

# TECHNICAL DATA SHEET

## 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

### Product identifier

**Product Name** Lithium ion Battery

### Other means of identification

**Synonyms** None

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

**Recommended Use** LITHIUM ION BATTERIES

**Uses advised against** No information available

### Details of the supplier of the safety data sheet

**Supplier Name** Huizhou Everpower Technology Co., Ltd.  
**Supplier Address** NO.2 Building, NO.55 District, Zhongkai Hi-Tech Zone, Huizhou City, Guangdong Province, P.R.China  
**Supplier Phone Number** Phone:+ 860752-5855980  
 Fax: +860752-5855980  
 Contact Phone: +860752-5855980  
**Supplier Email** [wenkong@htkjbattery.com](mailto:wenkong@htkjbattery.com)  
**Emergency telephone number**

## 2. COMPOSITION/INFORMATION ON INGREDIENTS

| Chemical Name                              | CAS No.    | Weight % |
|--------------------------------------------|------------|----------|
| Lithium Cobalt Oxide (CoLiO <sub>2</sub> ) | 12190-79-3 | 40%      |
| 2,4-Dinitrophenylhydrazine                 | 119-26-6   | 6%       |
| Copper                                     | 7440-50-8  | 9%       |
| Aluminum                                   | 7429-90-5  | 7%       |
| Graphite                                   | 7782-42-5  | 18%      |
| Propylene carbonate                        | 108-32-7   | 4%       |
| Ethylene carbonate                         | 96-49-1    | 4%       |
| Dimethyl carbonate                         | 616-38-6   | 4%       |
| Phosphate(1-), hexafluoro-, lithium        | 21324-40-3 | 5%       |
| 1,1-Difluoroethylene polymer               | 24937-79-9 | 1%       |
| Polyethylene                               | 9002-88-4  | 1%       |
| Nickel                                     | 7440-02-0  | 1%       |

### 3. FIRST AID MEASURES

#### First aid measures

##### General Advice

First aid is upon rupture of sealed battery. Show this safety data sheet to the doctor in attendance

##### **Eye Contact**

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. Get medical attention if irritation develops and persists. Do not rub affected area

##### **Skin Contact**

Wash off immediately with soap and plenty of water for at least 15 minutes. In the case of skin irritation or allergic reactions see a physician. May cause an allergic skin reaction.

##### **Inhalation**

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. Never give anything by mouth to an unconscious person. Call a physician.

##### **Self-protection of the first aider**

Avoid contact with skin, eyes or clothing. Use personal protective equipment as required. Wear personal protective clothing (see section 8)

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

##### **Most Important Symptoms and Effects**

Burning sensation. Coughing and/ or wheezing. Difficulty in breathing. Itching. Rashes. Hives.

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

##### **Notes to Physician**

May cause sensitization of susceptible persons. Treat symptomatically

### 4. FIRE-FIGHTING MEASURES

#### **Suitable Extinguishing Media**

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

#### **Unsuitable Extinguishing Media**

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

#### **Specific Hazards Arising from the Chemical**

Product is or contains a sensitizer. May cause sensitization by skin contact.

#### **Hazardous Combustion Products**

#### Explosion Data

##### **Sensitivity to Mechanical Impact**

No.

##### **Sensitivity to Static Discharge**

No.

#### 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.

### 5. ACCIDENTAL RELEASE MEASURES

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

##### **Personal Precautions**

Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Use

|                                         |                                                                               |
|-----------------------------------------|-------------------------------------------------------------------------------|
|                                         | personal. protective equipment as required. Evacuate personnel to safe areas. |
| <b>Other Information</b>                | Refer to protective measures listed in Sections 7 and 8                       |
| <b><u>Environmental Precautions</u></b> |                                                                               |
| <b>Environmental Precautions</b>        | Refer to protective measures listed in Sections 7 and 8.                      |
| <b>Methods for cleaning up</b>          | Pick up and transfer to properly labeled containers                           |
| <b>Methods for Containment</b>          | Prevent further leakage or spillage if safe to do so.                         |
| <b>Methods for cleaning up</b>          | Pick up and transfer to properly labeled containers.                          |

## 6. HANDLING AND STORAGE

### Precautions for safe handling

|                 |                                                                                                   |
|-----------------|---------------------------------------------------------------------------------------------------|
| <b>Handling</b> | In case of rupture. Use personal protection equipment. Avoid contact with skin, eyes or clothing. |
|-----------------|---------------------------------------------------------------------------------------------------|

### Conditions for safe storage, including any incompatibilities

|                              |                                                                          |
|------------------------------|--------------------------------------------------------------------------|
| <b>Storage</b>               | Keep containers tightly closed in a dry, cool and well-ventilated place. |
| <b>Incompatible Products</b> | Strong acids. Strong oxidizing agents. Strong bases.                     |

## 7. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters Exposure Guidelines

| Chemical Name                      | ACGIH TLV                                                                              | OSHA PEL                                                                                                                                                                                                                                                                                                                                                  | NIOSH IDLH                                                                                                                      |
|------------------------------------|----------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|
| Lithium Cobalt Oxide<br>12190-79-3 | TWA: 0.02 mg/m <sup>3</sup>                                                            |                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                 |
| Graphite<br>7782-42-5              | TWA: 2 mg/m <sup>3</sup><br>respirable fraction all<br>forms except graphite<br>fibers | TWA: 15 mg/m <sup>3</sup> total dust<br>synthetic<br>TWA: 5 mg/m <sup>3</sup> respirable<br>fraction<br>synthetic<br>(vacated) TWA: 2.5 mg/m <sup>3</sup><br>respirable dust natural<br>(vacated) TWA: 10 mg/m <sup>3</sup><br>total<br>dust synthetic<br>(vacated) TWA: 5 mg/m <sup>3</sup><br>respirable fraction<br>synthetic<br>TWA: 15 mppcf natural | IDLH: 1250 mg/m <sup>3</sup><br>TWA: 2.5 mg/m <sup>3</sup> respirable dust                                                      |
| Copper<br>7440-50-8                | TWA: 0.2 mg/m <sup>3</sup> fume<br>TWA: 1<br>mg/ mg/m <sup>3</sup> Cu dust and<br>mist | TWA: 0.1 mg/m <sup>3</sup> fume<br>TWA: 1 mg/m <sup>3</sup> dust and<br>mist<br>(vacated) TWA: 0.1 mg/m <sup>3</sup><br>Cu<br>dust, fume, mist                                                                                                                                                                                                            | IDLH: 100 mg/m <sup>3</sup> dust, fume and<br>mist<br>TWA: 1 mg/m <sup>3</sup> dust and mist<br>TWA: 0.1 mg/m <sup>3</sup> fume |
| Aluminum<br>7429-90-5              | TWA: 1 mg/m <sup>3</sup> respirable<br>fraction                                        | TWA: 15 mg/m <sup>3</sup> total dust<br>TWA: 5 mg/m <sup>3</sup> respirable<br>fraction<br>(vacated) TWA: 15 mg/m <sup>3</sup><br>total<br>dust<br>(vacated) TWA: 5 mg/m <sup>3</sup><br>respirable fraction<br>(vacated)                                                                                                                                 | TWA: 10 mg/m <sup>3</sup> total dust<br>TWA: 5 mg/m <sup>3</sup> respirable dust                                                |

|                     |                            |                                                                |                                                            |
|---------------------|----------------------------|----------------------------------------------------------------|------------------------------------------------------------|
|                     |                            | TWA: 5 mg/m <sup>3</sup> Al<br>Aluminum                        |                                                            |
| Nickel<br>7440-02-0 | TWA: 1.5 mg/m <sup>3</sup> | TWA: 1 mg/m <sup>3</sup><br>(vacated) TWA: 1 mg/m <sup>3</sup> | IDLH: 10 mg/m <sup>3</sup><br>TWA: 0.015 mg/m <sup>3</sup> |

## 8. PHYSICAL AND CHEMICAL PROPERTIES

### Physical and Chemical Properties

Physical State Solid  
Appearance Silver  
Color No information available

Odor Odorless  
Odor Threshold No information available

| <u>Property</u>                        | <u>Values</u>     | <u>Remarks/ Method</u> |
|----------------------------------------|-------------------|------------------------|
| pH                                     | No data available | None known             |
| Melting / freezing point               | No data available | None known             |
| Boiling point / boiling range          | No data available | None known             |
| Flash Point                            | No data available | None known             |
| Evaporation Rate                       | No data available | None known             |
| Flammability (solid, gas)              | No data available | None known             |
| Flammability Limit in Air              |                   |                        |
| Upper flammability limit               | No data available |                        |
| Lower flammability limit               | No data available |                        |
| Vapor pressure                         | No data available | None known             |
| Vapor density                          | No data available | None known             |
| Specific Gravity                       | No data available | None known             |
| Water Solubility                       | No data available | None known             |
| Solubility in other solvents           | No data available | None known             |
| Partition coefficient: n-octanol/water | 0.00001           | None known             |
| Autoignition temperature               | No data available | None known             |
| Decomposition temperature              | No data available | None known             |
| Kinematic viscosity                    | No data available | None known             |
| Dynamic viscosity                      | 0.00001           | None known             |
| Explosive properties                   | No data available |                        |
| Oxidizing Properties                   | No data available |                        |

### Other Information

Softening Point No data available  
VOC Content (%) No data available  
Particle Size No data available  
Particle Size Distribution

## 9. STABILITY AND REACTIVITY

### Reactivity

No data available

### Chemical stability

Stable under recommended storage conditions.

### Possibility of Hazardous Reactions

None under normal processing.

### Hazardous Polymerization

Hazardous polymerization does not occur.

### Conditions to avoid

None known based on information supplied.

### Incompatible materials

Strong acids. Strong oxidizing agents. Strong bases.

#### **Hazardous Decomposition Products**

Carbon oxides.

## **10. TOXICOLOGICAL INFORMATION**

### **Information on likely routes of exposure**

|                            |                                                                                                                                                                                                                                                              |
|----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Product Information</b> | Product does not present an acute toxicity hazard based on known or supplied information In case of rupture                                                                                                                                                  |
| <b>Inhalation</b>          | Specific test data for the substance or mixture is not available.<br>Corrosive by inhalation.(based on components).                                                                                                                                          |
| <b>Eye Contact</b>         | Specific test data for the substance or mixture is not available.<br>Expected to be and irritant based on components. Irritating to eyes.<br>May cause redness, itching, and pain. May cause temporary eye irritation.                                       |
| <b>Skin Contact</b>        | Specific test data for the substance or mixture is not available.<br>Expected to be an irritant based on components. Irritating to skin.<br>Prolonged contact may cause redness and irritation.                                                              |
| <b>Ingestion</b>           | Specific test data for the substance or mixture is not available.<br>Ingestion may cause irritation to mucous membranes. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. May be harmful if swallowed. (based on components). |

### **Component Information**

| <b>Chemical Name</b>  | <b>Oral LD50</b>      | <b>Dermal LD50</b> | <b>Inhalation LC50</b> |
|-----------------------|-----------------------|--------------------|------------------------|
| Graphite<br>7782-42-5 | > 10000 mg/kg ( Rat ) | -                  | -                      |
| Nickel<br>7440-02-0   | > 9000 mg/kg ( Rat )  | -                  | -                      |

## **11. ECOLOGICAL INFORMATION**

### **Ecotoxicity**

Very toxic to aquatic life with long lasting effects.

| <b>Chemical Name</b> | <b>Toxicity to Algae</b>                                                                                                              | <b>Toxicity to Fish</b>                                                                                                                                                                                                                                                                                                                                           | <b>Toxicity to Microorganisms</b> | <b>Daphnia Magna (Water Flea)</b>          |
|----------------------|---------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|--------------------------------------------|
| Copper<br>7440-50-8  | 96h EC50: 0.031 - 0.054 mg/L<br>(Pseudokirchneriella subcapitata) 72h EC50: 0.0426 - 0.0535 mg/L<br>(Pseudokirchneriella subcapitata) | 96h LC50: 0.0068 - 0.0156 mg/L (Pimephales promelas)<br>96h LC50: = 0.112 mg/L (Poecilia reticulata) 96h LC50: = 0.3 mg/L (Cyprinus carpio) 96h LC50: = 0.8 mg/L (Cyprinus carpio) 96h LC50: = 1.25 mg/L (Lepomis macrochirus) 96h LC50: = 0.052 mg/L (Oncorhynchus mykiss) 96h LC50: = 0.2 mg/L (Pimephales promelas) 96h LC50: < 0.3 mg/L (Pimephales promelas) |                                   | 48h EC50: = 0.03 mg/L                      |
| Nickel<br>7440-02-0  | 72h EC50: = 0.18 mg/L (Pseudokirchneriella subcapitata) 96h EC50: 0.174 - 0.311 mg/L                                                  | 96h LC50: > 100 mg/L (Brachydanio rerio) 96h LC50: = 1.3 mg/L (Cyprinus carpio) 96h LC50: = 10.4                                                                                                                                                                                                                                                                  |                                   | 48h EC50: > 100 mg/L<br>48h EC50: = 1 mg/L |

|  |                                   |                        |  |  |
|--|-----------------------------------|------------------------|--|--|
|  | (Pseudokirchneriella subcapitata) | mg/L (Cyprinus carpio) |  |  |
|--|-----------------------------------|------------------------|--|--|

**Persistence and Degradability**

No information available.

**Bioaccumulation**

No information available.

**Other adverse effects**

No information available.

## 12. 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.

**US EPA Waste Number**

Dispose of contents/containers in accordance with local regulations.

| Chemical Name       | RCRA                                      | RCRA - Basis for Listing                 | RCRA - D Series Wastes | RCRA - U Series Wastes |
|---------------------|-------------------------------------------|------------------------------------------|------------------------|------------------------|
| Nickel<br>7440-02-0 | (hazardous constituent - no waste number) | Included in waste streams:<br>F006, F039 |                        |                        |

**California Hazardous Waste Codes 141**

| Chemical Name                                            | California Hazardous Waste       |
|----------------------------------------------------------|----------------------------------|
| Lithium Cobalt Oxide (CoLiO <sub>2</sub> )<br>12190-79-3 | Toxic                            |
| Nickel<br>7440-02-0                                      | Toxic powder<br>Ignitable powder |
| Aluminum<br>7429-90-5                                    | Ignitable powder                 |
| Copper<br>7440-50-8                                      | Toxic                            |

## 13. TRANSPORT INFORMATION

**Note:**

The transportation of primary lithium cells and batteries is regulated by the International Civil Aviation Organization, International Air Transport Association, International Maritime Dangerous Goods Code and the US Department of Transportation. The batteries must meet the following criteria for shipment: 1. Air shipments must meet the requirements listed in Special Provision A45 of the International Air Transport Association Dangerous Goods Regulations. 2. Meet the requirements for the US Department of Transportation listed in 49 CFR 173.185. 3. The transport of primary lithium batteries is prohibited aboard passenger aircraft. Refer to the Federal Register December 15, 2004 (Hazardous Materials; Prohibited on the Transportation of Primary Lithium Batteries and Cells Aboard Passenger Aircraft; Final Rule) Lithium batteries shipped as "Lithium batteries", "Lithium batteries packed with equipment", or "Lithium batteries contained in equipment" may not be classified as "Dangerous Goods" when shipped in accordance with "special provision A45 of IATA-DGR" or "special provision 188 of IMO-IMDG Code"

**DOT****Proper Shipping Name**

NOT REGULATED

**Hazard Class**

NON REGULATED

**TDG**

Not regulated

**MEX**

Not regulated

**ICAO**

Not regulated

|                             |                          |
|-----------------------------|--------------------------|
| <b><u>IATA</u></b>          | Not regulated            |
| <b>Proper Shipping Name</b> | Not regulated            |
| <b>Hazard Class</b>         | N/A                      |
| <b><u>IMDG/IMO</u></b>      | Not regulated            |
| <b>Proper Shipping Name</b> | NON-REGULATED PER SP 188 |
| <b>Hazard Class</b>         | N/A                      |
| <b>EmS No.</b>              | F-A, S-I                 |
| <b><u>RID</u></b>           | Not regulated            |
| <b><u>ADR</u></b>           | Not regulated            |
| <b><u>AND</u></b>           | Not regulated            |

## 14. REGULATORY INFORMATION

### International Inventories

#### **SARA 313**

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

| Chemical Name                              | CAS No     | Weight-% | SARA 313 - Threshold Values % |
|--------------------------------------------|------------|----------|-------------------------------|
| Lithium Cobalt Oxide (CoLiO <sub>2</sub> ) | 12190-79-3 | 40       | 0.1                           |
| Nickel                                     | 7440-02-0  | 1        | 0.1                           |
| Aluminum                                   | 7429-90-5  | 7        | 1.0                           |
| Copper                                     | 7440-50-8  | 9        | 1.0                           |

#### **CWA (Clean Water Act)**

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 |
|---------------------|-----------------------------|------------------------|---------------------------|----------------------------|
| Copper<br>7440-50-8 |                             | X                      | X                         |                            |
| Nickel<br>7440-02-0 |                             | X                      | X                         |                            |

### US State Regulations

#### **California Proposition 65**

This product does not contain any Proposition 65 chemicals.

| Chemical Name      | California Proposition 65 |
|--------------------|---------------------------|
| Nickel - 7440-02-0 | Carcinogen                |

## 15. OTHER INFORMATION

**Prepared By** Huizhou Everpower Technology Co., Ltd.

**Issuing Date**

**Revision Date**

15-Sep-2017

**Revision Note**

No information available

#### **Disclaimer**

The information provided in this Technical 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 Technical Data Sheet