

# Material Safety Data Sheet

Issuing Date 09-Dec-2010

Revision Date 09-Dec-2010

Revision Number 2

## 1. PRODUCT AND COMPANY IDENTIFICATION

**Product Name** Lithium ion cell

**UN-No** UN3480

**Recommended Use** Lithium ion battery.

### Supplier Address

Great Power Battery Co.,LTD  
912 Xicun Section,Shiliang  
Road,Shawan,Panyu,Guangzhou,China  
, Guangzhou, Guangdong, 511483  
CN  
Phone:86-02-61920399  
Fax:86-20-61981112  
Contact:Michael  
Contact Phone:86-756-6198687  
Emergency Phone: 86-756-6198687

**Company Emergency Phone Number** 86-756-6198687

## 2. HAZARDS IDENTIFICATION

### Emergency Overview

In case of rupture:  
Harmful by inhalation, in contact with skin and if swallowed  
Corrosive  
The product causes burns of eyes, skin and mucous membranes  
May produce an allergic reaction

**Appearance** Metallic

**Physical State** Solid.

**Odor** No information available

### OSHA Regulatory Status

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. While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this MSDS contains valuable information critical to the safe handling and proper use of the product. This MSDS should be retained and available for employees and other users of this product.

### Potential Health Effects

#### Principle Routes of Exposure

Eye contact. Skin contact.

#### Acute Toxicity

##### Eyes

Not an expected route of exposure. In case of rupture: Causes burns. Corrosive to the eyes and may cause severe damage including blindness. Risk of serious damage to eyes.

##### Skin

Not an expected route of exposure. In case of rupture: Causes burns. May be harmful in contact with skin. May cause sensitization by skin contact. Repeated or prolonged skin contact may cause allergic reactions with susceptible persons.

##### Inhalation Ingestion

Not an expected route of exposure. In case of rupture: Harmful by inhalation.

Not an expected route of exposure. In case of rupture: Harmful if swallowed. Ingestion causes burns of the upper digestive and respiratory tract.

|  |  |
|--|--|
| <b>Chronic Effects</b>                   | Avoid repeated exposure. Chronic exposure to corrosive fumes/gases may cause erosion of the teeth followed by jaw necrosis. Bronchial irritation with chronic cough and frequent attacks of pneumonia are common. Gastrointestinal disturbances may also be seen. Repeated contact may cause allergic reactions in very susceptible persons. |
| <b>Aggravated Medical Conditions</b>     | Allergies. Skin disorders. Respiratory disorders. Pre-existing eye disorders. Kidney disorders. Liver disorders. Central Vascular System (CVS). Nasal cavities. Lungs.   |
| <b>Interactions with Other Chemicals</b> | Irritants. Sensitizers. Epoxies.   |
| <b>Environmental Hazard</b>              | See Section 12 for additional Ecological Information.  |

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

| Chemical Name                              | CAS-No     | Weight % |
|--|------------|----------|
| Stainless steel                            | 12597-68-1 | 40-70    |
| Lithium Cobalt Oxide (CoLiO <sub>2</sub> ) | 12190-79-3 | 10-30    |
| Electrolytes                               | RR-14099-8 | 10-30    |
| Aluminum                                   | 7429-90-5  | 7-13     |
| Graphite                                   | 7782-42-5  | 7-13     |
| Copper                                     | 7440-50-8  | 5-10     |
| Polypropylene                              | 9003-07-0  | 1 - 5    |

### 4. FIRST AID MEASURES

|                                   |   |
|-----------------------------------|---|
| <b>General Advice</b>             | First aid is upon rupture of sealed battery. Call 911 or emergency medical service. Remove and isolate contaminated clothing and shoes.   |
| <b>Eye Contact</b>                | Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Call a physician immediately.  |
| <b>Skin Contact</b>               | Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes. If skin irritation persists, call a physician.  |
| <b>Inhalation</b>                 | Move to fresh air. If symptoms persist, call a physician. Administer oxygen if breathing is difficult. If breathing has stopped, contact emergency medical services immediately.  |
| <b>Ingestion</b>                  | Call a physician or Poison Control Center immediately. Clean mouth with water Do NOT induce vomiting. Never give anything by mouth to an unconscious person.  |
| <b>Notes to Physician</b>         | Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated. Do not give chemical antidotes. Asphyxia from glottal edema may occur. Marked decrease in blood pressure may occur with moist rales, frothy sputum, and high pulse pressure. May cause sensitization of susceptible persons. Treat symptomatically. |
| <b>Protection of First-aiders</b> | Use personal protective equipment. Avoid contact with skin, eyes and clothing.  |

### 5. FIRE-FIGHTING MEASURES

|                                      |  |
|--------------------------------------|--|
| <b>Flammable Properties</b>          | This article contains flammable electrolytes and therefore can cause a fire hazard if ruptured and chemicals are leaked out. |
| <b>Flash Point</b>                   | Not determined.  |
| <b>Suitable Extinguishing Media</b>  | Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.                      |
| <b>Hazardous Combustion Products</b> | Hazardous metal fumes and oxides.  |

**Explosion Data**

|   |     |
|---|-----|
| <b>Sensitivity to Mechanical Impact</b> | No. |
| <b>Sensitivity to Static Discharge</b>  | No. |

**Specific Hazards Arising from the Chemical**

Thermal decomposition can lead to release of irritating gases and vapors. The product causes burns of eyes, skin and mucous membranes. In the event of fire and/or explosion do not breathe fumes. Product is or contains a sensitizer.

**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.

|             |                        |                       |                    |  |
|-------------|------------------------|-----------------------|--------------------|--|
| <b>NFPA</b> | <b>Health Hazard</b> 0 | <b>Flammability</b> 0 | <b>Stability</b> 0 | <b>Physical and Chemical Hazards</b> Rating is provided for sealed battery |
|-------------|------------------------|-----------------------|--------------------|--|

## 6. ACCIDENTAL RELEASE MEASURES

|                                  |  |
|----------------------------------|--|
| <b>Personal Precautions</b>      | Use personal protective equipment. Remove all sources of ignition. Avoid contact with skin, eyes and clothing.   |
| <b>Environmental Precautions</b> | Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Prevent entry into waterways, sewers, basements or confined areas. Do not flush into surface water or sanitary sewer system.  |
| <b>Methods for Containment</b>   | Prevent further leakage or spillage if safe to do so.  |
| <b>Methods for Cleaning Up</b>   | Use personal protective equipment. Pick up and transfer to properly labeled containers. In case of rupture: Take up with sand or other noncombustible absorbent material and place into containers for later disposal. Prevent product and washings from entering drains, sewers or surface water due to high toxicity to aquatic organisms. |
| <b>Other Information</b>         | ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area) Refer to protective measures listed in Sections 7 and 8.   |

## 7. HANDLING AND STORAGE

|                 |  |
|-----------------|--|
| <b>Handling</b> | In case of rupture: Keep away from open flames, hot surfaces and sources of ignition. Wear personal protective equipment. Avoid contact with skin, eyes and clothing. Ensure adequate ventilation. Do not breathe vapors/dust. |
| <b>Storage</b>  | Keep container tightly closed in a dry and well-ventilated place. Keep out of the reach of children. Keep in properly labeled containers.  |

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### Exposure Guidelines

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

*Immediately Dangerous to Life or Health.*

### Other Exposure Guidelines

Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992).

### Engineering Measures

Showers  
Eyewash stations  
Ventilation systems

### Personal Protective Equipment

#### Eye/Face Protection

No special protective equipment required. Risk of contact, wear: Safety glasses with side-shields.

#### Skin and Body Protection

No special protective equipment required. Risk of contact: Protective gloves.

#### Respiratory Protection

None required under normal usage. If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

### Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

|   |                           |                                 |                           |
|---|---------------------------|---------------------------------|---------------------------|
| <b>Appearance</b>                             | Metallic.                 | <b>Odor</b>                     | No information available. |
| <b>Odor Threshold</b>                         | No information available. | <b>Physical State</b>           | Solid                     |
| <b>pH</b>                                     | No information available  | <b>Autoignition Temperature</b> | No information available  |
| <b>Flash Point</b>                            | Not determined.           | <b>Boiling Point/Range</b>      | No information available  |
| <b>Decomposition Temperature</b>              | No information available  | <b>Explosion Limits</b>         | No information available  |
| <b>Melting Point/Range</b>                    | No information available  | <b>Solubility</b>               | No information available  |
| <b>Flammability Limits in Air</b>             | No information available  | <b>Vapor Pressure</b>           | No data available         |
| <b>Water Solubility</b>                       | Insoluble in water.       | <b>VOC Content (%)</b>          | Not applicable            |
| <b>Evaporation Rate</b>                       | No information available  |                                 |                           |
| <b>Vapor Density</b>                          | No data available         |                                 |                           |
| <b>Partition Coefficient: n-octanol/water</b> |                           |                                 |                           |

## 10. STABILITY AND REACTIVITY

|   |  |
|---|--|
| <b>Stability</b>                        | Stable under recommended storage conditions.   |
| <b>Incompatible Products</b>            | Contact with metals (aluminum, zinc, tin) may release hydrogen gas. Incompatible with strong acids and bases. Incompatible with oxidizing agents. Water. |
| <b>Conditions to Avoid</b>              | Heat, flames and sparks.   |
| <b>Hazardous Decomposition Products</b> | None under normal use. Thermal decomposition can lead to release of irritating gases and vapors. Nickel oxides.  |
| <b>Hazardous Polymerization</b>         | Hazardous polymerization does not occur.   |

## 11. TOXICOLOGICAL INFORMATION

### Acute Toxicity

**Product Information** Product does not present an acute toxicity hazard based on known or supplied information.

| Chemical Name                              | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|--|-----------|-------------|-----------------|
| Stainless steel                            | -         | -           | -               |
| Lithium Cobalt Oxide (CoLiO <sub>2</sub> ) | -         | -           | -               |
| Electrolytes                               | -         | -           | -               |
| Aluminum                                   | -         | -           | -               |
| Graphite                                   | -         | -           | -               |
| Copper                                     | -         | -           | -               |
| Polypropylene                              | -         | -           | -               |

### Chronic Toxicity

**Chronic Toxicity** Avoid repeated exposure. Chronic exposure to corrosive fumes/gases may cause erosion of the teeth followed by jaw necrosis. Bronchial irritation with chronic cough and frequent attacks of pneumonia are common. Gastrointestinal disturbances may also be seen. Repeated contact may cause allergic reactions in very susceptible persons.

**Carcinogenicity** The table below indicates whether each agency has listed any ingredient as a carcinogen.

| Chemical Name                              | ACGIH | IARC     | NTP | OSHA |
|--|-------|----------|-----|------|
| Lithium Cobalt Oxide (CoLiO <sub>2</sub> ) | A3    | Group 2B |     | X    |
| Polypropylene                              |       | Group 3  |     |      |

**ACGIH: (American Conference of Governmental Industrial Hygienists)**

A3 - Animal Carcinogen

**IARC: (International Agency for Research on Cancer)**

Group 2B - Possibly Carcinogenic to Humans

Group 3 - Not Classifiable as to Carcinogenicity in Humans

**OSHA: (Occupational Safety & Health Administration)**

X - Present

**Sensitization** May cause sensitization of susceptible persons.

**Target Organ Effects** Central Vascular System (CVS). Eyes. Kidney. Liver. Lungs. Nasal cavities. Respiratory system. Skin.

## 12. ECOLOGICAL INFORMATION

### Ecotoxicity

The environmental impact of this product has not been fully investigated.

| Chemical Name | Toxicity to Algae  | Toxicity to Fish  | Toxicity to Microorganisms | Daphnia Magna (Water Flea)                   |
|---------------|--|---|----------------------------|--|
| Copper        | EC50: 0.0426 - 0.0535 mg/L<br>Pseudokirchneriella<br>subcapitata 72 h static<br>EC50: 0.031 - 0.054 mg/L<br>Pseudokirchneriella<br>subcapitata 96 h static | LC50: 0.0068 - 0.0156 mg/L<br>Pimephales promelas 96 h<br>LC50: <0.3 mg/L Pimephales<br>promelas 96 h static<br>LC50: 0.2 mg/L Pimephales<br>promelas 96 h flow-through<br>LC50: 0.052 mg/L<br>Oncorhynchus mykiss 96 h<br>flow-through<br>LC50: 1.25 mg/L Lepomis<br>macrochirus 96 h static<br>LC50: 0.3 mg/L Cyprinus<br>carpio 96 h semi-static<br>LC50: 0.8 mg/L Cyprinus<br>carpio 96 h static<br>LC50: 0.112 mg/L Poecilia<br>reticulata 96 h flow-through |                            | EC50: 0.03 mg/L Daphnia<br>magna 48 h Static |

## 13. DISPOSAL CONSIDERATIONS

**Waste Disposal Methods**                      Should not be released into the environment.

**Contaminated Packaging**                      Dispose of in accordance with local regulations.

**California Hazardous Waste Codes**    141

This product contains one or more substances that are listed with the State of California as a hazardous waste.

| Chemical Name                              | California Hazardous Waste |
|--|----------------------------|
| Lithium Cobalt Oxide (CoLiO <sub>2</sub> ) | Toxic                      |
| Aluminum                                   | Ignitable powder           |
| Copper                                     | Toxic                      |

## 14. 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

UN-No    UN3480

|                                  |
|----------------------------------|
| <b>14. TRANSPORT INFORMATION</b> |
|----------------------------------|

|  |                                      |
|--|--------------------------------------|
| <b>Proper Shipping Name</b>            | Lithium ion batteries                |
| <b>Hazard Class</b>                    | 9                                    |
| <b>Packing Group</b>                   | II                                   |
| <b>Description</b>                     | UN3480, Lithium ion batteries, 9, II |
| <b>Emergency Response Guide Number</b> | 147                                  |

**TDG**

|                             |                                     |
|-----------------------------|-------------------------------------|
| <b>UN-No</b>                | UN3090                              |
| <b>Proper Shipping Name</b> | Lithium batteries                   |
| <b>Hazard Class</b>         | 9                                   |
| <b>Packing Group</b>        | II                                  |
| <b>Description</b>          | UN3090, Lithium batteries, 9, PG II |

**MEX**

|                             |                                  |
|-----------------------------|----------------------------------|
| <b>UN-No</b>                | UN3090                           |
| <b>Proper Shipping Name</b> | Lithium batteries                |
| <b>Hazard Class</b>         | 9                                |
| <b>Packing Group</b>        | II                               |
| <b>Description</b>          | UN3090, Lithium batteries, 9, II |

**ICAO**

|                             |   |
|-----------------------------|---|
| <b>UN-No</b>                | UN3480                                  |
| <b>Proper Shipping Name</b> | Lithium ion batteries                   |
| <b>Hazard Class</b>         | 9                                       |
| <b>Packing Group</b>        | II                                      |
| <b>Description</b>          | UN3480, Lithium ion batteries, 9, PG II |

**IATA**

|                             |   |
|-----------------------------|---|
| <b>UN-No</b>                | UN3480                                  |
| <b>Proper Shipping Name</b> | Lithium ion batteries                   |
| <b>Hazard Class</b>         | 9                                       |
| <b>Packing Group</b>        | II                                      |
| <b>ERG Code</b>             | 9F                                      |
| <b>Description</b>          | UN3480, Lithium ion batteries, 9, PG II |

**IMDG/IMO**

|                             |   |
|-----------------------------|---|
| <b>UN-No</b>                | UN3480  |
| <b>Proper Shipping Name</b> | Lithium ion batteries                                     |
| <b>Hazard Class</b>         | 9   |
| <b>Packing Group</b>        | II  |
| <b>EmS No.</b>              | F-A, S-I  |
| <b>Description</b>          | UN3480, Lithium ion batteries, 9, PG II, Marine Pollutant |

**RID**

|                             |                                     |
|-----------------------------|-------------------------------------|
| <b>UN-No</b>                | UN3480                              |
| <b>Proper Shipping Name</b> | Lithium ion batteries               |
| <b>Hazard Class</b>         | 9                                   |
| <b>Packing Group</b>        | II                                  |
| <b>Classification Code</b>  | M4                                  |
| <b>Description</b>          | UN3480 Lithium ion batteries, 9, II |

**ADR**

|                             |                       |
|-----------------------------|-----------------------|
| <b>UN-No</b>                | UN3480                |
| <b>Proper Shipping Name</b> | Lithium ion batteries |
| <b>Hazard Class</b>         | 9                     |

**14. TRANSPORT INFORMATION**

|                            |                                   |
|----------------------------|-----------------------------------|
| <b>Packing Group</b>       | II                                |
| <b>Classification Code</b> | M4                                |
| <b>Description</b>         | UN3480 Lithium ion batteries,9,II |

**ADN**

|                             |                                   |
|-----------------------------|-----------------------------------|
| <b>UN-No</b>                | UN3480                            |
| <b>Proper Shipping Name</b> | Lithium ion batteries             |
| <b>Hazard Class</b>         | 9                                 |
| <b>Packing Group</b>        | II                                |
| <b>Classification Code</b>  | M4                                |
| <b>Special Provisions</b>   | 188, 230, 310, 636                |
| <b>Description</b>          | UN3480 Lithium ion batteries,9,II |
| <b>Hazard Labels</b>        | 9                                 |
| <b>Limited Quantity</b>     | LQ0                               |

## 15. REGULATORY INFORMATION

### International Inventories

|                      |                 |
|----------------------|-----------------|
| <b>TSCA</b>          | Exempt          |
| <b>DSL</b>           | Does not Comply |
| <b>EINECS/ELINCS</b> | Does not Comply |
| <b>ENCS</b>          | Does not Comply |
| <b>IECSC</b>         | Does not Comply |
| <b>KECL</b>          | Does not Comply |
| <b>PICCS</b>         | Does not Comply |
| <b>AICS</b>          | Does not Comply |

### U.S. Federal Regulations

#### **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 | 10-30    | 0.1                           |
| Aluminum                                   | 7429-90-5  | 7-13     | 1.0                           |
| Copper                                     | 7440-50-8  | 5-10     | 1.0                           |

#### **SARA 311/312 Hazard Categories**

|  |    |
|--|----|
| <b>Acute Health Hazard</b>               | No |
| <b>Chronic Health Hazard</b>             | No |
| <b>Fire Hazard</b>                       | No |
| <b>Sudden Release of Pressure Hazard</b> | No |
| <b>Reactive Hazard</b>                   | No |

#### **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        |                             | X                      | X                         |                            |

#### **Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 61)**

This product contains the following substances which are listed hazardous air pollutants (HAPS) under Section 112 of the Clean Air Act:

| Chemical Name                              | CAS-No     | Weight % | HAPS data   | VOC Chemicals | Class 1 Ozone Depletors | Class 2 Ozone Depletors |
|--|------------|----------|---|---------------|-------------------------|-------------------------|
| Lithium Cobalt Oxide (CoLiO <sub>2</sub> ) | 12190-79-3 | 10-30    | Present (includes any unique chemical substance that contains Cobalt as part of its infrastructure) |               |                         |                         |

#### **CERCLA**

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 |
|---------------|--------------------------|------------------------------------|
| Copper        | 5000 lb                  |                                    |

**U.S. State Regulations****California Proposition 65**

This product does not contain any Proposition 65 chemicals.

**U.S. State Right-to-Know Regulations**

| Chemical Name                                 | Massachusetts | New Jersey | Pennsylvania | Illinois | Rhode Island |
|---|---------------|------------|--------------|----------|--------------|
| Lithium Cobalt Oxide<br>(CoLiO <sub>2</sub> ) |               | X          | X            | X        |              |
| Copper  | X             | X          | X            | X        | X            |
| Aluminum                                      | X             | X          | X            |          | X            |
| Graphite                                      | X             | X          | X            |          | X            |

**International Regulations****Mexico - Grade**

Moderate risk, Grade 2

| Chemical Name | Carcinogen Status | Exposure Limits   |
|---------------|-------------------|---|
| Copper        |                   | Mexico: TWA= 1 mg/m <sup>3</sup><br>Mexico: TWA= 0.2 mg/m <sup>3</sup><br>Mexico: STEL= 2 mg/m <sup>3</sup> |
| Aluminum      |                   | Mexico: TWA= 10 mg/m <sup>3</sup>   |
| Graphite      |                   | Mexico: TWA= 2 mg/m <sup>3</sup>  |

**Canada**

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

**WHMIS Hazard Class**

Non-controlled

| Chemical Name | NPRI |
|---------------|------|
| Aluminum      | X    |

**Legend**

NPRI - National Pollutant Release Inventory

## 16. OTHER INFORMATION

|                      |                          |
|----------------------|--------------------------|
| <b>Issuing Date</b>  | 09-Dec-2010              |
| <b>Revision Date</b> | 09-Dec-2010              |
| <b>Revision Note</b> | No information available |

**General 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

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**End of Safety Data Sheet**