# SAFETY DATA SHEET

**Issuing Date** 23-Aug-2016 **Revision Date** 21-Nov-2016 **Revision Number** 6



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

**Product identifier**

**Product Name** **Worx WA3575 20v 2.0Ah battery with indicator lights**

**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** Positec(Macao Commercial Offshore) Limited

**Supplier Address** 18 Dongwang Road, Suzhou Industrial Park
Suzhou
Jiangsu
215123
CN

**Supplier Phone Number** Phone:(86) 512 65152888
Fax:(86) 512 65152885

**Supplier Email** email@positecgroup.com

**Emergency telephone number**

**Company Emergency Phone Number** (86) 512 67631888-6310

## 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.

| | |
|---|---|
| Skin corrosion/irritation | Category 2 |
| Serious eye damage/eye irritation | Category 2A |

| | |
|---|---|
| Skin sensitization | Category 1 |
| Carcinogenicity | Category 1A |
| 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 irritation
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. .

**Appearance** No information available **Physical state** Solid **Odor** No information available

**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
Contaminated work clothing should not be allowed out of the workplace
Wear protective gloves
Do not breathe dust/fume/gas/mist/vapors/spray
Do not eat, drink or smoke when using this product
Wear eye/face protection

**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
If eye irritation persists: Get medical advice/attention

**Skin**
IF ON SKIN: Wash with plenty of soap and water
Take off contaminated clothing and wash before reuse
If skin irritation or rash occurs: 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**
50.18 % of the mixture consists of ingredient(s) of unknown toxicity

**Other information**

May be harmful if swallowed
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**
Use of alcoholic beverages may enhance toxic effects.

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

.

| Chemical name | CAS No | Weight-% | Trade Secret |
|---|---|---|---|
| Nylon-6 | 25038-54-4 | 15 - 40 | * |
| Iron | 7439-89-6 | 7 - 13 | * |
| Copper | 7440-50-8 | 5 - 10 | * |
| Lithium nickel oxide (LiNiO2) | 12031-65-1 | 1 - 5 | * |
| Aluminum | 7429-90-5 | 1 - 5 | * |
| Nickel | 7440-02-0 | 1 - 5 | * |
| Lithium manganese oxide (LiMn2O4) | 12057-17-9 | 1 - 5 | * |
| Manganese | 7439-96-5 | 1 - 5 | * |
| Lithium Cobalt Oxide (CoLiO2) | 12190-79-3 | 1 - 5 | * |
| PVC (Chloroethylene, polymer) | 9002-86-2 | 1 - 5 | * |
| Phosphate(1-), hexafluoro-, lithium | 21324-40-3 | 1 - 5 | * |
| Carbon black | 1333-86-4 | 0.1 - 1 | * |
| Silver | 7440-22-4 | 0.1 - 1 | * |

*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. Get medical attention if irritation develops and persists.

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

**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. Itching. Rashes. Hives. 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.

**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. 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** 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. 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. Store locked up. Keep out of the reach of children.

**Incompatible Products** Strong acids. Strong oxidizing agents. Strong bases.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Control parameters**

**Exposure Guidelines**

| Chemical name | ACGIH TLV | OSHA PEL | NIOSH IDLH |
|---|---|---|---|
| Copper<br>7440-50-8 | TWA: 0.2 mg/m³ fume TWA: 1 mg/m³ Cu dust and mist | TWA: 0.1 mg/m³ fume<br>TWA: 1 mg/m³ dust and mist<br>(vacated) TWA: 0.1 mg/m³ Cu dust, fume, mist | IDLH: 100 mg/m³ dust, fume and mist<br>TWA: 1 mg/m³ dust and mist<br>TWA: 0.1 mg/m³ fume |
| Lithium nickel oxide (LiNiO2)<br>12031-65-1 | TWA: 0.2 mg/m³ Ni inhalable particulate matter | TWA: 1 mg/m³ Ni<br>(vacated) TWA: 1 mg/m³ Ni | IDLH: 10 mg/m³ Ni<br>TWA: 0.015 mg/m³ except Nickel carbonyl Ni |
| Aluminum<br>7429-90-5 | TWA: 1 mg/m³ respirable particulate matter | TWA: 15 mg/m³ total dust<br>TWA: 5 mg/m³ respirable fraction<br>(vacated) TWA: 15 mg/m³ total dust<br>(vacated) TWA: 5 mg/m³ respirable fraction (vacated) TWA: 5 mg/m³ Al Aluminum | TWA: 10 mg/m³ total dust<br>TWA: 5 mg/m³ respirable dust |
| Nickel<br>7440-02-0 | TWA: 1.5 mg/m³ | TWA: 1 mg/m³<br>(vacated) TWA: 1 mg/m³ | IDLH: 10 mg/m³<br>TWA: 0.015 mg/m³ |
| Lithium manganese oxide (LiMn2O4)<br>12057-17-9 | TWA: 0.2 mg/m³ Mn | (vacated) Ceiling: 5 mg/m³<br>Ceiling: 5 mg/m³ Mn | IDLH: 500 mg/m³ Mn<br>TWA: 1 mg/m³ Mn<br>STEL: 3 mg/m³ Mn |
| Manganese<br>7439-96-5 | TWA: 0.02 mg/m³ respirable particulate matter<br>TWA: 0.1 mg/m³ inhalable particulate matter TWA: 0.02 mg/m³ Mn respirable particulate matter<br>TWA: 0.1 mg/m³ Mn inhalable particulate matter | (vacated) TWA: 1 mg/m³ fume<br>(vacated) STEL: 3 mg/m³ fume<br>(vacated) Ceiling: 5 mg/m³<br>Ceiling: 5 mg/m³ fume Ceiling: 5 mg/m³ Mn | IDLH: 500 mg/m³<br>TWA: 1 mg/m³ fume<br>STEL: 3 mg/m³ |
| Lithium Cobalt Oxide (CoLiO2)<br>12190-79-3 | TWA: 0.02 mg/m³ | - | |
| PVC (Chloroethylene, polymer)<br>9002-86-2 | TWA: 1 mg/m³ respirable particulate matter | - | |
| Phosphate(1-), hexafluoro-, lithium<br>21324-40-3 | TWA: 2.5 mg/m³ F | TWA: 2.5 mg/m³ F<br>TWA: 2.5 mg/m³ dust<br>(vacated) TWA: 2.5 mg/m³ | |
| Carbon black<br>1333-86-4 | TWA: 3 mg/m³ inhalable particulate matter | TWA: 3.5 mg/m³<br>(vacated) TWA: 3.5 mg/m³ | IDLH: 1750 mg/m³<br>TWA: 3.5 mg/m³<br>TWA: 0.1 mg/m³ Carbon black in presence of Polycyclic aromatic |

| | | | |
|---|---|---|---|
| | | | hydrocarbons PAH |
| Silver<br>7440-22-4 | TWA: 0.1 mg/m³ dust and fume | TWA: 0.01 mg/m³<br>(vacated) TWA: 0.01 mg/m³ | IDLH: 10 mg/m³ dust<br>TWA: 0.01 mg/m³ dust |

*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*

**Other Exposure Guidelines** Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992) See section 15 for national exposure control parameters

**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. Long sleeved clothing. Impervious gloves.

**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** 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**

| | | | |
|---|---|---|---|
| **Physical state** | Solid | | |
| **Appearance** | No information available | **Odor** | No information available |
| **Color** | No information available | **Odor Threshold** | No information available |

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

| | | |
|---|---|---|
| **Kinematic viscosity** | No data available | None known |
| **Dynamic viscosity** | No data available | None known |
| **Explosive properties** | No data available | |
| **Oxidizing properties** | No data available | |

**Other Information**

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

## 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**
Strong acids. Strong oxidizing agents. Strong bases.

**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. May cause irritation of respiratory tract. |
| **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. 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**

| Chemical name | Oral LD50 | Dermal LD50 | Inhalation LC50 |
|---|---|---|---|
| Iron<br>7439-89-6 | = 984 mg/kg ( Rat ) | - | - |
| Nickel<br>7440-02-0 | > 9000 mg/kg ( Rat ) | - | - |
| Manganese<br>7439-96-5 | = 9 g/kg ( Rat ) | - | - |
| Carbon black<br>1333-86-4 | > 15400 mg/kg ( Rat ) | > 3 g/kg ( Rabbit ) | - |
| Silver<br>7440-22-4 | > 2000 mg/kg ( Rat ) | - | - |

**Information on toxicological effects**

**Symptoms** Erythema (skin redness). May cause redness and tearing of the eyes. Itching. Rashes. Hives.

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

**Sensitization** 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.

| Chemical name | ACGIH | IARC | NTP | OSHA |
|---|---|---|---|---|
| Nylon-6<br>25038-54-4 | | Group 3 | | |
| Lithium nickel oxide (LiNiO2)<br>12031-65-1 | A1 | Group 1 | Known | X |
| Nickel<br>7440-02-0 | | Group 2B | Reasonably Anticipated | X |
| Lithium Cobalt Oxide (CoLiO2)<br>12190-79-3 | A3 | Group 2B | | X |
| PVC (Chloroethylene, polymer)<br>9002-86-2 | | Group 3 | | |
| Carbon black<br>1333-86-4 | A3 | Group 2B | | X |

*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*
*Group 3 - Not Classifiable as to Carcinogenicity in Humans*
*NTP (National Toxicology Program)*
*Known - Known Carcinogen*
*Reasonably Anticipated - Reasonably Anticipated to be a Human 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** | Contains a known or suspected carcinogen. Avoid repeated exposure. Prolonged exposure may cause chronic effects. May cause adverse effects on the bone marrow and blood-forming system. May cause adverse liver effects. Contains a known or suspected carcinogen. |
| **Target Organ Effects** | Respiratory system. Eyes. Skin. Gastrointestinal tract (GI). Blood. Central Nervous System (CNS). Central Vascular System (CVS). Kidney. Liver. Lungs. Nasal cavities. Digestive System. |
| **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)**
3,149.00 mg/kg
**ATEmix (dermal)**
13,968.00 mg/kg (ATE)

## 12. ECOLOGICAL INFORMATION

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

| Chemical name | Toxicity to Algae | Toxicity to Fish | Toxicity to Microorganisms | Daphnia Magna (Water Flea) |
|---|---|---|---|---|
| Iron<br>7439-89-6 | | 96h LC50: = 13.6 mg/L (Morone saxatilis) | | |
| Copper<br>7440-50-8 | 96h EC50: 0.031 - 0.054 mg/L (Pseudokirchneriella subcapitata) 72h EC50: 0.0426 - 0.0535 mg/L (Pseudokirchneriella subcapitata) | 96h LC50: 0.0068 - 0.0156 mg/L (Pimephales promelas) 96h LC50: = 1.25 mg/L (Lepomis macrochirus) 96h LC50: = 0.052 mg/L (Oncorhynchus mykiss) 96h LC50: = 0.2 mg/L (Pimephales promelas) 96h LC50: < 0.3 mg/L (Pimephales promelas) 96h LC50: = 0.112 mg/L (Poecilia reticulata) 96h LC50: = 0.3 mg/L (Cyprinus carpio) 96h LC50: = 0.8 mg/L (Cyprinus carpio) | | 48h EC50: = 0.03 mg/L |
| Nickel<br>7440-02-0 | 72h EC50: = 0.18 mg/L (Pseudokirchneriella subcapitata) 96h EC50: 0.174 - 0.311 mg/L (Pseudokirchneriella subcapitata) | 96h LC50: > 100 mg/L (Brachydanio rerio) 96h LC50: = 1.3 mg/L (Cyprinus carpio) 96h LC50: = 10.4 mg/L (Cyprinus carpio) | | 48h EC50: > 100 mg/L 48h EC50: = 1 mg/L |
| Carbon black<br>1333-86-4 | | | | 24h EC50: > 5600 mg/L |
| Silver<br>7440-22-4 | | 96h LC50: = 0.064 mg/L (Lepomis macrochirus) 96h LC50: = 0.0062 mg/L (Oncorhynchus mykiss) 96h LC50: 0.00155 - 0.00293 mg/L (Pimephales promelas) | | 48h EC50: = 0.00024 mg/L |

**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 a hazardous waste according to federal regulations (40 CFR 261).

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

**US EPA Waste Number** D011

**California Hazardous Waste Codes** 141

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

| Chemical name | California Hazardous Waste |
|---|---|
| Copper<br>7440-50-8 | Toxic |
| Aluminum<br>7429-90-5 | Ignitable powder |
| Nickel<br>7440-02-0 | Toxic powder<br>Ignitable powder |
| Manganese<br>7439-96-5 | Ignitable powder |
| Lithium Cobalt Oxide (CoLiO2)<br>12190-79-3 | Toxic |
| Silver<br>7440-22-4 | Toxic |

## 14. TRANSPORT INFORMATION

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

**DOT** NOT REGULATED
- **Proper Shipping Name** NON-REGULATED
- **Hazard Class** N/A
- **Emergency Response Guide Number** 147

**TDG** Not regulated

**MEX** Not regulated

**ICAO** Not regulated

**IATA** Not regulated
**Proper Shipping Name** NON REGULATED
**Hazard Class** N/A

**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 Not determined
DSL Not determined

**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

| Chemical name | CAS No | Weight-% | SARA 313 - Threshold Values % |
|---|---|---|---|
| Copper - 7440-50-8 | 7440-50-8 | 5 - 10 | 1.0 |
| Lithium nickel oxide (LiNiO2) - 12031-65-1 | 12031-65-1 | 1 - 5 | 0.1 |
| Aluminum - 7429-90-5 | 7429-90-5 | 1 - 5 | 1.0 |
| Nickel - 7440-02-0 | 7440-02-0 | 1 - 5 | 0.1 |
| Lithium manganese oxide (LiMn2O4) - 12057-17-9 | 12057-17-9 | 1 - 5 | 1.0 |
| Manganese - 7439-96-5 | 7439-96-5 | 1 - 5 | 1.0 |
| Lithium Cobalt Oxide (CoLiO2) - 12190-79-3 | 12190-79-3 | 1 - 5 | 0.1 |
| Silver - 7440-22-4 | 7440-22-4 | 0.1 - 1 | 1.0 |

**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)

| Chemical name | CWA - Reportable Quantities | CWA - Toxic Pollutants | CWA - Priority Pollutants | CWA - Hazardous Substances |
|---|---|---|---|---|
| Copper 7440-50-8 | | X | X | |
| Lithium nickel oxide (LiNiO2) 12031-65-1 | | X | | |
| Nickel 7440-02-0 | | X | X | |
| Silver | | X | X | |

| | | | | |
|---|---|---|---|---|
| 7440-22-4 | | | | |

**CERCLA**

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

| Chemical name | Hazardous Substances RQs | Extremely Hazardous Substances RQs | RQ |
|---|---|---|---|
| Copper<br>7440-50-8 | 5000 lb | | RQ 5000 lb final RQ<br>RQ 2270 kg final RQ |
| Nickel<br>7440-02-0 | 100 lb | | RQ 100 lb final RQ<br>RQ 45.4 kg final RQ |
| Silver<br>7440-22-4 | 1000 lb | | RQ 1000 lb final RQ<br>RQ 454 kg final RQ |

## US State Regulations

**California Proposition 65**

This product contains the following Proposition 65 chemicals.

| Chemical name | California Proposition 65 |
|---|---|
| Lithium nickel oxide (LiNiO2) - 12031-65-1 | Carcinogen |
| Nickel - 7440-02-0 | Carcinogen |
| Carbon black - 1333-86-4 | Carcinogen |
| Lithium carbonate - 554-13-2 | Developmental |
| Titanium dioxide - 13463-67-7 | Carcinogen |

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

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| Chemical name | New Jersey | Massachusetts | Pennsylvania | Rhode Island | Illinois |
|---|---|---|---|---|---|
| Copper<br>7440-50-8 | X | X | X | X | X |
| Lithium nickel oxide (LiNiO2)<br>12031-65-1 | X | | X | X | X |
| Aluminum<br>7429-90-5 | X | X | X | X | |
| Nickel<br>7440-02-0 | X | X | X | X | X |
| Lithium manganese oxide (LiMn2O4)<br>12057-17-9 | X | | X | X | X |
| Dimethyl carbonate<br>616-38-6 | X | X | X | | |
| Manganese<br>7439-96-5 | X | X | X | X | X |
| Lithium Cobalt Oxide (CoLiO2)<br>12190-79-3 | X | | X | X | X |
| Oxygen<br>7782-44-7 | X | X | X | | |
| PVC (Chloroethylene, polymer)<br>9002-86-2 | X | | | | |
| Phosphate(1-), hexafluoro-, lithium<br>21324-40-3 | X | | | | |
| Carbon black<br>1333-86-4 | X | X | X | | X |
| Lithium carbonate<br>554-13-2 | X | X | | X | |
| Tin<br>7440-31-5 | X | X | X | | |
| Silver<br>7440-22-4 | X | X | X | X | |

## International Regulations

**Mexico**

### National occupational exposure limits

| Chemical name | Carcinogen Status | Exposure Limits |
|---|---|---|
| Copper | | Mexico: TWA= 1 mg/m³<br>Mexico: TWA= 0.2 mg/m³<br>Mexico: STEL= 2 mg/m³ |
| Aluminum | | Mexico: TWA= 10 mg/m³ |
| Nickel | | Mexico: TWA 1 mg/m³ |
| Lithium manganese oxide (LiMn2O4) | | Mexico: TWA 0.2 mg/m³ |
| Manganese | | Mexico: TWA 0.2 mg/m³<br>Mexico: TWA 1 mg/m³<br>Mexico: STEL 3 mg/m³ |
| Carbon black | | Mexico: TWA 3.5 mg/m³<br>Mexico: STEL 7 mg/m³ |
| Silver | | Mexico: TWA 0.1 mg/m³ |

*Mexico - Occupational Exposure Limits - Carcinogens*

**Canada**
**WHMIS Hazard Class**
Non-controlled

## 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 |

**Chronic Hazard Star Legend** * = Chronic Health Hazard

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**End of Safety Data Sheet**