516133 |
|---------------------|---|

|                       |              |
|-----------------------|--------------|
| Supplier Phone Number | 0752-6869363 |
|-----------------------|--------------|

### (e) Emergency telephone number

0752-6869363

## Section 2- Hazards Identification

### (a) Classification

This chemical is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200). This product is an article which is a sealed battery and as such does not require an MSDS per the OSHA hazard communication standard unless ruptured. The hazards indicated are for a ruptured battery.

|                   |            |
|-------------------|------------|
| Flammable liquids | Category 2 |
|-------------------|------------|

|   |            |
|---|------------|
| Substances and mixtures ,with water ,emit flammable gases | Category 1 |
|---|------------|

|                   |            |
|-------------------|------------|
| Oxidizing liquids | Category 2 |
|-------------------|------------|

|                       |            |
|-----------------------|------------|
| Acute toxicity - Oral | Category 4 |
|-----------------------|------------|

|                                   |            |
|-----------------------------------|------------|
| Serious eye damage/eye irritation | Category 2 |
|-----------------------------------|------------|

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|  |  |                                       |
|--|--|---------------------------------------|
| Skin corrosion/irritation  |  | Category 1                            |
| Acute toxicity - Inhalation  |  | Category 4                            |
| Specific target organ toxicity -single exposure  |  | Category 3                            |
| Reproductive Toxicity  |  | Category 1B                           |
| <b>(b) GHS Label elements, including precautionary statements</b>  |  |                                       |
| Emergency Overview   |  |                                       |
| Signal word  | Danger   |                                       |
| <p><b>Hazard Statements:</b></p> <p>Highly flammable liquid and vapour<br/> Harmful if swallowed<br/> In contact with water releases flammable gases which may ignite -<br/> May intensify fire ,oxidizer<br/> Causes serious eye irritation<br/> Causes severe skin burns and eye damage<br/> Harmful if inhaled<br/> May cause respiratory irritation or May cause drowsiness or dizziness<br/> May damage fertility or the unborn child</p> |  |                                       |
|    |  |                                       |
| <b>Appearance:</b>   | Silver   | <b>Physical State:</b> Solid          |
|  |  | <b>Odor:</b> No information available |
| P101   | If medical advice is needed,,have product containet or label at hand                           |                                       |
| P264   | Wash ... thoroughly after handling.  |                                       |
| P270   | Do not eat, drink or smoke when using this product.  |                                       |
| P261   | Avoid breathing dust/fume/gas/mist/vapours/spray.  |                                       |
| P271   | Use only outdoors or in a well-ventilated area.  |                                       |
| P271   | Wear protective gloves/protective clothing/eye protection/face protection.                     |                                       |
| P280   | Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. |                                       |
| P210   | Keep container tightly closed.   |                                       |
| P233   | Ground and bond container and receiving equipment.   |                                       |
| P240   | Use explosion-proof [electrical/ventilating/lighting/...] equipment.                           |                                       |
| P241   | Use non-sparking tools.  |                                       |
| P242   | Take action to prevent static discharges.  |                                       |
| P243   | Obtain special instructions before use.  |                                       |
| P201   | Do not handle until all safety precautions have been read and understood.                      |                                       |
| P202   | Do not allow contact with water.   |                                       |
| P223   | Handle and store contents under inert gas/.... Protect from moisture.                          |                                       |
| P231+P232  | Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. |                                       |
| P210   |  |                                       |
| P220   |  |                                       |

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|  |  |
|--|--|
|  | Keep away from clothing and other combustible materials.   |
| P301+P312<br>P330<br>P304+P340<br>P312<br>P305+P351+P338<br>P337+P313<br>P303+P361+P353<br>P370+P378<br>P308+P313<br>P302+P335+P334<br>P370+P378<br>P303+P361+P353<br>P363<br>P310<br>P321<br>P352<br>P332<br>P362+P364<br>P337+P313 | <p>IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.<br/>Rinse mouth.</p> <p>IF INHALED: Remove person to fresh air and keep comfortable for breathing.<br/>Call a POISON CENTER/doctor if you feel unwell.</p> <p>IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.</p> <p>If eye irritation persists: Get medical advice/attention.</p> <p>IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].</p> <p>In case of fire: Use ... to extinguish.</p> <p>IF exposed or concerned: Get medical advice/ attention.</p> <p>IF ON SKIN: Brush off loose particles from skin. Immerse in cool water [or wrap in wet bandages].</p> <p>In case of fire: Use ... to extinguish.</p> <p>IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].</p> <p>Wash contaminated clothing before reuse.</p> <p>Immediately call a POISON CENTER/doctor</p> <p>Specific treatment (see ... on this label).</p> <p>IF ON SKIN: Wash with plenty of water/...</p> <p>If skin irritation occurs: Get medical advice/attention.</p> <p>Take off contaminated clothing and wash it before reuse.</p> <p>If eye irritation persists: Get medical advice/attention.</p> <p>IF INHALED: Remove person to fresh air and keep comfortable for breathing.</p> |
| P403+P235<br>P405<br>P402+P404<br>P403+P233  | <p>Store in a well-ventilated place. Keep cool.</p> <p>Store locked up.</p> <p>Store in a dry place. Store in a closed container.</p> <p>Store in a well-ventilated place. Keep container tightly closed.</p>  |
| P501   | Dispose of contents/container to ...   |
| <b>(c) Hazards not otherwise classified (HNOC)</b>   |  |
| Not applicable   |  |
| <b>(d) Unknown Toxicity</b>  |  |
| 7.5% of the mixture consists of ingredient(s) of unknown toxicity  |  |
| <b>(e) Other information</b>   |  |
| No information available   |  |
| <b>(f) Interactions with Other Chemicals</b>   |  |
| No information available.  |  |

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## Section 3- Composition/Information On Ingredients

| Chemical Name                  | CAS Number | Weight (%) | Trade Secret |
|--------------------------------|------------|------------|--------------|
| Iron                           | 7439-89-6  | 35.25      | *            |
| Manganese dioxide              | 1313-13-9  | 27.66      | *            |
| Propylene carbonate            | 108-32-7   | 9.55       | *            |
| Ethylene glycol dimethyl ether | 110-71-4   | 8.35       | *            |
| Graphite                       | 7782-42-5  | 7.88       | *            |
| Chromium                       | 7440-47-3  | 4.22       | *            |
| Lithium                        | 7439-93-2  | 3.55       | *            |
| Molybdenum                     | 7439-98-7  | 2.53       | *            |
| Perchloric acid, lithium salt  | 7791-03-9  | 1.01       | *            |

" \* " The exact percentage (concentration) of composition has been withheld as a trade secret.

## Section 4- First-aid Measures

### Description of first aid measures

- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact:** Immediately rinse with water.
- **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.
- **After swallowing:** If symptoms persist consult doctor.
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**  
No further relevant information available.

## Section 5- Fire-fighting measures

### (a) Suitable Extinguishing Media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

### (b) Unsuitable extinguishing media

CAUTION: Use of water spray when fighting fire may be inefficient.

### (c) Specific Hazards Arising from the Chemical

The product causes burns of eyes, skin and mucous membranes. Thermal decomposition can lead to release of irritating gases and vapors.

### (d) Hazardous Combustion Products

Carbon oxides.

### (e) Protective equipment and precautions for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

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## Section 6- Accidental Release Measures

### (a) Personal precautions, protective equipment and emergency procedures

If the battery 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 and allow the vapors to dissipate. Avoid skin and eyes contact or inhalation of vapors. Remove spilled liquid with absorbent and incinerated. If leakage of the battery happens, liquid could be absorbed with sand, earth or other inert substance and contaminated area should be ventilated meantime.

### (b) Environment precautions

Do not allow product to reach sewage system or any water source.  
Inform respective authorities in case of seepage into water course or sewage system.  
Do not allow to enter sewers/ surface or ground water.

### (c) Methods and material for containment and cleaning up

If battery casing is dismantled, small amounts of electrolyte may leak. 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.

## Section 7- Handling and Storage

### (a) Precautions for safe handling

#### Handling

Handle in accordance with good industrial hygiene and safety practice. Wear personal protective equipment. Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash before reuse.

### (b) 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 agents. Strong bases

## Section 8- Exposure Controls/Personal Protection

### (a) Control parameters

| Chemical Name                  | ACGIH TLV  | OSHA PEL  | NIOSH IDLH  |
|--------------------------------|--|---|---|
| Manganese dioxide<br>1313-13-9 | TWA: 0.02 mg/m <sup>3</sup> Mn<br>TWA: 0.1 mg/m <sup>3</sup> Mn              | (vacated) Ceiling: 5 mg/m <sup>3</sup><br>Ceiling: 5 mg/m <sup>3</sup> Mn   | IDLH: 500 mg/m <sup>3</sup> Mn<br>TWA: 1 mg/m <sup>3</sup> Mn<br>STEL: 3 mg/m <sup>3</sup> Mn |
| Graphite<br>7782-42-5          | TWA: 2mg/m <sup>3</sup> respirable fraction all forms except graphite fibers | TWA: 15 mg/m <sup>3</sup> total dust synthetic<br>TWA: 5 mg/m <sup>3</sup> respirable fraction Synthetic<br>(vacated) TWA: 2.5 mg/m <sup>3</sup> respirable dust natural<br>(vacated) TWA: 10 mg/m <sup>3</sup> total dust synthetic<br>(vacated) TWA: 5 mg/m <sup>3</sup> respirable fraction synthetic<br>TWA: 15 mppcf natural | IDLH: 1250 mg/m <sup>3</sup><br>TWA: 2.5 mg/m <sup>3</sup> respirable dust                    |

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|                         |  |  |   |
|-------------------------|--|--|---|
| Chromium<br>7440-47-3   | TWA: 0.5 mg/m <sup>3</sup>   | TWA: 1 mg/m <sup>3</sup><br>(vacated) TWA: 1 mg/m <sup>3</sup> | IDLH: 250 mg/m <sup>3</sup><br>TWA: 0.5 mg/m <sup>3</sup> |
| Molybdenum<br>7439-98-7 | TWA: 10 mg/m <sup>3</sup> inhalable fraction<br>TWA: 3 mg/m <sup>3</sup> respirable fraction | (vacated) TWA: 10 mg/m <sup>3</sup>                            | IDLH: 5000 mg/m <sup>3</sup>                              |

## (b) Appropriate engineering controls

|                      |  |
|----------------------|--|
| Engineering Measures | Showers<br>Eyewash stations<br>Ventilation systems |
|----------------------|--|

## (c) Individual protection measures, such as personal protective equipment

|                          |  |
|--------------------------|--|
| Eye/Face Protection      | Face protection shield.  |
| Skin and body Protection | Wear protective gloves and protective clothing. Long sleeved clothing. Chemical resistant apron. Impervious gloves.  |
| Respiratory Protection   | No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.   |
| Hygiene Measures         | Handle in accordance with good industrial hygiene and safety practice. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash before reuse. Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product. For environmental protection, remove and wash all contaminated protective equipment before re-use. |

## Section 9- Physical and Chemical Properties

|  |               |
|--|---------------|
| Form   | Solid         |
| Color  | Silver        |
| Odour  | Not Available |
| pH   | Not Available |
| Melting point/freezing point                 | Not Available |
| Boiling Point and Boiling range              | Not Available |
| Flash Point                                  | Not Available |
| Upper/lower flammability or explosive limits | Not Available |
| Vapor Pressure                               | Not Available |
| Vapor Density                                | Not Available |
| Relative density                             | Not Available |

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|   |   |
|---|---|
| <b>Solubility in Water</b>                    | Not Available   |
| <b>Auto-ignition temperature</b>              | Not Available   |
| <b>Decomposition temperature</b>              | Not Available   |
| <b>Evaporation rate</b>                       | Not Available   |
| <b>Flammability (soil, gas)</b>               | Not Available   |
| <b>Viscosity</b>                              | Not Available   |
| <b>Section 10- Stability and reactivity</b>   |   |
| <b>Reactivity</b>                             | No information available.   |
| <b>Chemical stability</b>                     | Stable under normal conditions.   |
| <b>Possibility of Hazardous Reactions</b>     | None under normal processing.   |
| <b>Hazardous Polymerization</b>               | Hazardous polymerization does not occur.  |
| <b>Conditions to avoid</b>                    | Exposure to air or moisture over prolonged periods. Excessive heat.   |
| <b>Incompatible materials</b>                 | Acids. Bases. Oxidizing agent.  |
| <b>Hazardous Decomposition Products</b>       | Carbon oxides.  |
| <b>Section 11 – Toxicological Information</b> |   |
| <b>Product Information</b>                    | Product does not present an acute toxicity hazard based on known or supplied information. In case of rupture:   |
| <b>Irritation</b>                             | Specific test data for the substance or mixture is not available. May cause irritation of respiratory tract.  |
| <b>Eye contact</b>                            | Specific test data for the substance or mixture is not available. Causes burns. (based on components). Corrosive to the eyes and may cause severe damage including blindness. Causes serious eye damage. May cause irreversible damage to eyes.   |
| <b>Skin contact</b>                           | Specific test data for the substance or mixture is not available. Corrosive. (based on components). Causes burns.   |
| <b>Ingestion</b>                              | Specific test data for the substance or mixture is not available. Causes burns. (based on components). Ingestion causes burns of the upper digestive and respiratory tracts. May cause severe burning pain in the mouth and stomach with vomiting and diarrhea of dark blood. Blood pressure may decrease. Brownish or yellowish stains may be seen around the mouth. Swelling of the throat may cause shortness of breath and choking. May cause lung damage if swallowed. May be fatal if swallowed and enters airways. |
| <b>Component Information</b>                  |   |

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| Chemical Name  | Oral LD50  | Dermal LD50           | Inhalation LC50 |      |
|--|--|-----------------------|-----------------|------|
| Iron<br>7439-89-6  | =984 mg/kg ( Rat )   | -                     | -               |      |
| Manganese dioxide<br>1313-13-9   | =9000 mg/kg ( Rat )  | > 20 mL/kg ( Rabbit ) | -               |      |
| Propylene carbonate<br>108-32-7  | =29000 mg/kg ( Rat )   | -                     | -               |      |
| Graphite<br>7782-42-5  | >10000 mg/kg ( Rat )   | -                     | -               |      |
| <b>Information on toxicological effects</b>  |  |                       |                 |      |
| <b>Symptoms</b>  | Redness. Burning. May cause blindness. Coughing and/ or wheezing.  |                       |                 |      |
| <b>Delayed and immediate effects as well as chronic effects from short and long-term exposure</b>                              |  |                       |                 |      |
| <b>Sensitization:</b>  | No information available.  |                       |                 |      |
| <b>Mutagenic Effects:</b>  | No information available.  |                       |                 |      |
| <b>Carcinogenicity:</b>  | The table below indicates whether each agency has listed any ingredient as a carcinogen.   |                       |                 |      |
| Chemical Name  | ACGIH  | IARC                  | NTP             | OSHA |
| Chromium<br>7440-47-3  | -  | Group3                | -               | ×    |
| <b>IARC (International Agency for Research on Cancer)</b><br><i>Group 3 - Not Classifiable as to Carcinogenicity in Humans</i> |  |                       |                 |      |
| <b>Reproductive Toxicity</b>   | Contains a known or suspected reproductive toxin.  |                       |                 |      |
| <b>STOT - single exposure</b>  | No information available.  |                       |                 |      |
| <b>STOT - repeated exposure</b>  | Causes damage to organs through prolonged or repeated exposure. Based on classification criteria from the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200), this product has been determined to cause systemic target organ toxicity from chronic or repeated exposure. (STOT RE).   |                       |                 |      |
| <b>Chronic Toxicity</b>  | No known effect based on information supplied. Contains a known or suspected reproductive toxin. Possible risk of irreversible effects. Avoid repeated exposure. Prolonged exposure may cause chronic effects. May cause adverse effects on the bone marrow and blood-forming system. May cause adverse liver effects. Repeated or prolonged skin contact may cause skin irritation and/or dermatitis and sensitization of susceptible persons. Carcinogenic potential is unknown. |                       |                 |      |
| <b>Target Organ Effects</b>  | Respiratory system. Eyes. Skin. Gastrointestinal tract (GI). Central Vascular System (CVS).Kidney. Liver. Liver. Cardiovascular system. Systemic Toxicity.   |                       |                 |      |
| <b>Aspiration Hazard</b>   | No information available.  |                       |                 |      |
| <b>Numerical measures of toxicity Product Information</b>  |  |                       |                 |      |
| <b>The following values are calculated based on</b>  | <b>ATEmix (oral):</b>  |                       | 1,100.00 mg/kg  |      |

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| chapter 3.1 of the GHS document | ATEmix (inhalation-gas)       | 12,500.00 ppm (4 hr) |
|                                 | ATEmix (inhalation-dust/mist) | 4.20 mg/l            |
|                                 | ATEmix (inhalation-vapor)     | 31.00 ATEmix         |

## Section 12- Ecological Information

| <b>Ecological Toxicity</b>           |   | Very toxic to aquatic life with long lasting effects.                                |                            |                            |
|--------------------------------------|---|--|----------------------------|----------------------------|
| Chemical name                        | Toxicity to Algae                                 | Toxicity to Fish   | Toxicity to Microorganisms | Daphnia Magna (Water Flea) |
| Iron<br>7439-89-6                    | -   | 96h LC50: = 13.6 mg/L<br>(Morone saxatilis)  | -                          | -                          |
| Propylene carbonate<br>108-32-7      | 72h EC50: > 500 mg/L<br>(Desmodesmus subspicatus) | 96h LC50: > 1000 mg/L<br>(Cyprinus carpio) 96h LC50:<br>= 5300 mg/L (Leuciscus idus) | EC50 > 10000 mg/L<br>17 h  | 48h EC50: > 500 mg/L       |
| <b>Persistence and Degradability</b> |   | No information available.  |                            |                            |

### Bioaccumulation

| Chemical Name                   | Log Pow |
|---------------------------------|---------|
| Manganese dioxide<br>1313-13-9  | <0      |
| Propylene carbonate<br>108-32-7 | 0.48    |

## Section 13- Disposal Considerations

| <b>Waste treatment methods</b>  |      |   |                           |                        |
|---|------|---|---------------------------|------------------------|
| <b>Disposal methods</b>   |      | This material, as supplied, is a hazardous waste according to Federal regulations (40 CFR 261). |                           |                        |
| <b>Contaminated Packaging</b>   |      | Dispose of contents/containers in accordance with local regulations.                            |                           |                        |
| <b>Uncleaned packaging recommendation</b>   |      | Disposal must be made according to official regulations   |                           |                        |
| <b>US EPA Waste Number</b>  |      | D007  |                           |                        |
| Chemical Name   | RCRA | RCRA - Basis for Listing  | RCRA - D Series Wastes    | RCRA - U Series Wastes |
| Chromium<br>7440-47-3   | -    | Included in waste streams:F032, F034, F035, F037, F038, F039                                    | 5.0 mg/L regulatory level | -                      |
| <b>California Hazardous Waste Codes 141</b>   |      |   |                           |                        |
| This product contains one or more substances that are listed with the State of California as a hazardous waste. |      |   |                           |                        |
| Chemical Name   |      | California Hazardous Waste  |                           |                        |
| Chromium<br>7440-47-3   |      | Toxic<br>Corrosive<br>Ignitable   |                           |                        |
| Lithium   |      | Corrosive   |                           |                        |

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|                         |                       |
|-------------------------|-----------------------|
| 7439-93-2               | Ignitable<br>Reactive |
| Molybdenum<br>7439-98-7 | Ignitable powder      |

## Section 14 – Transport Information

|   |   |
|---|---|
| <b>UN Number</b><br>-DOT, IMDG, IATA                  | UN 3090 & UN 3091   |
| <b>UN Proper shipping name</b><br>-DOT, IMDG, IATA    | Lithium Metal Batteries (including lithium Primary batteries) or;<br>Lithium Metal Batteries Contained In Equipment (including Lithium Primary Batteries) or;<br>Lithium Metal Batteries Packed With Equipment (including Lithium Primary Batteries). |
| <b>Transport hazard class(es)</b><br>-DOT, IMDG, IATA | 9   |
| <b>Environmental hazards</b>                          | Yes(DOT)  |
| <b>Marine pollutant</b>                               | Symbol (fish and tree)  |

### Transport information:

Lithium-Manganese Dioxide Button Battery (Sample Model: CR1632) is tested and has passed in accordance with UN manual of Tests and Criteria, Part III, subsection 38.3.

The goods shall be complied with the requirements of Section IB of Packing Instruction 968 of PACKING INSTRUCTION 969~970 of 64<sup>th</sup> DGR Manual of IATA, International Civil Aviation Organization, International Maritime Dangerous Goods Code and the US Department of Transportation listed in 49 CFR 173.185, or special provision 188 of IMDG CODE (Amdt 41-22).

Separate Lithium-ion batteries when shipping to prevent short-circuiting. They should be packed in strong packaging for support during transport, ensure that the goods will not 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

### (a) International Inventories

|             |  |
|-------------|--|
| <b>TSCA</b> | Complies.  |
| <b>DSL</b>  | All components are listed either on the DSL or NDSL. |

### (b) US Federal Regulations

|                                       |  |                 |                                      |
|---------------------------------------|--|-----------------|--------------------------------------|
| <b>SARA 313</b>                       | Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372. |                 |                                      |
| <b>Chemical Name</b>                  | <b>CAS No</b>  | <b>Weight-%</b> | <b>SARA 313 – Threshold Values %</b> |
| Manganese dioxide                     | 1313-13-9  | 10-30           | 1.0                                  |
| Ethylene glycol dimethyl ether        | 110-71-4   | 5-10            | 1.0                                  |
| Chromium                              | 7440-47-3  | 1-5             | 1.0                                  |
| <b>SARA 311/312 Hazard Categories</b> |  |                 |                                      |
| Acute Health Hazard                   | No   |                 |                                      |
| Chronic Health Hazard                 | No   |                 |                                      |

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|  |                             |  |  |                                    |          |
|--|-----------------------------|--|--|------------------------------------|----------|
| Fire Hazard  |                             | No   |  |                                    |          |
| Sudden release of pressure hazard                          |                             | No   |  |                                    |          |
| Reactive Hazard  |                             | No   |  |                                    |          |
| <b>CWA (Clean Water Act)</b>                               |                             | This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)  |  |                                    |          |
| Chemical Name  | CWA - Reportable Quantities | CWA - Toxic Pollutants   | CWA - Priority Pollutants                  | CWA - Hazardous Substances         |          |
| Chromium<br>7440-47-3                                      |                             | X  | X  |                                    |          |
| <b>CERCLA</b>  |                             | This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) |  |                                    |          |
| Chemical Name  | Hazardous Substances RQs    | Extremely Hazardous Substances RQs   | RQ   |                                    |          |
| Chromium<br>7440-47-3                                      | 5000 lb                     |  | RQ 5000 lb final RQ<br>RQ 2270 kg final RQ |                                    |          |
| <b>(c) US State Regulations</b>                            |                             |  |  |                                    |          |
| <b>California Proposition 65</b>                           |                             | This product contains the following Proposition 65 chemicals.  |  |                                    |          |
| <b>U.S. State Right-to-Know Regulations</b>                |                             |  |  |                                    |          |
| Chemical Name  | New Jersey                  | Massachusetts  | Pennsylvania                               | Rhode Island                       | Illinois |
| Manganese dioxide<br>1313-13-9                             |                             |  | X  | X                                  | X        |
| Ethylene glycol dimethyl ether<br>110-71-4                 | X                           | X  | X  | X                                  | X        |
| Graphite<br>7782-42-5                                      | X                           | X  | X  | X                                  | X        |
| Chromium<br>7440-47-3                                      | X                           | X  | X  | X                                  | X        |
| Lithium<br>7439-93-2                                       | X                           | X  | X  |                                    |          |
| Molybdenum<br>7439-98-7                                    | X                           | X  | X  |                                    |          |
| <b>(d) International Regulations</b>                       |                             |  |  |                                    |          |
| <b>Mexico</b>  |                             |  |  |                                    |          |
| <b>National occupational exposure limits</b>               |                             |  |  |                                    |          |
| Component  |                             | Carcinogen Status  |  | Exposure Limits                    |          |
| Manganese dioxide<br>1313-13-9                             |                             |  |  | Mexico: TWA=0.2 mg/m <sup>3</sup>  |          |
| Graphite<br>7782-42-5                                      |                             |  |  | Mexico: TWA= 2 mg/m <sup>3</sup>   |          |
| Chromium<br>7440-47-3                                      |                             |  |  | Mexico: TWA= 0.5 mg/m <sup>3</sup> |          |
| <i>Mexico - Occupational Exposure Limits - Carcinogens</i> |                             |  |  |                                    |          |
| <b>Canada</b>  |                             |  |  |                                    |          |
| <b>WHMIS Hazard Class</b>                                  |                             | Not determined   |  |                                    |          |

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## Section 16- Additional Information

|      |                |   |              |   |                 |   |                               |   |
|------|----------------|---|--------------|---|-----------------|---|-------------------------------|---|
| NFPA | Health Hazards | 1 | Flammability | 0 | Instability     | 0 | Physical and Chemical Hazards | - |
| HMIS | Health Hazards | 0 | Flammability | 0 | Physical Hazard | 0 | Personal Protection           | X |

### 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 a 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 in combination with any other materials or in any process, unless specified in the text.

\*\*\*\*\*End of Safety Data Sheet\*\*\*\*\*