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

Product identifier

Product Name G3HTA023H

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 Simplo Technology

Supplier Address No.471,Sec.2, Pa The Rd., Hu Kou 303, Hsin Chu Hsien, Taiwan

Hsin Chu County

Taiwan

331

TW

Supplier Phone Number Phone:+88635695920

Fax:+88635695931

Supplier Email Anderson_Hsu@simplo.com.cn

Emergency telephone number

Company Emergency Phone Number +88635695920

2. HAZARDS IDENTIFICATION

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.

<table>
<thead>
<tr>
<th>Acute toxicity - Oral</th>
<th>Category 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity - Inhalation (Gases)</td>
<td>Category 4</td>
</tr>
</tbody>
</table>
Skin sensitization Category 1
Carcinogenicity Category 1A
Specific target organ toxicity (repeated exposure) Category 1

GHS Label elements, including precautionary statements

**Emergency Overview**

<table>
<thead>
<tr>
<th>Signal word</th>
<th>Danger</th>
</tr>
</thead>
</table>

**Hazard Statements**
Harmful if swallowed
Harmful if inhaled
May cause an allergic skin reaction
May cause cancer
Causes damage to organs through prolonged or repeated exposure

This product is an article which contains a chemical substance. Safety information is given for exposure to the article as sold. Intended use of the product should not result in exposure to the chemical substance. This is a battery. In case of rupture: the above hazards exist.

**Precautionary Statements - Prevention**
Obtain special instructions before use
Do not handle until all safety precautions have been read and understood
Use personal protective equipment as required
Wash face, hands and any exposed skin thoroughly after handling
Do not eat, drink or smoke when using this product
Use only outdoors or in a well-ventilated area
Contaminated work clothing should not be allowed out of the workplace
Wear protective gloves
Do not breathe dust/fume/gas/mist/vapors/spray

**Precautionary Statements - Response**
IF exposed or concerned: Get medical advice/attention
Specific treatment (see supplemental first aid instructions on this label)

**Physical state** Solid
**Odor** None

**Appearance** Silver

**Signal word** Danger

**Precautionary Statements**

**Skin**
IF ON SKIN: Wash with plenty of soap and water
If skin irritation or rash occurs: Get medical advice/attention
Wash contaminated clothing before reuse

**Inhalation**
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing

**Ingestion**
IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
Rinse mouth
Precautionary Statements - Storage
Store locked up

Precautionary Statements - Disposal
Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)
Not applicable

Unknown Toxicity
19.6% of the mixture consists of ingredient(s) of unknown toxicity

Other information
Causes mild skin irritation
Very toxic to aquatic life with long lasting effects
Repeated or prolonged skin contact may cause allergic reactions with susceptible persons

Interactions with Other Chemicals
No information available.

3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS No</th>
<th>Weight-%</th>
<th>Trade Secret</th>
</tr>
</thead>
<tbody>
<tr>
<td>Copper</td>
<td>7440-50-8</td>
<td>5 - 10</td>
<td>*</td>
</tr>
<tr>
<td>Aluminum</td>
<td>7429-90-5</td>
<td>3 - 7</td>
<td>*</td>
</tr>
</tbody>
</table>

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

4. FIRST AID MEASURES

First aid measures

General Advice
First aid is upon rupture of sealed battery.

Eye contact
Rinse thoroughly with plenty of water, also under the eyelids. If symptoms persist, call a physician.

Skin contact
Wash with soap and water. May cause an allergic skin reaction. In the case of skin irritation or allergic reactions see a physician.

Inhalation
Remove to fresh air.

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.

Most important symptoms and effects, both acute and delayed

Most Important Symptoms and Effects
Itching. Coughing and/or wheezing.

Indication of any immediate medical attention and special treatment needed
Notes to Physician
May cause sensitization in susceptible persons. Treat symptomatically.

5. 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
Carbon oxides.

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.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions
In case of rupture: Avoid contact with skin, eyes or clothing. Use personal protective equipment as required. Ensure adequate ventilation. Evacuate personnel to safe areas.

Other Information
Refer to protective measures listed in Sections 7 and 8.

Environmental precautions

Environmental precautions
Refer to protective measures listed in Sections 7 and 8.

Methods and material for containment and cleaning up

Methods for containment
Prevent further leakage or spillage if safe to do so.

Methods for cleaning up
Pick up and transfer to properly labeled containers.
8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH TLV</th>
<th>OSHA PEL</th>
<th>NIOSH IDLH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Copper 7440-50-8</td>
<td>TWA: 0.2 mg/m³ fume TWA: 1 mg/m³ Cu dust and mist</td>
<td>TWA: 0.1 mg/m³ fume TWA: 1 mg/m³ dust and mist (vacated) TWA: 0.1 mg/m³ Cu dust, fume, mist</td>
<td>IDLH: 100 mg/m³ dust, fume and mist TWA: 1 mg/m³ dust and mist TWA: 0.1 mg/m³ fume</td>
</tr>
<tr>
<td>Aluminum 7429-90-5</td>
<td>TWA: 1 mg/m³ respirable fraction</td>
<td>TWA: 15 mg/m³ total dust TWA: 5 mg/m³ respirable fraction (vacated) TWA: 15 mg/m³ total dust (vacated) TWA: 5 mg/m³ respirable fraction (vacated) TWA: 5 mg/m³ Al Aluminum</td>
<td>TWA: 10 mg/m³ total dust TWA: 5 mg/m³ respirable dust</td>
</tr>
</tbody>
</table>

ACGIH TLV: American Conference of Governmental Industrial Hygienists - Threshold Limit Value OSHA PEL: Occupational Safety and Health Administration - Permissible Exposure Limits NIOSH IDLH Immediately Dangerous to Life or Health

Appropriate engineering controls

Engineering Measures
- Showers
- Eyewash stations
- Ventilation systems

Individual protection measures, such as personal protective equipment

Eye/face protection
If splashes are likely to occur:. Wear safety glasses with side shields (or goggles). None required for consumer use.

Skin and body protection
Wear protective gloves and protective clothing.

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. Wash hands before breaks and immediately after handling the product.
9. PHYSICAL AND CHEMICAL PROPERTIES

Physical and Chemical Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Values</th>
<th>Remarks</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Solid</td>
<td>Odor</td>
<td>None</td>
</tr>
<tr>
<td>Appearance</td>
<td>Silver</td>
<td>Odor Threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>Color</td>
<td>No information available</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Explosive properties</td>
<td>No data available</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oxidizing properties</td>
<td>No data available</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Other Information

<table>
<thead>
<tr>
<th>Property</th>
<th>Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Softening Point</td>
<td>No data available</td>
</tr>
<tr>
<td>VOC Content (%)</td>
<td>No data available</td>
</tr>
<tr>
<td>Particle Size</td>
<td>No data available</td>
</tr>
<tr>
<td>Particle Size Distribution</td>
<td>No data available</td>
</tr>
</tbody>
</table>

10. 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
None known based on information supplied.

Hazardous Decomposition Products
Carbon oxides.

11. TOXICOLOGICAL INFORMATION
Information on likely routes of exposure

Product Information

Inhalation
Specific test data for the substance or mixture is not available. Harmful by inhalation. (based on components).

Eye contact
Specific test data for the substance or mixture is not available.

Skin contact
Specific test data for the substance or mixture is not available.

Ingestion
Specific test data for the substance or mixture is not available. Harmful if swallowed. (based on components).

Component Information

Information on toxicological effects

Symptoms

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Sensitization
May cause sensitization in susceptible persons. May cause sensitization by skin contact.

Mutagenic Effects
No information available.

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

ACGIH (American Conference of Governmental Industrial Hygienists)
A1 - Known Human Carcinogen
A3 - Animal Carcinogen

IARC (International Agency for Research on Cancer)
Group 1 - Carcinogenic to Humans
Group 2B - Possibly Carcinogenic to Humans

NTP (National Toxicology Program)
Known - Known Carcinogen

OSHA (Occupational Safety and Health Administration of the US Department of Labor)
X - Present

Reproductive toxicity
No information available.

STOT - single exposure
No information available.

STOT - repeated exposure
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).

Chronic Toxicity
No known effect based on information supplied. Contains a known or suspected carcinogen. Avoid repeated exposure. Prolonged exposure may cause chronic effects.

Target Organ Effects

Aspiration Hazard
No information available.

Numerical measures of toxicity Product Information
The following values are calculated based on chapter 3.1 of the GHS document

**ATEmix (oral)**
1,016.00 mg/kg

**ATEmix (inhalation-gas)**
18,459.00 ppm (4 hr)

**ATEmix (inhalation-dust/mist)**
6.12 mg/l

**ATEmix (inhalation-vapor)**
45.12 ATEmix

### 12. ECOLOGICAL INFORMATION

**Ecotoxicity**

*Very toxic to aquatic life with long lasting effects.*

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Toxicity to Algae</th>
<th>Toxicity to Fish</th>
<th>Toxicity to Microorganisms</th>
<th>Daphnia Magna (Water Flea)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Copper 7440-50-8</td>
<td>96h EC50: 0.031 - 0.054 mg/L (Pseudokirchneriella subcapitata) 72h EC50: 0.0426 - 0.0535 mg/L (Pseudokirchneriella subcapitata)</td>
<td>96h LC50: 0.0068 - 0.0156 mg/L (Pimephales promelas) 96h LC50: = 0.112 mg/L (Poecilia reticulata) 96h LC50: = 0.3 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: &lt; 0.3 mg/L (Pimephales promelas)</td>
<td>48h EC50: = 0.03 mg/L</td>
<td></td>
</tr>
</tbody>
</table>

**Persistence and Degradability**

No information available.

**Bioaccumulation**

**Other adverse effects**

No information available.
13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal methods

This material, as supplied, is not a hazardous waste according to Federal regulations (40 CFR 261). This material could become a hazardous waste if it is mixed with or otherwise comes in contact with a hazardous waste, if chemical additions are made to this material, or if the material is processed or otherwise altered. Consult 40 CFR 261 to determine whether the altered material is a hazardous waste. Consult the appropriate state, regional, or local regulations for additional requirements.

Contaminated Packaging

Dispose of contents/containers in accordance with local regulations.

California Hazardous Waste Codes

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

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>California Hazardous Waste</th>
</tr>
</thead>
<tbody>
<tr>
<td>Copper 7440-50-8</td>
<td>Toxic</td>
</tr>
<tr>
<td>Aluminum 7429-90-5</td>
<td>Ignitable powder</td>
</tr>
</tbody>
</table>

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

Proper Shipping Name: NOT REGULATED
Hazard Class: NON-REGULATED
Emergency Response Guide Number: N/A

TDG

Not regulated

MEX

Not regulated

ICAO

Not regulated

IATA

Proper Shipping Name: Not regulated
Hazard Class: NON REGULATED
N/A
IMDG/IMO
    Hazard Class: Not regulated
    EmS-No.: N/A
    F-A, S-I

RID
    Not regulated

ADR
    Not regulated

ADN
    Not regulated

15. REGULATORY INFORMATION

International Inventories
TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

US 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

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS No</th>
<th>Weight-%</th>
<th>SARA 313 - Threshold Values %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Copper - 7440-50-8</td>
<td>7440-50-8</td>
<td>5 - 10</td>
<td>1.0</td>
</tr>
<tr>
<td>Aluminum - 7429-90-5</td>
<td>7429-90-5</td>
<td>3 - 7</td>
<td>1.0</td>
</tr>
</tbody>
</table>

SARA 311/312 Hazard Categories
Acute Health Hazard: No
Chronic Health Hazard: No
Fire Hazard: No
Sudden release of pressure hazard: No
Reactive Hazard: No

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)

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CWA - Reportable Quantities</th>
<th>CWA - Toxic Pollutants</th>
<th>CWA - Priority Pollutants</th>
<th>CWA - Hazardous Substances</th>
</tr>
</thead>
<tbody>
<tr>
<td>Copper</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7440-50-8</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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)

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Hazardous Substances RQs</th>
<th>Extremely Hazardous Substances RQs</th>
<th>RQ</th>
</tr>
</thead>
<tbody>
<tr>
<td>Copper</td>
<td>5000 lb</td>
<td></td>
<td>RQ 5000 lb final RQ</td>
</tr>
<tr>
<td>7440-50-8</td>
<td></td>
<td></td>
<td>RQ 2270 kg final RQ</td>
</tr>
</tbody>
</table>

US State Regulations
California Proposition 65
This product contains the following Proposition 65 chemicals.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>California Proposition 65</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cobalt(II) oxide - 1307-96-6</td>
<td>Carcinogen</td>
</tr>
</tbody>
</table>
Nickel oxide - 1313-99-1  Carcinogen

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

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>New Jersey</th>
<th>Massachusetts</th>
<th>Pennsylvania</th>
<th>Rhode Island</th>
<th>Illinois</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cobalt(II) oxide 1307-96-6</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Manganese dioxide 1313-13-9</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Nickel oxide 1313-99-1</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Carbon 7440-44-0</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dimethyl carbonate 616-38-6</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Aluminum 7429-90-5</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Copper 7440-50-8</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Tin 7440-31-5</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### International Regulations

#### Mexico

**National occupational exposure limits**

<table>
<thead>
<tr>
<th>Component</th>
<th>Carcinogen Status</th>
<th>Exposure Limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Copper 7440-50-8 (5 - 10)</td>
<td></td>
<td>Mexico: TWA= 1 mg/m³</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mexico: TWA= 0.2 mg/m³</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mexico: STEL= 2 mg/m³</td>
</tr>
</tbody>
</table>

Mexico - Occupational Exposure Limits - Carcinogens

#### Canada

**WHMIS Hazard Class**

Not determined

### 16. OTHER INFORMATION

#### NFPA

- Health Hazards: 1
- Flammability: 0
- Instability: 0
- Physical and Chemical Hazards: X

#### HMIS

- Health Hazards: 0
- Flammability: 0
- Physical Hazard: 0
- Personal Protection: X

**Prepared By**

Product Stewardship
23 British American Blvd.
Latham, NY 12110
1-800-572-6501

**Revision Date**

14-Sep-2015

**Revision Note**

No information available

**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.

Page 11 / 12
End of Safety Data Sheet
2. HAZARDS IDENTIFICATION

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.

<table>
<thead>
<tr>
<th>Hazard</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serious eye damage/eye irritation</td>
<td>Category 2</td>
</tr>
<tr>
<td>Carcinogenicity</td>
<td>Category 2</td>
</tr>
</tbody>
</table>

Serious eye damage/eye irritation Category 2
Carcinogenicity Category 2
GHS Label elements, including precautionary statements

Emergency Overview

Signal word
Warning

Hazard Statements
Causes serious eye irritation
Suspected of causing cancer

This product is an article which contains a chemical substance. Safety information is given for exposure to the article as sold. Intended use of the product should not result in exposure to the chemical substance. This is a battery. In case of rupture: the above hazards exist.

Appearance Silver  Physical state Solid  Odor None

Precautionary Statements - Prevention
Obtain special instructions before use
Do not handle until all safety precautions have been read and understood
Use personal protective equipment as required
Wash face, hands and any exposed skin thoroughly after handling
Wear eye/face protection

Precautionary Statements - Response
IF exposed or concerned: Get medical advice/attention

Eyes
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
If eye irritation persists: Get medical advice/attention

Precautionary Statements - Storage
Store locked up

Precautionary Statements - Disposal
Dispose of contents/container to an approved waste disposal plant

Hazardous also classified (HNOC)
Not applicable

Unknown Toxicity
40% of the mixture consists of ingredient(s) of unknown toxicity

Other information
Causes mild skin irritation
Very toxic to aquatic life with long lasting effects

Interactions with Other Chemicals
No information available.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS No</th>
<th>Weight-%</th>
<th>Trade Secret</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lithium Cobalt Oxide (CoLiO2)</td>
<td>12190-79-3</td>
<td>15 - 40</td>
<td>*</td>
</tr>
<tr>
<td>Ethylene carbonate</td>
<td>96-49-1</td>
<td>10 - 30</td>
<td>*</td>
</tr>
<tr>
<td>Aluminum</td>
<td>7429-90-5</td>
<td>7 - 13</td>
<td>*</td>
</tr>
<tr>
<td>Copper</td>
<td>7440-50-8</td>
<td>5 - 10</td>
<td>*</td>
</tr>
</tbody>
</table>

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

### 4. FIRST AID MEASURES

**First aid measures**

**General Advice**

First aid is upon rupture of sealed battery.

**Eye contact**

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Keep eye wide open while rinsing. Do not rub affected area. Get medical attention if irritation develops and persists.

**Skin contact**

Wash with soap and water.

**Inhalation**

Remove to fresh air.

**Ingestion**

Rinse mouth immediately and drink plenty of water. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. Call a physician.

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

**Most Important Symptoms and Effects**

Itching. Coughing and/or wheezing.

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

Notes to Physician

Treat symptomatically.
5. 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
No information available.

Explosion Data
Sensitivity to Mechanical Impact: None.
Sensitivity to Static Discharge: None.

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.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions
Avoid contact with skin, eyes or clothing. Use personal protective equipment as required.

Other Information
Refer to protective measures listed in Sections 7 and 8.

Environmental precautions

Environmental precautions
See Section 12 for additional Ecological Information.

Methods and material for containment and cleaning up

Methods for containment
Prevent further leakage or spillage if safe to do so.

Methods for cleaning up
Pick up and transfer to properly labeled containers.

7. HANDLING AND STORAGE

Precautions for safe handling

Handling
In case of rupture: Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Use personal protection equipment.

Conditions for safe storage, including any incompatibilities

Storage
Keep containers tightly closed in a dry, cool and well-ventilated place.

Incompatible Products
None known based on information supplied.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION
Control parameters

Exposure Guidelines

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH TLV</th>
<th>OSHA PEL</th>
<th>NIOSH IDLH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lithium Cobalt Oxide (CoLiO2) 12190-79-3</td>
<td>TWA: 0.02 mg/m³</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Aluminum 7429-90-5</td>
<td>TWA: 1 mg/m³ respirable fraction TWA: 15 mg/m³ total dust TWA: 5 mg/m³ respirable fraction (vacated) TWA: 15 mg/m³ total dust (vacated) TWA: 5 mg/m³ respirable dust TWA: 5 mg/m³ Al. Aluminum</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Copper 7440-50-8</td>
<td>TWA: 0.2 mg/m³ fume TWA: 1 mg/m³ Cu dust and mist</td>
<td>TWA: 0.1 mg/m³ fume TWA: 1 mg/m³ dust and mist (vacated) TWA: 0.1 mg/m³ Cu dust, fume, mist</td>
<td>IDLH: 100 mg/m³ dust, fume and mist TWA: 1 mg/m³ dust and mist TWA: 0.1 mg/m³ fume</td>
</tr>
</tbody>
</table>

ACGIH TLV: American Conference of Governmental Industrial Hygienists - Threshold Limit Value OSHA PEL: Occupational Safety and Health Administration - Permissible Exposure Limits NIOSH IDLH Immediately Dangerous to Life or Health

Appropriate engineering controls

Engineering Measures

- Showers
- Eyewash stations
- Ventilation systems

Individual protection measures, such as personal protective equipment

Eye/face protection

Wear safety glasses with side shields (or goggles).

Skin and body protection

Wear protective gloves and protective clothing.

Respiratory protection

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

Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Wash hands before breaks and immediately after handling the product.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical and Chemical Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Values</th>
<th>Remarks</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Solid</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Appearance</td>
<td>Silver</td>
<td>Odor</td>
<td>None</td>
</tr>
<tr>
<td>Color</td>
<td>No information available</td>
<td>Odor Threshold</td>
<td>No information available</td>
</tr>
<tr>
<td>pH</td>
<td>No data available</td>
<td>-</td>
<td>None known</td>
</tr>
<tr>
<td>Melting / freezing point</td>
<td>No data available</td>
<td>-</td>
<td>None known</td>
</tr>
<tr>
<td>Boiling point / boiling range</td>
<td>No data available</td>
<td>-</td>
<td>None known</td>
</tr>
<tr>
<td>Flash Point</td>
<td>No data available</td>
<td>-</td>
<td>None known</td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>No data available</td>
<td>-</td>
<td>None known</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>No data available</td>
<td>-</td>
<td>None known</td>
</tr>
</tbody>
</table>
10. STABILITY AND REACTIVITY

Reactivity
No data available.

Chemical stability
Stable under recommended storage conditions.

Possibility of Hazardous Reactions
None under normal processing.

Conditions to avoid
None known based on information supplied.

Incompatible materials
None known based on information supplied.

Hazardous Decomposition Products
None known based on information supplied.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information
Product does not present an acute toxicity hazard based on known or supplied information. In case of rupture:

Inhalation
Specific test data for the substance or mixture is not available.

Eye contact
Specific test data for the substance or mixture is not available. Causes serious eye irritation. (based on components). May cause redness, itching, and pain.

Skin contact
Specific test data for the substance or mixture is not available.

Ingestion
Specific test data for the substance or mixture is not available.

Component Information
No information available
Information on toxicological effects

Symptoms
May cause redness and tearing of the eyes.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Sensitization
No information available.

Mutagenic Effects
No information available.

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

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH</th>
<th>IARC</th>
<th>NTP</th>
<th>OSHA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lithium Cobalt Oxide (CoLiO2)</td>
<td>A3</td>
<td>Group 2B</td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

ACGIH (American Conference of Governmental Industrial Hygienists)
A3 - Animal Carcinogen
IARC (International Agency for Research on Cancer)
Group 2B - Possibly Carcinogenic to Humans
OSHA (Occupational Safety and Health Administration of the US Department of Labor)
X - Present

Reproductive toxicity
No information available.

STOT - single exposure
No information available.

STOT - repeated exposure
No information available.

Chronic Toxicity
Contains a known or suspected carcinogen.

Target Organ Effects

Aspiration Hazard
No information available.

Numerical measures of toxicity  Product Information

The following values are calculated based on chapter 3.1 of the GHS document
12. ECOLOGICAL INFORMATION

Ecotoxicity
Very toxic to aquatic life with long lasting effects.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Toxicity to Algae</th>
<th>Toxicity to Fish</th>
<th>Toxicity to Microorganisms</th>
<th>Daphnia Magna (Water Flea)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Copper 7440-50-8</td>
<td>96h EC50: 0.031 - 0.054 mg/L (Pseudokirchneriella subcapitata) 72h EC50: 0.0426 - 0.0535 mg/L (Pseudokirchneriella subcapitata)</td>
<td>96h LC50: 0.0068 - 0.0156 mg/L (Pimephales promelas) 96h LC50: = 0.112 mg/L (Poecilia reticulata) 96h LC50: = 0.3 mg/L (Cyprinus carpio) 96h LC50: = 1.25 mg/L (Lepomis macrochirus) 96h LC50: = 0.052 mg/L (Oncorhyncus mykiss) 96h LC50: = 0.2 mg/L (Pimephales promelas) 96h LC50: &lt; 0.3 mg/L (Pimephales promelas)</td>
<td>48h EC50: = 0.03 mg/L</td>
<td></td>
</tr>
</tbody>
</table>

Persistence and Degradability
No information available.

Bioaccumulation
No information available

Other adverse effects
No information available.

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal methods
This material, as supplied, is not a hazardous waste according to Federal regulations (40 CFR 261). This material could become a hazardous waste if it is mixed with or otherwise comes in contact with a hazardous waste, if chemical additions are made to this material, or if the material is processed or otherwise altered. Consult 40 CFR 261 to determine whether the altered material is a hazardous waste. Consult the appropriate state, regional, or local regulations for additional requirements.

Contaminated Packaging
Dispose of contents/containers 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.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>California Hazardous Waste</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lithium Cobalt Oxide (CoLiO2) 12190-79-3</td>
<td>Toxic</td>
</tr>
<tr>
<td>Aluminum 7429-90-5</td>
<td>Ignitable powder</td>
</tr>
<tr>
<td>Copper 7440-50-8</td>
<td>Toxic</td>
</tr>
</tbody>
</table>

14. TRANSPORT INFORMATION
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"

<table>
<thead>
<tr>
<th>DOT</th>
<th>Proper Shipping Name</th>
<th>NOT REGULATED</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Hazard Class</td>
<td>NON REGULATED</td>
</tr>
<tr>
<td></td>
<td>Emergency Response Guide Number</td>
<td>147</td>
</tr>
<tr>
<td>TDG</td>
<td>Not regulated</td>
<td></td>
</tr>
<tr>
<td>MEX</td>
<td>Not regulated</td>
<td></td>
</tr>
<tr>
<td>ICAO</td>
<td>Not regulated</td>
<td></td>
</tr>
<tr>
<td>IATA</td>
<td>Proper Shipping Name</td>
<td>NON REGULATED</td>
</tr>
<tr>
<td></td>
<td>Hazard Class</td>
<td>N/A</td>
</tr>
<tr>
<td>IMDG/IMO</td>
<td>Hazard Class</td>
<td>N/A</td>
</tr>
<tr>
<td></td>
<td>EmS-No.</td>
<td>F-A, S-I</td>
</tr>
<tr>
<td>RID</td>
<td>Not regulated</td>
<td></td>
</tr>
<tr>
<td>ADR</td>
<td>Not regulated</td>
<td></td>
</tr>
<tr>
<td>ADN</td>
<td>Not regulated</td>
<td></td>
</tr>
</tbody>
</table>

15. REGULATORY INFORMATION

International Inventories

| TSCA | Complies |
| DSL | All components are listed either on the DSL or NDSL. |

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

US 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

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS No</th>
<th>Weight-%</th>
<th>SARA 313 - Threshold Values %</th>
</tr>
</thead>
<tbody>
<tr>
<td>1258688- G3HTA024H</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Lithium Cobalt Oxide (CoLiO2) - 12190-79-3
<table>
<thead>
<tr>
<th>Component</th>
<th>CAS Registry Number</th>
<th>Low to High Concentrations</th>
<th>Solubility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aluminum</td>
<td>7429-90-5</td>
<td>7 - 13</td>
<td>1.0</td>
</tr>
<tr>
<td>Copper</td>
<td>7440-50-8</td>
<td>5 - 10</td>
<td>1.0</td>
</tr>
</tbody>
</table>

#### SARA 311/312 Hazard Categories
- **Acute Health Hazard**: Yes
- **Chronic Health Hazard**: Yes
- **Fire Hazard**: No
- **Sudden release of pressure hazard**: No
- **Reactive Hazard**: No

#### 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)

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CWA - Reportable Quantities</th>
<th>CWA - Toxic Pollutants</th>
<th>CWA - Priority Pollutants</th>
<th>CWA - Hazardous Substances</th>
</tr>
</thead>
<tbody>
<tr>
<td>Copper</td>
<td>X</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>7440-50-8</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### 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)

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Hazardous Substances RQs</th>
<th>Extremely Hazardous Substances RQs</th>
<th>RQ</th>
</tr>
</thead>
<tbody>
<tr>
<td>Copper</td>
<td>5000 lb</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7440-50-8</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### US State Regulations

**California Proposition 65**
This product contains the following Proposition 65 chemicals.

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

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>New Jersey</th>
<th>Massachusetts</th>
<th>Pennsylvania</th>
<th>Rhode Island</th>
<th>Illinois</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lithium Cobalt Oxide (CoLiO2)</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>12190-79-3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Carbon</td>
<td>X</td>
<td></td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>7440-44-0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ethylene carbonate</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>96-49-1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aluminum</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>7429-90-5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Copper</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>7440-50-8</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tin</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7440-31-5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### International Regulations

**Mexico**

**National occupational exposure limits**

<table>
<thead>
<tr>
<th>Component</th>
<th>Carcinogen Status</th>
<th>Exposure Limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aluminum 7429-90-5 (7 - 13)</td>
<td>Mexico: TWA= 10 mg/m³</td>
<td></td>
</tr>
<tr>
<td>Copper 7440-50-8 (5 - 10)</td>
<td>Mexico: TWA= 1 mg/m³</td>
<td></td>
</tr>
</tbody>
</table>

Mexico - Occupational Exposure Limits - Carcinogens

**Canada**
16. OTHER INFORMATION

<table>
<thead>
<tr>
<th>NFPA</th>
<th>Health Hazards</th>
<th>Flammability</th>
<th>Instability</th>
<th>Physical and Chemical Hazards</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Health Hazards</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Health Hazards</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Prepared By
Product Stewardship
23 British American Blvd.
Latham, NY 12110
1-800-572-6501

Revision Date
07-Jul-2015

Revision Note
No information available

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
1. PRODUCT AND COMPANY IDENTIFICATION

A. PRODUCT IDENTIFICATION
Lithium ion Rechargeable Battery Pack

B. Battery Product Matrix
Customer (Microsoft)

<table>
<thead>
<tr>
<th>Battery Name</th>
<th>Customer P/N</th>
<th>KS P/N</th>
<th>Cell applied</th>
</tr>
</thead>
<tbody>
<tr>
<td>LAI</td>
<td>DAK822470K</td>
<td>DAK822470-K021G02HA DAK822470-K021G01HT</td>
<td>SDI P11G3V-01-F01 (PY)</td>
</tr>
</tbody>
</table>

Notice 1: CL – Cylindrical type; PM – Prismatic type; PY – Polymer type

Notice 2:
* Lithium ion cells and batteries may be offered for transport if they meet the following:
* for cells, the Watt-hour rating is not more than 20 Wh;
* for batteries, Watt-hour rating is not more than 100 Wh. The Watt-hour rating must be marked on the outside of the battery case except those manufactured before 1 January 2009 which may be transported without this marking until 31 December 2010;

MANUFACTURER
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Kunshan(KS) Factory
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- 1 -
2. Hazards Identification

Primary routes of entry: Skin contact. Skin absorption, eye contact, inhalation and ingestion: NO

Symptoms of exposure: Skin contact. No effect under routine handling and use.
Skin absorption: No effect under routine handling and use.
Eye contact: No effect under routine handling and use.
Inhalation: No effect under routine handling and use.
Reported as carcinogen: Not applicable

3. Composition/information on ingredients

Composition
CAS number: Not specified (A-1 and A-2):
A-1. Cases: Plastic or Metal Not dangerous
A-2. Printed Circuit Board Assembly Not dangerous
A-3. Lithium Ion Cell:

<table>
<thead>
<tr>
<th>Material</th>
<th>Concentration</th>
<th>CAS No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aluminum</td>
<td>2% - 10%</td>
<td>7429-90-5</td>
</tr>
<tr>
<td>Metal Oxide (proprietary)</td>
<td>20% - 50%</td>
<td>12190-79-3</td>
</tr>
<tr>
<td>Polyvinylidene fluoride (PVDF)</td>
<td>0% - 5%</td>
<td>24937-79-9</td>
</tr>
<tr>
<td>Copper</td>
<td>2% - 10%</td>
<td>7440-50-8</td>
</tr>
<tr>
<td>Carbon (proprietary)</td>
<td>10% - 30%</td>
<td>1333-86-4</td>
</tr>
<tr>
<td>Electrolyte (proprietary)</td>
<td>10% - 20%</td>
<td>Main Component: 96-49-1, 623-53-0, 108-32-7</td>
</tr>
</tbody>
</table>

4. First Aid Measures

IF EXPOSURE TO INTERNAL MATERIALS WITHIN CELL DUE TO DAMAGED OUTER CASING, THE FOLLOWING ACTIONS ARE RECOMMENDED.
Inhalation: Leave area immediately and seek medical attention.
Eye contact: Rinse eyes with water for 15 minutes and seek medical attention.
Skin contact: Wash area thoroughly with soap and water and seek medical attention.
Ingestion: Drink milk/water and induce vomiting; seek medical attention

5. Fire Fighting Measures
Extinguishing Media: Use extinguishing media suitable for the materials that are burning.
Firefighting Equipment: Use NIOSH/MSHA approved full-face self-contained breathing apparatus (SCBA) with full protective gear.

6. Accidental Release Measures

On Land: Place material into suitable containers and call local fire/police department.
In water: If possible. Remove from water and call local fire/police department

7. Handling and Storage

Handling:
Do not expose the battery to excessive physical shock or vibration. Short-circuiting should be avoided. However, accidental short-circuiting for a few seconds will not seriously affect the battery. Prolonged short circuits will cause the battery to rapidly lose energy, could generate enough heat to burn skin. Sources of short circuits include jumbled batteries in bulk containers, coins, metal jewelry, metal covered tables, or metal belts used for assembly of batteries in devices. To minimize risk of short-circuiting, the protective case supplied with the battery should be used to cover the terminals when transporting or storing the battery. Do not disassemble or deform the battery. Should an individual cell within a battery become ruptured, do not allow contact with water.

Storage:
The lithium ion battery should be between 25% and 75% of full charge when stored for a long period of time. Store in a cool, dry, well ventilated area. And temperature above 100 degrees Celsius can result in loss of battery performance, leakage, or rust. Do not expose the battery to open flames.

8. Exposure Controls / Personal Protection

Engineering Controls: Keep away from heat and open flame. Store in a cool dry place.

Personal Protection:
Respirator: Not required during normal operations. SCBA required in the event of a fire.
Eye/Face Protection: Not required beyond safety practices of employer.
Gloves: Not required for handling of battery
Foot Protection: Steel toed shoes recommended for large container handling.

9. Physical and Chemical Properties
10. Stability and Reactivity

Reactivity: None

Incompatibilities: None during normal operation. Avoid exposure to heat, open flame, and corrosives.

Conditions To Avoid: Avoid exposure to heat and open flame. Do not puncture, crush or incinerate.

11. Toxicological Information

This product does not elicit toxicological properties during routine handling and use.

12. Ecological Information

Lithium ion battery pack can be disposable in accordance with appropriate federal, state and local regulations.

13. Disposal Considerations

Recommended methods for safe and environmentally preferred disposal:

Product (waste from residues)

Do not throw out a used battery. Recycle it through the recycling company.

Contaminated packaging

Neither a container nor packing is contaminated during normal use. When internal materials leaked from a battery contaminates, dispose as industrial wastes subject to special control.

14. Transport Information
Lithium ion batteries containing no more than 1.5g/cell and 8g/battery pack and also power is no more than 20Wh/cell and 100Wh/battery pack of lithium can be treated as “Non-dangerous goods” under the United Nations Recommendations on the Transport of Dangerous Goods, Special Provision 188, provided that packaging is strong and prevent the products from short-circuit.

With regard to air transport, the following regulations are cited and considered:
- The US Hazardous Materials Regulation (HMR) pursuant to a final rule issued by RSPA (Part 49 CFR Sections 100-185),
- The Office of Hazardous Materials Safety within the US Department of Transportation’s (DOT) Research and Special Programs Administration (RSPA), and

Our products are properly classified, described, packaged, marked, and labeled, and are in proper condition for transportation according to all the applicable international and national governmental regulations, not limited to the above mentioned. We further certify that the enclosed products have been tested and fulfilled the requirements and conditions in accordance with UN Recommendations 38.3 (T1–T8) on the Transport of Dangerous Goods Model Regulations and the Manual of Tests and Criteria that can be treated as “Non-Dangerous Goods”.

15. Regulatory Information

OSHA Hazard communication standard (29 CFR 1910.1200)

Non-hazardous

16. Other information -- UN Test Result

There is no hazards in accordance with the UN recommendations tests (Manual of Tests and Criteria, Part III, sub-section 38.3)
<table>
<thead>
<tr>
<th>No</th>
<th>ITEMS</th>
<th>RESULT</th>
<th>REMARKS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Altitude Simulation</td>
<td>Pass</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Thermal Shock</td>
<td>Pass</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Vibration</td>
<td>Pass</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Shock</td>
<td>Pass</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>External Short</td>
<td>Pass</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Impact</td>
<td>Pass</td>
<td>For cell only</td>
</tr>
<tr>
<td>7</td>
<td>Overcharge</td>
<td>Pass</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>1.2m packing drop</td>
<td>Pass</td>
<td></td>
</tr>
</tbody>
</table>
# 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

**Product identifier**

- **Product Name**: G3HTA020H

**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**: Simplo Technology
- **Supplier Address**: No.471,Sec.2, Pa The Rd., Hu Kou 303, Hsin Chu Hsien, Taiwan
  Hsin Chu County
  Taiwan
  331
  TW
- **Supplier Phone Number**: Phone:+88635695920
  Fax:+88635695931
- **Supplier Email**: Anderson_Hsu@simplo.com.cn

**Emergency telephone number**

- **Company Emergency Phone Number**: +88635695920

# 2. HAZARDS IDENTIFICATION

**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.

<table>
<thead>
<tr>
<th>Hazard Class</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skin corrosion/irritation</td>
<td>Category 2</td>
</tr>
<tr>
<td>Serious eye damage/eye irritation</td>
<td>Category 1</td>
</tr>
</tbody>
</table>
Carcinogenicity
Category 2
Specific target organ toxicity (repeated exposure)
Category 1

GHS Label elements, including precautionary statements

### Emergency Overview

**Signal word**
Danger

**Hazard Statements**
Causes skin irritation
Causes serious eye damage
Suspected of causing cancer
Causes damage to organs through prolonged or repeated exposure

![Warning symbols]

This is a battery. In case of rupture: the above hazards exist.

| Appearance | Silver | Physical state | Solid | Odor | None |

**Precautionary Statements - Prevention**
Obtain special instructions before use
Do not handle until all safety precautions have been read and understood
Use personal protective equipment as required
Wash face, hands and any exposed skin thoroughly after handling
Do not breathe dust/fume/gas/mist/vapors/spray
Do not eat, drink or smoke when using this product

**Precautionary Statements - Response**
IF exposed or concerned: Get medical advice/attention
Specific treatment (see supplemental first aid instructions on this label)

**Eyes**
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
Immediately call a POISON CENTER or doctor/physician

**Skin**
IF ON SKIN: Wash with plenty of soap and water
If skin irritation occurs: Get medical advice/attention
Take off contaminated clothing and wash before reuse

**Precautionary Statements - Storage**
Store locked up

**Precautionary Statements - Disposal**
Dispose of contents/container to an approved waste disposal plant

**Hazards not otherwise classified (HNOC)**
Not applicable
Unknown Toxicity
49.7% of the mixture consists of ingredient(s) of unknown toxicity

Other information
Toxic to aquatic life with long lasting effects

Interactions with Other Chemicals
No information available.

3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS No</th>
<th>Weight-%</th>
<th>Trade Secret</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lithium Cobalt Oxide (CoLiO2)</td>
<td>12190-79-3</td>
<td>15 - 40</td>
<td>*</td>
</tr>
<tr>
<td>Graphite</td>
<td>7782-42-5</td>
<td>10 - 30</td>
<td>*</td>
</tr>
<tr>
<td>1-Propene, 1,1,2,3,3,3-hexafluoro-, polymer with 1,1-difluoroethene</td>
<td>9011-17-0</td>
<td>3 - 7</td>
<td>*</td>
</tr>
<tr>
<td>Propylene carbonate</td>
<td>108-32-7</td>
<td>3 - 7</td>
<td>*</td>
</tr>
<tr>
<td>Ethylene carbonate</td>
<td>96-49-1</td>
<td>3 - 7</td>
<td>*</td>
</tr>
<tr>
<td>Phosphate(1-), hexafluoro-, lithium</td>
<td>21324-40-3</td>
<td>1 - 5</td>
<td>*</td>
</tr>
<tr>
<td>Carbon black</td>
<td>1333-86-4</td>
<td>1 - 5</td>
<td>*</td>
</tr>
<tr>
<td>Copper</td>
<td>7440-50-8</td>
<td>1 - 5</td>
<td>*</td>
</tr>
</tbody>
</table>

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

4. FIRST AID MEASURES

First aid measures

General Advice
First aid is upon rupture of sealed battery.

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. Do not rub affected area. Seek immediate medical attention/advice.

Skin contact
Wash off immediately with soap and plenty of water for at least 15 minutes. Get medical attention if irritation develops and persists.

Inhalation
Remove to fresh air. Get medical attention immediately if symptoms occur.

Ingestion
Rinse mouth immediately and drink plenty of water. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. 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.

Indication of any immediate medical attention and special treatment needed
Notes to Physician
Treat symptomatically.

5. 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
No information available.

Hazardous Combustion Products
Carbon oxides.

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.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions
In case of rupture: Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Use personal protective equipment as required. Evacuate personnel to safe areas.

Other Information
Refer to protective measures listed in Sections 7 and 8.

Environmental precautions

Environmental precautions
Refer to protective measures listed in Sections 7 and 8. Prevent further leakage or spillage if safe to do so.

Methods and material for containment and cleaning up

Methods for containment
Prevent further leakage or spillage if safe to do so.

Methods for cleaning up
Pick up and transfer to properly labeled containers.
7. HANDLING AND STORAGE

Precautions for safe handling

Handling
In case of rupture. Handle in accordance with good industrial hygiene and safety practice.
Avoid contact with skin, eyes or clothing. Use personal protection equipment.

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

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH TLV</th>
<th>OSHA PEL</th>
<th>NIOSH IDLH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lithium Cobalt Oxide (CoLiO2) 12190-79-3</td>
<td>TWA: 0.02 mg/m³</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Graphite 7782-42-5</td>
<td>TWA: 2 mg/m³ respirable fraction all forms except graphite fibers</td>
<td>TWA: 15 mg/m³ total dust synthetic TWA: 5 mg/m³ respirable fraction synthetic (vacated) TWA: 2.5 mg/m³ dust natural (vacated) TWA: 5 mg/m³ total dust synthetic (vacated) TWA: 5 mg/m³ respirable fraction synthetic TWA: 15 mppcf natural</td>
<td>IDLH: 1250 mg/m³ TWA: 2.5 mg/m³ respirable dust</td>
</tr>
<tr>
<td>1-Propene, 1,1,2,3,3,3-hexafluoro-, polymer with 1,1-difluoroethene 9011-17-0</td>
<td>TWA: 2.5 mg/m³ F</td>
<td>TWA: 2.5 mg/m³ F (vacated) TWA: 2.5 mg/m³ dust</td>
<td>IDLH: 1750 mg/m³ TWA: 3.5 mg/m³ TWA: 0.1 mg/m³ Carbon black in presence of Polycyclic aromatic hydrocarbons PAH</td>
</tr>
<tr>
<td>Phosphate(1-), hexafluoro-, lithium 21324-40-3</td>
<td>TWA: 2.5 mg/m³ F</td>
<td>TWA: 2.5 mg/m³ dust (vacated) TWA: 2.5 mg/m³</td>
<td>-</td>
</tr>
<tr>
<td>Carbon black 1333-86-4</td>
<td>TWA: 3 mg/m³ inhalable fraction (vacated) TWA: 3.5 mg/m³</td>
<td>TWA: 3.5 mg/m³</td>
<td>-</td>
</tr>
<tr>
<td>Copper 7440-50-8</td>
<td>TWA: 0.2 mg/m³ fume TWA: 1 mg/m³ Cu dust and mist</td>
<td>TWA: 0.1 mg/m³ fume (vacated) TWA: 0.1 mg/m³ Cu dust, fume, mist</td>
<td>IDLH: 100 mg/m³ dust, fume and mist TWA: 1 mg/m³ dust and mist TWA: 0.1 mg/m³ fume</td>
</tr>
</tbody>
</table>

ACGIH TLV: American Conference of Governmental Industrial Hygienists - Threshold Limit Value
OSHA PEL: Occupational Safety and Health Administration - Permissible Exposure Limits
NIOSH IDLH: Immediately Dangerous to Life or Health

Appropriate engineering controls

Engineering Measures
Showers
Eyewash stations
Ventilation systems
Individual protection measures, such as personal protective equipment

**Eye/face protection**
If splashes are likely to occur:. Tight sealing safety goggles. None required for consumer use.

**Skin and body protection**
Wear protective gloves and protective clothing. Long sleeved clothing. 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. Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Wash hands before breaks and immediately after handling the product.

### 9. PHYSICAL AND CHEMICAL PROPERTIES

**Physical and Chemical Properties**

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

**Other Information**

<table>
<thead>
<tr>
<th>Property</th>
<th>Values</th>
<th>Remarks</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Softening Point</td>
<td>No data available</td>
<td>None</td>
<td></td>
</tr>
<tr>
<td>VOC Content (%)</td>
<td>No data available</td>
<td>None</td>
<td></td>
</tr>
<tr>
<td>Particle Size</td>
<td>No data available</td>
<td>None</td>
<td></td>
</tr>
<tr>
<td>Particle Size Distribution</td>
<td>No data available</td>
<td>None</td>
<td></td>
</tr>
</tbody>
</table>
10. 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

Hazardous Decomposition Products
Carbon oxides.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information
In case of rupture:

Inhalation
Specific test data for the substance or mixture is not available. May cause irritation of respiratory tract.

Eye contact
Specific test data for the substance or mixture is not available. (based on components). Causes serious eye damage. Severely irritating to eyes. May cause irreversible damage to eyes.

Skin contact
Specific test data for the substance or mixture is not available. Causes skin irritation. (based on components). Prolonged contact may cause redness and irritation.

Ingestion
Specific test data for the substance or mixture is not available. Ingestion may cause irritation to mucous membranes. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Component Information

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Oral LD50</th>
<th>Dermal LD50</th>
<th>Inhalation LC50</th>
</tr>
</thead>
<tbody>
<tr>
<td>Graphite 7782-42-5</td>
<td>&gt; 10000 mg/kg (Rat)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Propylene carbonate 108-32-7</td>
<td>= 29000 mg/kg (Rat)</td>
<td>&gt; 20 mL/kg (Rabbit)</td>
<td>-</td>
</tr>
<tr>
<td>Carbon black 1333-86-4</td>
<td>&gt; 15400 mg/kg (Rat)</td>
<td>&gt; 3 g/kg (Rabbit)</td>
<td>-</td>
</tr>
</tbody>
</table>

Information on toxicological effects

Symptoms
Erythema (skin redness). May cause redness and tearing of the eyes. May cause blindness. Burning.

Delayed and immediate effects as well as chronic effects from short and long-term exposure
Sensitization
No information available.

Mutagenic Effects
No information available.

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

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH</th>
<th>IARC</th>
<th>NTP</th>
<th>OSHA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lithium Cobalt Oxide (CoLiO2) 12190-79-3</td>
<td>A3</td>
<td>Group 2B</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Carbon black 1333-86-4</td>
<td>A3</td>
<td>Group 2B</td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

AGIHI (American Conference of Governmental Industrial Hygienists)
A3 - Animal Carcinogen
IARC (International Agency for Research on Cancer)
Group 2B - Possibly Carcinogenic to Humans
OSHA (Occupational Safety and Health Administration of the US Department of Labor)
X - Present

Reproductive toxicity
No information available.

STOT - single exposure
No information available.

STOT - repeated exposure
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).

Chronic Toxicity
No known effect based on information supplied. Contains a known or suspected carcinogen. Avoid repeated exposure. Prolonged exposure may cause chronic effects. Carbon black has been classified by the International Agency for Research on Cancer (IARC) as possibly carcinogenic to humans (Group 2B) by inhalation.

Target Organ Effects

Aspiration Hazard
No information available.

Numerical measures of toxicity  Product Information
The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (oral)
7,495.00 mg/kg

ATEmix (dermal)
5,030.00 mg/kg (ATE)

ATEmix (inhalation-dust/mist)
1,006.00 mg/l
12. ECOLOGICAL INFORMATION

Ecotoxicity
Toxic to aquatic life with long lasting effects.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Toxicity to Algae</th>
<th>Toxicity to Fish</th>
<th>Toxicity to Microorganisms</th>
<th>Daphnia Magna (Water Flea)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Propylene carbonate</td>
<td>72h EC50: &gt; 500 mg/L (Desmodesmus subspicatus)</td>
<td>96h LC50: &gt; 1000 mg/L (Cyprinus carpio) 96h LC50: = 5300 mg/L (Leuciscus idus)</td>
<td>EC50 &gt; 10000 mg/L 17 h</td>
<td>48h EC50: &gt; 500 mg/L</td>
</tr>
<tr>
<td>Carbon black</td>
<td></td>
<td></td>
<td></td>
<td>24h EC50: &gt; 5600 mg/L</td>
</tr>
<tr>
<td>Copper</td>
<td>96h EC50: 0.031 - 0.054 mg/L (Pseudokirchneriella subcapitata) 72h EC50: 0.0426 - 0.0535 mg/L (Pseudokirchneriella subcapitata)</td>
<td>96h LC50: 0.0068 - 0.0156 mg/L (Pimephales promelas) 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: &lt; 0.3 mg/L (Pimephales promelas)</td>
<td>48h EC50: = 0.03 mg/L</td>
<td></td>
</tr>
</tbody>
</table>

Persistence and Degradability
No information available.

Bioaccumulation

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Log Pow</th>
</tr>
</thead>
<tbody>
<tr>
<td>Propylene carbonate</td>
<td>0.48</td>
</tr>
</tbody>
</table>

Other adverse effects
No information available.

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal methods
Should not be released into the environment.

Contaminated Packaging
Dispose of contents/containers in accordance with local regulations.

California Hazardous Waste Codes

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

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>California Hazardous Waste</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lithium Cobalt Oxide</td>
<td>Toxic</td>
</tr>
<tr>
<td>Copper</td>
<td>Toxic</td>
</tr>
<tr>
<td>12190-79-3</td>
<td></td>
</tr>
<tr>
<td>7440-50-8</td>
<td></td>
</tr>
</tbody>
</table>
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

<table>
<thead>
<tr>
<th>Proper Shipping Name</th>
<th>NOT REGULATED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hazard Class</td>
<td>NON REGULATED</td>
</tr>
<tr>
<td>Emergency Response Guide Number</td>
<td>N/A</td>
</tr>
</tbody>
</table>

TDG

Not regulated

MEX

Not regulated

ICAO

Not regulated

IATA

<table>
<thead>
<tr>
<th>Proper Shipping Name</th>
<th>NOT REGULATED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hazard Class</td>
<td>N/A</td>
</tr>
</tbody>
</table>

IMDG/IMO

<table>
<thead>
<tr>
<th>Hazard Class</th>
<th>Not regulated</th>
</tr>
</thead>
<tbody>
<tr>
<td>EmS-No.</td>
<td>F-A, S-I</td>
</tr>
</tbody>
</table>

RID

Not regulated

ADR

Not regulated

ADN

Not regulated

15. REGULATORY INFORMATION

International Inventories

<table>
<thead>
<tr>
<th>TSCA</th>
<th>Complies</th>
</tr>
</thead>
<tbody>
<tr>
<td>DSL</td>
<td>All components are listed either on the DSL or NDSL.</td>
</tr>
</tbody>
</table>

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

US 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.
<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS No</th>
<th>Weight-%</th>
<th>SARA 313 - Threshold Values %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lithium Cobalt Oxide (CoLiO2) - 12190-79-3</td>
<td>12190-79-3</td>
<td>15 - 40</td>
<td>0.1</td>
</tr>
<tr>
<td>Copper - 7440-50-8</td>
<td>7440-50-8</td>
<td>1 - 5</td>
<td>1.0</td>
</tr>
</tbody>
</table>

**SARA 311/312 Hazard Categories**

- **Acute Health Hazard**: No
- **Chronic Health Hazard**: No
- **Fire Hazard**: No
- **Sudden release of pressure hazard**: No
- **Reactive Hazard**: No

**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)

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CWA - Reportable Quantities</th>
<th>CWA - Toxic Pollutants</th>
<th>CWA - Priority Pollutants</th>
<th>CWA - Hazardous Substances</th>
</tr>
</thead>
<tbody>
<tr>
<td>Copper</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7440-50-8</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**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)

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Hazardous Substances RQs</th>
<th>Extremely Hazardous Substances RQs</th>
<th>RQ</th>
</tr>
</thead>
<tbody>
<tr>
<td>Copper</td>
<td>5000 lb</td>
<td></td>
<td>RQ 5000 lb final RQ</td>
</tr>
<tr>
<td>7440-50-8</td>
<td>RQ 2270 kg final RQ</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**US State Regulations**

**California Proposition 65**

This product contains the following Proposition 65 chemicals.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>California Proposition 65</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carbon black - 1333-86-4</td>
<td>Carcinogen</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>New Jersey</th>
<th>Massachusetts</th>
<th>Pennsylvania</th>
<th>Rhode Island</th>
<th>Illinois</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lithium Cobalt Oxide (CoLiO2) - 12190-79-3</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Graphite - 7782-42-5</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diethyl carbonate - 105-58-8</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dimethyl carbonate - 616-38-6</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Carbon black - 1333-86-4</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Copper - 7440-50-8</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Tin - 7440-31-5</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**International Regulations**

**Mexico**

**National occupational exposure limits**

<table>
<thead>
<tr>
<th>Component</th>
<th>Carcinogen Status</th>
<th>Exposure Limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Graphite  - 7782-42-5 (10 - 30)</td>
<td></td>
<td>Mexico: TWA= 2 mg/m³</td>
</tr>
</tbody>
</table>
Mexico - Occupational Exposure Limits - Carcinogens

Canada
WHMIS Hazard Class
Not determined

16. OTHER INFORMATION

<table>
<thead>
<tr>
<th>NFPA</th>
<th>Health Hazards</th>
<th>Flammability</th>
<th>Instability</th>
<th>Physical and Chemical Hazards</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>HMIS</th>
<th>Health Hazards</th>
<th>Flammability</th>
<th>Physical Hazard</th>
<th>Personal Protection</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>X</td>
</tr>
</tbody>
</table>

Prepared By: Product Stewardship
23 British American Blvd.
Latham, NY 12110
1-800-572-6501

Issuing Date: 16-Apr-2010
Revision Date: 07-Jul-2015
Revision Note: No information available

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
2. HAZARDS IDENTIFICATION

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.

<table>
<thead>
<tr>
<th>Hazard Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serious eye damage/eye irritation</td>
<td>Category 2</td>
</tr>
<tr>
<td>Carcinogenicity</td>
<td>Category 2</td>
</tr>
</tbody>
</table>
GHS Label elements, including precautionary statements

**Emergency Overview**

**Signal word**

**Warning**

**Hazard Statements**
Causes serious eye irritation
Suspected of causing cancer

This product is an article which contains a chemical substance. Safety information is given for exposure to the article as sold. Intended use of the product should not result in exposure to the chemical substance. This is a battery. In case of rupture: the above hazards exist.

<table>
<thead>
<tr>
<th>Appearance</th>
<th>Physical state</th>
<th>Odor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Silver</td>
<td>Solid</td>
<td>None</td>
</tr>
</tbody>
</table>

**Precautionary Statements - Prevention**
Obtain special instructions before use
Do not handle until all safety precautions have been read and understood
Use personal protective equipment as required
Wash face, hands and any exposed skin thoroughly after handling
Wear eye/face protection

**Precautionary Statements - Response**
IF exposed or concerned: Get medical advice/attention

**Eyes**
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
If eye irritation persists: Get medical advice/attention

**Precautionary Statements - Storage**
Store locked up

**Precautionary Statements - Disposal**
Dispose of contents/container to an approved waste disposal plant

**Hazards not otherwise classified (HNOC)**
Not applicable

**Unknown Toxicity**
40% of the mixture consists of ingredient(s) of unknown toxicity

**Other information**
Causes mild skin irritation
Very toxic to aquatic life with long lasting effects

**Interactions with Other Chemicals**
4. FIRST AID MEASURES

First aid measures

**General Advice**
First aid is upon rupture of sealed battery.

**Eye contact**
Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Keep eye wide open while rinsing. Do not rub affected area. Get medical attention if irritation develops and persists.

**Skin contact**
Wash with soap and water.

**Inhalation**
Remove to fresh air.

**Ingestion**
Rinse mouth immediately and drink plenty of water. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. Call a physician.

**Most important symptoms and effects, both acute and delayed**
Itching. Coughing and/ or wheezing.

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

**Notes to Physician**
Treat symptomatically.
5. 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
No information available.

Explosion Data
Sensitivity to Mechanical Impact: None.
Sensitivity to Static Discharge: None.

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.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions
Avoid contact with skin, eyes or clothing. Use personal protective equipment as required.

Other Information
Refer to protective measures listed in Sections 7 and 8.

Environmental precautions

Environmental precautions
See Section 12 for additional Ecological Information.

Methods and material for containment and cleaning up

Methods for containment
Prevent further leakage or spillage if safe to do so.

Methods for cleaning up
Pick up and transfer to properly labeled containers.

7. HANDLING AND STORAGE

Precautions for safe handling

Handling
In case of rupture: Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Use personal protection equipment.

Conditions for safe storage, including any incompatibilities

Storage
Keep containers tightly closed in a dry, cool and well-ventilated place.

Incompatible Products
None known based on information supplied.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION
Control parameters

Exposure Guidelines

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH TLV</th>
<th>OSHA PEL</th>
<th>NIOSH IDLH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lithium Cobalt Oxide (CoLiO2)</td>
<td>TWA: 0.02 mg/m³</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12190-79-3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aluminum 7429-90-5</td>
<td>TWA: 1 mg/m³ respirable fraction</td>
<td>TWA: 15 mg/m³ total dust (vacated) TWA: 5 mg/m³ total dust (vacated) TWA: 5 mg/m³ total dust (vacated) TWA: 5 mg/m³ Al-Aluminum</td>
<td>TWA: 10 mg/m³ respirable dust</td>
</tr>
<tr>
<td>Copper 7440-50-8</td>
<td>TWA: 0.2 mg/m³ fume TWA: 1 mg/m³ Cu dust and mist</td>
<td>TWA: 0.1 mg/m³ fume TWA: 1 mg/m³ dust and mist (vacated) TWA: 0.1 mg/m³ Cu dust, fume, mist</td>
<td>IDLH: 100 mg/m³ dust, fume and mist TWA: 1 mg/m³ dust and mist TWA: 0.1 mg/m³ fume</td>
</tr>
</tbody>
</table>

ACGIH TLV: American Conference of Governmental Industrial Hygienists - Threshold Limit Value OSHA PEL: Occupational Safety and Health Administration - Permissible Exposure Limits NIOSH IDLH Immediately Dangerous to Life or Health

Appropriate engineering controls

Engineering Measures
Showers
Eyewash stations
Ventilation systems

Individual protection measures, such as personal protective equipment

Eye/face protection
Wear safety glasses with side shields (or goggles).

Skin and body protection
Wear protective gloves and protective clothing.

Respiratory protection
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
Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Wash hands before breaks and immediately after handling the product.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical and Chemical Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Values</th>
<th>Remarks</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Solid</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Appearance</td>
<td>Silver</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Color</td>
<td>No information available</td>
<td>Odor</td>
<td>None</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>No information available</td>
<td></td>
<td></td>
</tr>
<tr>
<td>pH</td>
<td>No data available</td>
<td>None known</td>
<td></td>
</tr>
<tr>
<td>Melting / freezing point</td>
<td>No data available</td>
<td>None known</td>
<td></td>
</tr>
<tr>
<td>Boiling point / boiling range</td>
<td>No data available</td>
<td>None known</td>
<td></td>
</tr>
<tr>
<td>Flash Point</td>
<td>No data available</td>
<td>None known</td>
<td></td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>No data available</td>
<td>None known</td>
<td></td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>No data available</td>
<td>None known</td>
<td></td>
</tr>
</tbody>
</table>
10. STABILITY AND REACTIVITY

Reactivity

No data available.

Chemical stability

Stable under recommended storage conditions.

Possibility of Hazardous Reactions

None under normal processing.

Conditions to avoid

None known based on information supplied.

Incompatible materials

None known based on information supplied.

Hazardous Decomposition Products

None known based on information supplied.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Product does not present an acute toxicity hazard based on known or supplied information. In case of rupture:.

Inhalation

Specific test data for the substance or mixture is not available.

Eye contact

Specific test data for the substance or mixture is not available. Causes serious eye irritation. (based on components). May cause redness, itching, and pain.

Skin contact

Specific test data for the substance or mixture is not available.

Ingestion

Specific test data for the substance or mixture is not available.

Component Information

No information available
Information on toxicological effects

Symptoms
May cause redness and tearing of the eyes.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Sensitization
No information available.

Mutagenic Effects
No information available.

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

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH</th>
<th>IARC</th>
<th>NTP</th>
<th>OSHA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lithium Cobalt Oxide (CoLiO2)</td>
<td>A3</td>
<td>Group 2B</td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

ACGIH (American Conference of Governmental Industrial Hygienists)
A3 - Animal Carcinogen
IARC (International Agency for Research on Cancer)
Group 2B - Possibly Carcinogenic to Humans
OSHA (Occupational Safety and Health Administration of the US Department of Labor)
X - Present

Reproductive toxicity
No information available.

STOT - single exposure
No information available.

STOT - repeated exposure
No information available.

Chronic Toxicity
Contains a known or suspected carcinogen.

Target Organ Effects

Aspiration Hazard
No information available.

Numerical measures of toxicity  Product Information

The following values are calculated based on chapter 3.1 of the GHS document
12. ECOLOGICAL INFORMATION

Ecotoxicity
Very toxic to aquatic life with long lasting effects.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Toxicity to Algae</th>
<th>Toxicity to Fish</th>
<th>Toxicity to Microorganisms</th>
<th>Daphnia Magna (Water Flea)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Copper</td>
<td>96h EC50: 0.031 - 0.054 mg/L (Pseudokirchneriella subcapitata)</td>
<td>96h LC50: 0.0068 - 0.0156 mg/L (Pimephales promelas)</td>
<td>96h LC50: = 0.112 mg/L (Poecilia reticulata)</td>
<td>48h EC50: = 0.03 mg/L</td>
</tr>
<tr>
<td>7440-50-8</td>
<td>72h EC50: 0.0426 - 0.0535 mg/L (Pseudokirchneriella subcapitata)</td>
<td>96h LC50: = 0.0068 - 0.0156 mg/L (Pimephales promelas)</td>
<td>96h LC50: = 0.112 mg/L (Poecilia reticulata)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>96h EC50: = 0.031 mg/L (Cyprinus carpio)</td>
<td>96h LC50: = 0.112 mg/L (Poecilia reticulata)</td>
<td>96h LC50: = 0.0068 - 0.0156 mg/L (Pimephales promelas)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>96h LC50: = 0.3 mg/L (Cyprinus carpio)</td>
<td>96h LC50: = 0.112 mg/L (Poecilia reticulata)</td>
<td>96h LC50: = 0.0068 - 0.0156 mg/L (Pimephales promelas)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>96h LC50: = 1.25 mg/L (Lepomis macrochirus)</td>
<td>96h LC50: = 0.052 mg/L (Oncorhynchus mykiss)</td>
<td>96h LC50: = 0.0068 - 0.0156 mg/L (Pimephales promelas)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>96h LC50: = 0.8 mg/L (Cyprinus carpio)</td>
<td>96h LC50: = 0.112 mg/L (Poecilia reticulata)</td>
<td>96h LC50: = 0.0068 - 0.0156 mg/L (Pimephales promelas)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>96h LC50: = 1.25 mg/L (Lepomis macrochirus)</td>
<td>96h LC50: = 0.112 mg/L (Poecilia reticulata)</td>
<td>96h LC50: = 0.0068 - 0.0156 mg/L (Pimephales promelas)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>96h LC50: = 0.052 mg/L (Oncorhynchus mykiss)</td>
<td>96h LC50: = 0.112 mg/L (Poecilia reticulata)</td>
<td>96h LC50: = 0.0068 - 0.0156 mg/L (Pimephales promelas)</td>
<td></td>
</tr>
</tbody>
</table>

Persistence and Degradability
No information available.

Bioaccumulation
No information available

Other adverse effects
No information available.

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal methods
This material, as supplied, is not a hazardous waste according to Federal regulations (40 CFR 261). This material could become a hazardous waste if it is mixed with or otherwise comes in contact with a hazardous waste, if chemical additions are made to this material, or if the material is processed or otherwise altered. Consult 40 CFR 261 to determine whether the altered material is a hazardous waste. Consult the appropriate state, regional, or local regulations for additional requirements.

Contaminated Packaging
Dispose of contents/containers 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.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>California Hazardous Waste</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lithium Cobalt Oxide (CoLiO2) 12190-79-3</td>
<td>Toxic</td>
</tr>
<tr>
<td>Aluminum 7429-90-5</td>
<td>Ignitable powder</td>
</tr>
<tr>
<td>Copper 7440-50-8</td>
<td>Toxic</td>
</tr>
</tbody>
</table>

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
Proper Shipping Name: NOT REGULATED
Hazard Class: N/A
Emergency Response Guide Number: 147

TDG
Not regulated

MEX
Not regulated

ICAO
Not regulated

IATA
Proper Shipping Name: NON REGULATED
Hazard Class: N/A

IMDG/IMO
Hazard Class: N/A
EmS-No.: F-A, S-I

RID
Not regulated

ADR
Not regulated

ADN
Not regulated

15. REGULATORY INFORMATION

International Inventories

TSCA
Complies

DSL
All components are listed either on the DSL or NDSL.

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

US 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

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS No</th>
<th>Weight-%</th>
<th>SARA 313 - Threshold Values %</th>
</tr>
</thead>
</table>
Lithium Cobalt Oxide (CoLiO2) - 12190-79-3  
12190-79-3  
15 - 40  
0.1  
Aluminum - 7429-90-5  
7429-90-5  
7 - 13  
1.0  
Copper - 7440-50-8  
7440-50-8  
5 - 10  
1.0

SARA 311/312 Hazard Categories

<table>
<thead>
<tr>
<th>Category</th>
<th>Yes/No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute Health Hazard</td>
<td>Yes</td>
</tr>
<tr>
<td>Chronic Health Hazard</td>
<td>Yes</td>
</tr>
<tr>
<td>Fire Hazard</td>
<td>No</td>
</tr>
<tr>
<td>Sudden release of pressure hazard</td>
<td>No</td>
</tr>
<tr>
<td>Reactive Hazard</td>
<td>No</td>
</tr>
</tbody>
</table>

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)

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CWA - Reportable Quantities</th>
<th>CWA - Toxic Pollutants</th>
<th>CWA - Priority Pollutants</th>
<th>CWA - Hazardous Substances</th>
</tr>
</thead>
<tbody>
<tr>
<td>Copper</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7440-50-8</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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)

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Hazardous Substances RQs</th>
<th>Extremely Hazardous Substances RQs</th>
<th>RQ</th>
</tr>
</thead>
<tbody>
<tr>
<td>Copper</td>
<td>5000 lb</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7440-50-8</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>RQ 5000 lb final RQ</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>RQ 2270 kg final RQ</td>
<td></td>
</tr>
</tbody>
</table>

US State Regulations

California Proposition 65
This product contains the following Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>New Jersey</th>
<th>Massachusetts</th>
<th>Pennsylvania</th>
<th>Rhode Island</th>
<th>Illinois</th>
</tr>
</thead>
</table>
| Lithium Cobalt Oxide (CoLiO2)  
12190-79-3     | X          |               | X            | X            | X        |
| Carbon        |            |               | X            |              |          |
| 7440-44-0     |            |               |              |              |          |
| Ethylene carbonate  
96-49-1        |            | X             | X            |              |          |
| Aluminum      |            |               | X            | X            | X        |
| 7429-90-5     |            |               |              |              |          |
| Copper        |            |               | X            | X            | X        |
| 7440-50-8     |            |               |              |              |          |
| Tin           |            | X             | X            |              |          |
| 7440-31-5     |            |               |              |              |          |

International Regulations

Mexico
National occupational exposure limits

<table>
<thead>
<tr>
<th>Component</th>
<th>Carcinogen Status</th>
<th>Exposure Limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aluminum</td>
<td></td>
<td>Mexico: TWA= 10 mg/m³</td>
</tr>
<tr>
<td>7429-90-5</td>
<td>(7 - 13)</td>
<td></td>
</tr>
<tr>
<td>Copper</td>
<td></td>
<td>Mexico: TWA= 1 mg/m³</td>
</tr>
<tr>
<td>7440-50-8</td>
<td>(5 - 10)</td>
<td>Mexico: TWA= 0.2 mg/m³</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mexico: STEL= 2 mg/m³</td>
</tr>
</tbody>
</table>

Mexico - Occupational Exposure Limits - Carcinogens

Canada
WHMIS Hazard Class
Non-controlled

### 16. OTHER INFORMATION

<table>
<thead>
<tr>
<th>NFPA</th>
<th>Health Hazards</th>
<th>Flammability</th>
<th>Instability</th>
<th>Physical and Chemical Hazards</th>
<th>Physical Hazard</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>0</td>
<td>0</td>
<td></td>
<td>0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>HMIS</th>
<th>Health Hazards</th>
<th>Flammability</th>
<th>Physical Hazard</th>
<th>Personal Protection</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>X</td>
</tr>
</tbody>
</table>

**Prepared By**
Product Stewardship
23 British American Blvd.
Latham, NY 12110
1-800-572-6501

**Revision Date**
07-Jul-2015

**Revision Note**
No information available

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

Product identifier

Product Name G3HTA023H

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 Simplo Technology

Supplier Address No.471,Sec.2, Pa The Rd., Hu Kou 303, Hsin Chu Hsien, Taiwan

Hsin Chu County

Taiwan

351

TW

Supplier Phone Number Phone:+88635695920

Fax:+88635695931

Supplier Email Anderson_Hsu@simplo.com.cn

Emergency telephone number

Company Emergency Phone Number +88635695920

2. HAZARDS IDENTIFICATION

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.

<table>
<thead>
<tr>
<th>Acute toxicity - Oral</th>
<th>Category 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity - Inhalation (Gases)</td>
<td>Category 4</td>
</tr>
</tbody>
</table>
Skin sensitization
Category 1
Carcinogenicity
Category 1A
Specific target organ toxicity (repeated exposure)
Category 1

GHS Label elements, including precautionary statements

<table>
<thead>
<tr>
<th>Signal word</th>
<th>Danger</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hazard Statements</td>
<td></td>
</tr>
<tr>
<td>Harmful if swallowed</td>
<td></td>
</tr>
<tr>
<td>Harmful if inhaled</td>
<td></td>
</tr>
<tr>
<td>May cause an allergic skin reaction</td>
<td></td>
</tr>
<tr>
<td>May cause cancer</td>
<td></td>
</tr>
<tr>
<td>Causes damage to organs through prolonged or repeated exposure</td>
<td></td>
</tr>
</tbody>
</table>

This product is an article which contains a chemical substance. Safety information is given for exposure to the article as sold. Intended use of the product should not result in exposure to the chemical substance. This is a battery. In case of rupture: the above hazards exist.

<table>
<thead>
<tr>
<th>Appearance</th>
<th>Silver</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Solid</td>
</tr>
<tr>
<td>Odor</td>
<td>None</td>
</tr>
</tbody>
</table>

Precautionary Statements - Prevention
Obtain special instructions before use
Do not handle until all safety precautions have been read and understood
Use personal protective equipment as required
Wash face, hands and any exposed skin thoroughly after handling
Do not eat, drink or smoke when using this product
Use only outdoors or in a well-ventilated area
Contaminated work clothing should not be allowed out of the workplace
Wear protective gloves
Do not breathe dust/fume/gas/mist/vapors/spray

Precautionary Statements - Response
IF exposed or concerned: Get medical advice/attention
Specific treatment (see supplemental first aid instructions on this label)

Skin
IF ON SKIN: Wash with plenty of soap and water
If skin irritation or rash occurs: Get medical advice/attention
Wash contaminated clothing before reuse

Inhalation
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing

Ingestion
IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
Rinse mouth
Precautionary Statements - Storage
Store locked up

Precautionary Statements - Disposal
Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)
Not applicable

Unknown Toxicity
19.6 % of the mixture consists of ingredient(s) of unknown toxicity

Other information
Causes mild skin irritation
Very toxic to aquatic life with long lasting effects
Repeated or prolonged skin contact may cause allergic reactions with susceptible persons

Interactions with Other Chemicals
No information available.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS No</th>
<th>Weight-%</th>
<th>Trade Secret</th>
</tr>
</thead>
<tbody>
<tr>
<td>Copper</td>
<td>7440-50-8</td>
<td>5 - 10</td>
<td>*</td>
</tr>
<tr>
<td>Aluminum</td>
<td>7429-90-5</td>
<td>3 - 7</td>
<td>*</td>
</tr>
</tbody>
</table>

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

### 4. FIRST AID MEASURES

**First aid measures**

**General Advice**
First aid is upon rupture of sealed battery.

**Eye contact**
Rinse thoroughly with plenty of water, also under the eyelids. If symptoms persist, call a physician.

**Skin contact**
Wash with soap and water. May cause an allergic skin reaction. In the case of skin irritation or allergic reactions see a physician.

**Inhalation**
Remove to fresh air.

**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.

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

**Most Important Symptoms and Effects**
Itching. Coughing and/ or wheezing.

**Indication of any immediate medical attention and special treatment needed**
Notes to Physician May cause sensitization in susceptible persons. Treat symptomatically.

5. 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
Carbon oxides.

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.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions
In case of rupture: Avoid contact with skin, eyes or clothing. Use personal protective equipment as required. Ensure adequate ventilation. Evacuate personnel to safe areas.

Other Information
Refer to protective measures listed in Sections 7 and 8.

Environmental precautions

Environmental precautions
Refer to protective measures listed in Sections 7 and 8.

Methods and material for containment and cleaning up

Methods for containment
Prevent further leakage or spillage if safe to do so.

Methods for cleaning up
Pick up and transfer to properly labeled containers.
7. HANDLING AND STORAGE

Precautions for safe handling

Handling

In case of rupture: Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash before reuse.

Conditions for safe storage, including any incompatibilities

Storage

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

Incompatible Products

None known based on information supplied.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH TLV</th>
<th>OSHA PEL</th>
<th>NIOSH IDLH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Copper 7440-50-8</td>
<td>TWA: 0.2 mg/m³ fume TWA: 1 mg/m³ Cu dust and mist</td>
<td>TWA: 0.1 mg/m³ fume TWA: 1 mg/m³ dust and mist (vacated) TWA: 0.1 mg/m³ Cu dust, fume, mist</td>
<td>IDLH: 100 mg/m³ dust, fume and mist TWA: 1 mg/m³ dust and mist TWA: 0.1 mg/m³ fume</td>
</tr>
<tr>
<td>Aluminum 7429-90-5</td>
<td>TWA: 1 mg/m³ respirable fraction</td>
<td>TWA: 15 mg/m³ total dust TWA: 5 mg/m³ respirable fraction (vacated) TWA: 15 mg/m³ total dust (vacated) TWA: 5 mg/m³ respirable fraction (vacated) TWA: 5 mg/m³ Al</td>
<td>TWA: 10 mg/m³ total dust TWA: 5 mg/m³ respirable dust</td>
</tr>
</tbody>
</table>

ACGIH TLV: American Conference of Governmental Industrial Hygienists - Threshold Limit Value
OSHA PEL: Occupational Safety and Health Administration - Permissible Exposure Limits
NIOSH IDLH: Immediately Dangerous to Life or Health

Appropriate engineering controls

Engineering Measures

Showers
Eyewash stations
Ventilation systems

Individual protection measures, such as personal protective equipment

Eye/face protection

If splashes are likely to occur:. Wear safety glasses with side shields (or goggles). None required for consumer use.

Skin and body protection

Wear protective gloves and protective clothing.

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. Wash hands before breaks and immediately after handling the product.
9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state | Solid
Color | No information available

Properties:
- pH: No data available
- Melting / freezing point: No data available
- Boiling point / boiling range: No data available
- Flash Point: No data available
- Evaporation Rate: No data available
- Flammability (solid, gas): No data available
- Flammability Limit in Air:
  - Upper flammability limit: No data available
  - Lower flammability limit: No data available
- Vapor pressure: No data available
- Vapor density: No data available
- Specific Gravity: No data available
- Water Solubility: Insoluble
- Solubility in other solvents: No data available
- Partition coefficient: n-octanol/water: No data available
- Autoignition temperature: No data available
- Decomposition temperature: No data available
- Kinematic viscosity: No data available
- Dynamic viscosity: No data available
- 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: No data available

10. 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
None known based on information supplied.

Hazardous Decomposition Products
Carbon oxides.

11. TOXICOLOGICAL INFORMATION
Information on likely routes of exposure

Product Information

In case of rupture:

Inhalation
Specific test data for the substance or mixture is not available. Harmful by inhalation. 
(based on components).

Eye contact
Specific test data for the substance or mixture is not available.

Skin contact
Specific test data for the substance or mixture is not available.

Ingestion
Specific test data for the substance or mixture is not available. Harmful if swallowed. (based on components).

Component Information

Information on toxicological effects

Symptoms

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Sensitization
May cause sensitization in susceptible persons. May cause sensitization by skin contact.

Mutagenic Effects
No information available.

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

ACGIH (American Conference of Governmental Industrial Hygienists)
A1 - Known Human Carcinogen
A3 - Animal Carcinogen

IARC (International Agency for Research on Cancer)
Group 1 - Carcinogenic to Humans
Group 2B - Possibly Carcinogenic to Humans

NTP (National Toxicology Program)
Known - Known Carcinogen

OSHA (Occupational Safety and Health Administration of the US Department of Labor)
X - Present

Reproductive toxicity
No information available.

STOT - single exposure
No information available.

STOT - repeated exposure
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).

Chronic Toxicity
No known effect based on information supplied. Contains a known or suspected carcinogen. Avoid repeated exposure. Prolonged exposure may cause chronic effects.

Target Organ Effects

Aspiration Hazard
No information available.

Numerical measures of toxicity  Product Information
The following values are calculated based on chapter 3.1 of the GHS document

| ATEmix (oral)   | 1,016.00 mg/kg |
| ATEmix (inhalation-gas) | 18,459.00 ppm (4 hr) |
| ATEmix (inhalation-dust/mist) | 6.12 mg/l |
| ATEmix (inhalation-vapor) | 45.12 ATEmix |

12. ECOLOGICAL INFORMATION

**Ecotoxicity**
Very toxic to aquatic life with long lasting effects.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Toxicity to Algae</th>
<th>Toxicity to Fish</th>
<th>Toxicity to Microorganisms</th>
<th>Daphnia Magna (Water Flea)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Copper 7440-50-8</td>
<td>96h EC50: 0.031 - 0.054 mg/L (Pseudokirchneriella subcapitata) 72h EC50: 0.0426 - 0.0535 mg/L (Pseudokirchneriella subcapitata)</td>
<td>96h LC50: = 0.0068 - 0.0156 mg/L (Pimephales promelas) 96h LC50: = 0.112 mg/L (Poecilia reticulata) 96h LC50: = 0.3 mg/L (Cyprinus carpio) 96h LC50: = 1.25 mg/L (Lepomis macrochirus) 96h LC50: = 0.052 mg/L (Oncorhynchus mykiss)</td>
<td>96h LC50: = 0.2 mg/L (Pimephales promelas) 96h LC50: &lt; 0.3 mg/L (Pimephales promelas)</td>
<td>48h EC50: = 0.03 mg/L</td>
</tr>
</tbody>
</table>

**Persistence and Degradability**
No information available.

**Bioaccumulation**

**Other adverse effects**
No information available.
13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal methods

This material, as supplied, is not a hazardous waste according to Federal regulations (40 CFR 261). This material could become a hazardous waste if it is mixed with or otherwise comes in contact with a hazardous waste, if chemical additions are made to this material, or if the material is processed or otherwise altered. Consult 40 CFR 261 to determine whether the altered material is a hazardous waste. Consult the appropriate state, regional, or local regulations for additional requirements.

Contaminated Packaging

Dispose of contents/containers 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.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>California Hazardous Waste</th>
</tr>
</thead>
<tbody>
<tr>
<td>Copper</td>
<td>Toxic</td>
</tr>
<tr>
<td>7440-50-8</td>
<td></td>
</tr>
<tr>
<td>Aluminum</td>
<td>Ignitable powder</td>
</tr>
<tr>
<td>7429-90-5</td>
<td></td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Proper Shipping Name</th>
<th>NON-REGULATED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hazard Class</td>
<td>N/A</td>
</tr>
<tr>
<td>Emergency Response Guide Number</td>
<td>147</td>
</tr>
</tbody>
</table>

TDG

Not regulated

MEX

Not regulated

ICAO

Not regulated

IATA

<table>
<thead>
<tr>
<th>Proper Shipping Name</th>
<th>NON REGULATED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hazard Class</td>
<td>N/A</td>
</tr>
</tbody>
</table>
IMDG/IMO
- Not regulated

Hazard Class
- N/A

EmS-No.
- F-A, S-I

RID
- Not regulated

ADR
- Not regulated

ADN
- Not regulated

### 15. REGULATORY INFORMATION

**International Inventories**

TSCA
- Complies

DSL
- All components are listed either on the DSL or NDSL.

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory

**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List

**US 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

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS No</th>
<th>Weight-%</th>
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</thead>
<tbody>
<tr>
<td>Copper - 7440-50-8</td>
<td>7440-50-8</td>
<td>5 - 10</td>
<td>1.0</td>
</tr>
<tr>
<td>Aluminum - 7429-90-5</td>
<td>7429-90-5</td>
<td>3 - 7</td>
<td>1.0</td>
</tr>
</tbody>
</table>

**SARA 311/312 Hazard Categories**

- Acute Health Hazard: No
- Chronic Health Hazard: No
- Fire Hazard: No
- Sudden release of pressure hazard: No
- Reactive Hazard: No

**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)

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CWA - Reportable Quantities</th>
<th>CWA - Toxic Pollutants</th>
<th>CWA - Priority Pollutants</th>
<th>CWA - Hazardous Substances</th>
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<tbody>
<tr>
<td>Copper - 7440-50-8</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>

**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)

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Hazardous Substances RQS</th>
<th>Extremely Hazardous Substances RQS</th>
<th>RQ</th>
</tr>
</thead>
<tbody>
<tr>
<td>Copper - 7440-50-8</td>
<td>5000 lb</td>
<td></td>
<td>RQ 5000 lb final RQ</td>
</tr>
</tbody>
</table>

**US State Regulations**

**California Proposition 65**
This product contains the following Proposition 65 chemicals.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>California Proposition 65</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cobalt(II) oxide - 1307-96-6</td>
<td>Carcinogen</td>
</tr>
</tbody>
</table>
Nickel oxide - 1313-99-1  Carcinogen

U.S. State Right-to-Know Regulations

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>New Jersey</th>
<th>Massachusetts</th>
<th>Pennsylvania</th>
<th>Rhode Island</th>
<th>Illinois</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cobalt(II) oxide</td>
<td></td>
<td></td>
<td>X</td>
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<tr>
<td>1307-96-6</td>
<td></td>
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<td>X</td>
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<tr>
<td>Manganese dioxide</td>
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<td></td>
<td>X</td>
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<tr>
<td>1313-13-9</td>
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<td>X</td>
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<td>X</td>
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<tr>
<td>Nickel oxide</td>
<td>X</td>
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<tr>
<td>1313-99-1</td>
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<tr>
<td>Carbon</td>
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<td>X</td>
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<td>7440-44-0</td>
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<tr>
<td>Dimethyl carbonate</td>
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<td>616-38-6</td>
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<td>Aluminum</td>
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<td>X</td>
<td>X</td>
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<tr>
<td>7429-90-5</td>
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<td>X</td>
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<tr>
<td>Copper</td>
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<td>Tin</td>
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</tbody>
</table>

International Regulations

Mexico

National occupational exposure limits

<table>
<thead>
<tr>
<th>Component</th>
<th>Carcinogen Status</th>
<th>Exposure Limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Copper</td>
<td></td>
<td>Mexico: TWA= 1 mg/m³</td>
</tr>
<tr>
<td>7440-50-8 (5 - 10)</td>
<td></td>
<td>Mexico: TWA= 0.2 mg/m³</td>
</tr>
<tr>
<td>Aluminum</td>
<td></td>
<td>Mexico: STEL= 2 mg/m³</td>
</tr>
<tr>
<td>7429-90-5 (3 - 7)</td>
<td></td>
<td>Mexico: TWA= 10 mg/m³</td>
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</tbody>
</table>

Canada

WHMIS Hazard Class
Not determined

16. OTHER 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

Prepared By  Product Stewardship
            23 British American Blvd.
            Latham, NY 12110
            1-800-572-6501

Revision Date  14-Sep-2015
Revision Note  No information available

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End of Safety Data Sheet