

# Article Information Sheet

Product name: Rechargeable Li-ion Polymer Battery

Printing date: 18-Dec-2019

## Article Information Sheet (AIS)

This Article Information Sheet (AIS) provides relevant battery information to retailers, consumers, OEMs and other users requesting a GHS - compliant SDS. Articles, such as batteries, are exempt from GHS SDS classification criteria. The GHS criteria is not designed or intended to be used to classify the physical, health and environmental hazards of an article. Branded consumer batteries are defined as electro - technical devices. The design, safety, manufacture, and qualification of Energizer branded consumer batteries follow ANSI and IEC battery standards.

### 1. DOCUMENT INFORMATION

Product name:	Rechargeable Li-ion Polymer Battery
Model:	801828
Issue Date:	18-Dec-2019

### 2. COMPANY INFORMATION

Company name(China)	DONGGUAN GOLDEN CEL BATTERY CO.,LTD
Address:	No.11, Yinhu Industrial park, JiaoYiTang Management Zone, TangXia, DongGuan, GuangDong, China
E-mail:	zhirongjian@celbattery.com
Telephone:	+86-769-82195308-8016

### 3. ARTICLE INFORMATION

Description	Rechargeable Li-ion Polymer Battery
Use	LITHIUM ION BATTERY
Brand	----
Image	

### 4. ARTICLE CONSTRUCTION

**IMPORTANT NOTE:** The battery should not be opened or burned. Exposure to the ingredients contained within or their combustion products could be harmful.

Chemical name	CAS No.	Concentration%
Lithium Cobalt Oxide (CoLiO <sub>2</sub> )	12190-79-3	36.6
Graphite powder	7782-42-5	18.6
Phosphate(1-), hexafluoro-, lithium	21324-40-3	18.6
Copper	7440-50-8	11.5
Aluminum	7429-90-5	11.2

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Nickel

7440-02-0

3.5

## 5. HEALTH AND SAFETY

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 or poison control center immediately.
Inhalation:	Remove to fresh air. If breathing has stopped, give artificial respiration. Get medical attention immediately. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. If breathing is difficult, (trained personnel should) give oxygen. Delayed pulmonary edema may occur. Get medical attention immediately if symptoms occur.
Skin contact:	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Immediate medical attention is required. May cause an allergic skin reaction.
Eye contact:	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Do not rub affected area. Remove contact lenses, if present and easy to do. Continue rinsing. Seek immediate medical attention/advice.
Self-protection of the first aider:	Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Avoid contact with skin, eyes or clothing. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Use personal protective equipment as required. Wear personal protective clothing (see section 8).

## 6. FIRE HAZARD & FIREFIGHTING

Fire Hazard	Batteries may rupture or leak if involved in a fire.
Extinguishing Media	Use any extinguishing media appropriate for the surrounding area.
Special hazards arising from the chemical	In case of fire where lithium batteries are present, flood area with water or smother with a Class D fire extinguishant appropriate for lithium metal, such as Lith-X. Water may not extinguish burning batteries but will cool the adjacent batteries and control the spread of fire. Burning batteries will burn themselves out. Virtually all fires involving lithium batteries can be controlled by flooding with water. However, the contents of the battery will react with water and form hydrogen gas. In a confined space, hydrogen gas can form an explosive mixture. In this situation, smothering agents are recommended. A smothering agent will extinguish burning lithium batteries.
Precautions for fire-fighters	Emergency Responders should wear self-contained breathing apparatus. Burning lithium manganese dioxide batteries produce toxic and corrosive lithium hydroxide fumes.

## 7. HANDLING AND STORAGE

Storage	Store in a cool, well ventilated area. Elevated temperatures can result in shortened battery
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	life. In locations that handle large quantities of lithium batteries, such as warehouses, lithium batteries should be isolated from unnecessary combustibles.
Handling	Avoid mechanical and electrical abuse. Do not short circuit or install incorrectly. Batteries may rupture or vent if disassembled, crushed, recharged or exposed to high temperatures. Install batteries in accordance with equipment instructions.
Spills of Large Quantities Batteries (unpackaged)	Notify spill personnel of large spills. Irritating and flammable vapors may be released from leaking or ruptured batteries. Spread batteries apart to stop shorting. Eliminate all ignition sources. Evacuate area and allow vapors to dissipate. Clean-up personnel should wear appropriate PPE to avoid eye and skin contact and inhalation of vapors or fumes. Increase ventilation. Carefully collect batteries and place in appropriate container for disposal. Remove any spilled liquid with absorbent material and contain for disposal.

## 8. DISPOSAL CONSIDERATIONS

Dispose of used (or excess) batteries in compliance with federal, state/provincial and local regulations. Do not accumulate large quantities of used batteries for disposal as accumulations could cause batteries to short-circuit. Do not incinerate. In countries, such as Canada and the EU, where there are regulations for the collection and recycling of batteries, consumers should dispose of their used batteries into the collection network at municipal depots and retailers. They should not dispose of batteries with household trash.

## 9. 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"

(a) UN number	3480&3481
(b) UN Proper shipping name	LITHIUM ION BATTERIES (including lithium ion polymer batteries) or; LITHIUM ION BATTERIES CONTAINED IN EQUIPMENT or LITHIUM ION BATTERIES PACKED WITH EQUIPMENT (including lithium ion polymer batteries)
(c) Transport hazard class(es)	9
(d) Packing group (if applicable)	IA
(e) Marine pollutant (Yes/No)	No
(f) Transport in bulk (according to Annex II of	No information available.

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## MARPOL 73/78 and the IBC Code)

(g) Special precautions

No information available.

(h) Organizations governing the transport of lithium batteries

Area	Method	Organization	Special Provision
U.S.A	Air, Rail, Road, Marine	DOT	49 CFR Section 173.185

## 10. REGULATORY INFORMATION

### (a) Safety, health and environmental regulations specific for the product in question

CAS No.	USA TSCA	EU EINECS	Japan ENCS	Korea ECL	China IECSC	Canada DSL
12190-79-3	Listed	Listed	Listed	Listed	Listed	Listed
7782-42-5	Listed	Listed	Not listed	Listed	Not listed	Listed
21324-40-3	Not listed	Not listed	Listed	Not listed	Listed	Not listed
7440-50-8	Not listed	Not listed	Listed	Not listed	Listed	Not listed
7429-90-5	Listed	Listed	Listed	Not listed	Listed	Listed
7440-02-0	Not listed	Listed	Listed	Listed	Not listed	Not listed

## 11. OTHER INFORMATION

TSCA: Toxic Substances Control Act, The American chemical inventory.  
DSL: Domestic Substances List  
EINECS: European Inventory of Existing Commercial chemical Substances  
ENCS: Japanese Existing and New Chemical Substances  
ECL: Existing Chemicals List, the Korean chemical inventory.  
IECSC: Inventory of existing chemical substances in China.

Because all of our batteries are defined as "articles", they are exempted from the requirements of the Hazard Communication Standard. The information in this AIS is provided all the relevant data fully and truly. However, the information is provided without any warranty on their absolute extensiveness and accuracy. This AIS was prepared to provide safety preventive measures for the users who have got professional training. The personal user who obtained this AIS should make independent judgment for the applicability of this AIS under special conditions. In these special cases, we do not assume responsibility for the damage.

----- End of the AIS -----

# Safety Data Sheet

According to HCS-2012 APPENDIX D TO §1910.1200

Version: 1.0/EN

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## 1. Identification

### (a) Product identifier

Product name: Rechargeable Li-ion Battery  
Address: Zhaojia Industrial Park, Kaizhou District, Chongqing, China

### (b) Other means of identification

Product description: Model: 541112  
Nominal Voltage: 3.7V  
Ampere-hour: 0.043Ah  
Typical Capacity: 45mAh  
Weight: 1.4g  
Dimension: 5.3mm×11.2mm×12.0mm(T×W×L)

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

Recommended use: Rechargeable Li-ion Battery  
Restriction on use: No information available.

### (d) Details of the supplier of the product

Company name(China): Chongqing VDL Electronics Co., Ltd.  
Address: Zhaojia Industrial park, Kaizhou District, Chongqing, China  
E-mail: [pur03@gdvd.com](mailto:pur03@gdvd.com)  
Telephone: +86-755-29961201

### (e) Emergency phone number

+86-755-29961201

## 2. Hazard(s) identification

### (a) Classification of the chemical

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.

Acute toxicity -Oral	Category 4
Skin corrosion/irritation	Category 1 Sub-category B
Serious eye damage/eye irritation	Category 1
Specific target organ toxicity (repeated exposure)	Category 1

### (b) GHS Label elements, including precautionary statements

#### Emergency Overview

**Signal word**

**Danger**

#### Hazard Statements

Harmful if swallowed Causes severe skin burns and eye damage  
Causes serious eye damage  
Causes damage to organs through prolonged or repeated exposure

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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

Do not breathe dust/fume/gas/mist/vapors/spray

Contaminated work clothing should not be allowed out of the workplace

Wear protective gloves

## Precautionary Statements – Response

Specific measures (see ? on this label)

Immediately call a POISON CENTER or doctor/physician

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

Call a POISON CENTER or doctor/physician if you feel unwell

Wash contaminated clothing before reuse

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower

If skin irritation or rash occurs: Get medical advice/attention

### Inhalation

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

Immediately call a POISON CENTER or doctor/physician

### Ingestion

IF SWALLOWED: Call a POISON CENTER or doctor/physician.

if you feel unwell, Rinse mouth. Don't induce vomiting

**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

### (c) Other information

Very toxic to aquatic life with long lasting effects;

Repeated or prolonged skin contact may cause allergic reactions with susceptible persons.

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## **(d) Interactions with Other Chemicals**

No information available.

## **3. Composition/information on ingredients**

### **(a) Mixtures information**

Chemical name	CAS No.	Concentration%
Lithium Cobalt Oxide	12190-79-3	37.7
Graphite powder	7782-42-5	12.6
Rubber	69028-37-1	3.2
Styrene-butadiene rubber(SBR)	61789-96-6	2.7
Polypropylene	9003-07-0	3.5
Polyethylene	9002-88-4	3.0
Lithium hexafluorophosphate	21324-40-3	11.2
Ethylene carbonate(EC)	96-49-1	4.2
Propylene carbonate(PC)	108-32-7	2.8
Copper	7440-50-8	9.6
Aluminium	7429-90-5	9.5

## **4. First-aid measures**

### **(a) Description of first aid measures**

<b>General Advice</b>	First aid is upon rupture of sealed battery.
<b>Eye contact:</b>	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Do not rub affected area. Remove contact lenses, if present and easy to do. Continue rinsing. Seek immediate medical attention/advice.
<b>Skin contact:</b>	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Immediate medical attention is required. May cause an allergic skin reaction.
<b>Inhalation:</b>	Remove to fresh air. If breathing has stopped, give artificial respiration. Get medical attention immediately. Do not use mouth - to - mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one - way valve or other proper respiratory medical device. If breathing is difficult, (trained personnel should) give oxygen. Delayed pulmonary edema may occur. Get medical attention immediately if symptoms occur.
<b>Ingestion:</b>	Do NOT induce vomiting. Rinse mouth immediately and drink plenty of water. Never give anything by mouth to an unconscious person. Call a physician or poison control center immediately.
<b>Self-protection of the first aider:</b>	Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Avoid contact with skin, eyes or clothing. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Use personal protective equipment as required. Wear personal protective clothing (see section 8).

### **(b) Most important symptoms/effects, acute and delayed**

Most important symptoms and effects:	Itching, Coughing and/ or wheezing. Burning sensation.
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## **(c) Indication of any immediate medical attention and special treatment needed**

Notes to Physician      Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated. Do not give chemical antidotes. Asphyxia from glottal edema may occur. Marked decrease in blood pressure may occur with moist rales, frothy sputum, and high pulse pressure.

## **5. Fire-fighting measures**

### **(a) Extinguishing media**

Suitable extinguishing media:      Use foam, dry powder or dry sand, CO<sub>2</sub> as appropriate.

Unsuitable extinguishing media:      No information available.

### **(b) Special hazards arising from the chemical**

Under fire conditions, batteries may burst and release hazardous decomposition products when exposed to a fire situation. This could result in the release of flammable or corrosive materials. Hazardous combustion products: CO, CO<sub>2</sub>, Metal oxides, Irritating fumes

### **(c) Special protective equipment and precautions for fire-fighters**

Firefighters must wear fire resistant protective equipment and appropriate breathing apparatus. The staff must equip with filtermask (full mask) or isolated breathing apparatus. The staff must wear the clothes which can defense the fire and the toxic gas. Put out the fire in the upwind direction. Remove the container to the open space as soon as possible. Spray water on the containers in the fireplace to keep them cool until finish extinguishment.

## **6. Accidental release measures**

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

Personal Precautions      In case of rupture. Attention! Corrosive material. Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Use personal protective equipment as required. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

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

### **(b) Environmental Precautions**

Environmental Precautions      Refer to protective measures listed in Sections 7 and 8. Prevent further leakage or spillage if safe to do so. Should not be released into the environment. Do not allow to enter into soil/subsoil. Prevent product from entering drains.

### **(c) Methods and materials 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**

### **(a) 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.

### **(b) Conditions for safe storage, including any incompatibilities**

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



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from moisture. Keep out of the reach of children. Store away from other materials.

Incompatible Products

Acids. Bases. Oxidizing agent.

## 8. Exposure controls/personal protection

### (a) Control parameters

Exposure Guidelines

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Lithium Cobalt Oxide (CoLiO <sub>2</sub> ) 12190-79-3	TWA: 0.02 mg/m <sup>3</sup>		
Graphite powder 7782-42-5	TWA: 2 mg/m <sup>3</sup> respirable fraction all forms except graphite fibers	TWA: 15 mg/m <sup>3</sup> total dust synthetic TWA: 5 mg/m <sup>3</sup> respirable fraction synthetic (vacated) TWA: 2.5 mg/m <sup>3</sup> respirable dust natural (vacated) TWA: 10 mg/m <sup>3</sup> total dust synthetic (vacated) TWA: 5 mg/m <sup>3</sup> respirable fraction synthetic TWA: 15 mppcf natural	IDLH: 1250 mg/m <sup>3</sup> TWA: 2.5 mg/m <sup>3</sup> respirable dust
Phosphate(1 - ), hexafluoro - , lithium 21324-40-3	TWA: 2.5 mg/m <sup>3</sup> F	TWA: 2.5 mg/m <sup>3</sup> F TWA: 2.5 mg/m <sup>3</sup> dust (vacated) TWA: 2.5 mg/m <sup>3</sup>	
Copper 7440-50-8	TWA: 0.2 mg/m <sup>3</sup> fume TWA: 1 mg/m <sup>3</sup> Cu dust and mist	TWA: 0.1 mg/m <sup>3</sup> fume TWA: 1 mg/m <sup>3</sup> dust and mist (vacated) TWA: 0.1 mg/m <sup>3</sup> Cu dust, fume, mist	IDLH: 100 mg/m <sup>3</sup> dust, fume and mist TWA: 1 mg/m <sup>3</sup> dust and mist TWA: 0.1 mg/m <sup>3</sup> fume
Aluminum 7429-90-5	TWA: 1 mg/m <sup>3</sup> respirable fraction	TWA: 15 mg/m <sup>3</sup> total dust TWA: 5 mg/m <sup>3</sup> respirable fraction (vacated) TWA: 15 mg/m <sup>3</sup> total dust (vacated) TWA: 5 mg/m <sup>3</sup> respirable fraction (vacated) TWA: 5 mg/m <sup>3</sup> Al Aluminum	TWA: 10 mg/m <sup>3</sup> total dust TWA: 5 mg/m <sup>3</sup> respirable dust

ACGIH TLV: American Conference of Governmental Industrial Hygienists - Threshold Limit Value

OSHA PEL: Occupational Safety and Health Administration - Permissible Exposure Limits

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

### (b) Appropriate engineering controls

Engineering Measures

Showers

Eyewash stations

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Ventilation systems

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

Eye/Face Protection	None required for consumer use. If there is a risk of contact: Tight sealing safety goggles. Face protection shield.
Skin and Body Protection	None required for consumer use. If there is a risk of contact: 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. Take off contaminated clothing and wash before reuse. Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product. For environmental protection, remove and wash all contaminated protective equipment before re-use.

## 9. Physical and chemical properties

(a) Appearance	solid
(b) Odor	Odorless
(c) Odor threshold	Not available.
(d) pH	Not available.
(e) Melting point/freezing point	Not available.
(f) Initial boiling point and boiling range	Not available.
(g) Flash point	Not applicable.
(h) Evaporation rate	Not applicable.
(i) Flammability	Non flammable.
(j) Upper/lower flammability or explosive limits	Not available.
(k) Vapor pressure	Not applicable.
(l) Vapor density	Not available.
(m) Relative density	Not available.
(n) Solubility(ies)	Insoluble in water.
(o) Partition coefficient: n-octanol/water	Not available.
(p) Auto-ignition temperature	Not available.
(q) Decomposition temperature	Not available.
(r) Viscosity	Not available.

## 10. Stability and reactivity

**(a) Reactivity**

Stable under recommended storage and handling conditions.

**(b) Chemical stability**

Stable under recommended storage conditions.

**(c) Possibility of hazardous reactions**

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None under normal processing.

## **(d) Conditions to avoid**

Exposure to air or moisture over prolonged periods.

## **(e) Incompatible materials**

Strong oxidizer, strong acid.

## **(f) Hazardous decomposition products**

Carbon oxides.

## 11. Toxicological information

### **(a) Information on the 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. Corrosive by inhalation. (based on components). Inhalation of corrosive fumes/gases may cause coughing, choking, headache, dizziness, and weakness for several hours. Pulmonary edema may occur with tightness in the chest, shortness of breath, bluish skin, decreased blood pressure, and increased heart rate. Inhaled corrosive substances can lead to a toxic edema of the lungs. Pulmonary edema can be fatal. May cause irritation of respiratory tract.

#### Ingestion:

Specific test data for the substance or mixture is not available. Causes burns. (based on components). Ingestion causes burns of the upper digestive and respiratory tracts. May cause severe burning pain in the mouth and stomach with vomiting and diarrhea of dark blood. Blood pressure may decrease. Brownish or yellowish stains may be seen around the mouth. Swelling of the throat may cause shortness of breath and choking. May cause lung damage if swallowed. May be fatal if swallowed and enters airways. Ingestion may cause irritation to mucous membranes.

Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. May be harmful if swallowed.

#### Skin contact:

Specific test data for the substance or mixture is not available. Corrosive. (based on components). Causes burns. May be absorbed through the skin in harmful amounts. Harmful in contact with skin.

#### Eye contact:

Specific test data for the substance or mixture is not available. Causes burns. (based on components). Corrosive to the eyes and may cause severe damage including blindness. Causes serious eye damage. May cause irreversible damage to eyes.

### **Component Information**

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Graphite powder 7782-42-5	> 10000 mg/kg ( Rat )		

### **(b) Information on toxicological characteristics**

#### **Symptoms**

Erythema (skin redness). Burning. May cause blindness. Coughing and/ or wheezing. Itching. Rashes. Hives.

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## (C) 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.

Chemical Name	ACGIH	IARC	NTP	OSHA
Lithium Cobalt Oxide (CoLiO <sub>2</sub> ) 12190-79-3	A3	Group 2B		X

### 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 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 Chronic exposure to corrosive fumes/gases may cause erosion of the teeth followed by jaw necrosis. Bronchial irritation with chronic cough and frequent attacks of pneumonia are common. Gastrointestinal disturbances may also be seen. Contains a known or suspected carcinogen. Avoid repeated exposure. Prolonged exposure may cause chronic effects. May cause adverse liver effects.

Target Organ Effects Respiratory system. Eyes. Skin. Gastrointestinal tract (GI). Blood. Central Nervous System (CNS). Central Vascular System (CVS). Kidney. Liver. Lungs.

Aspiration Hazard No information available

## 12. Ecological information

### (a) 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)
Copper 7440-50-8	96h EC50: 0.031-0.054mg/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: =0.112 mg/L (Poecilia reticulata) 96h LC50: =0.3 mg/L (Cyprinus carpio) 96h LC50: = 0.8mg/L (Cyprinus		48h EC50: = 0.03 mg/L

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		carpio) 96h LC50: = 1.25 mg/L (Lepomis macrochirus) 96h LC50: = 0.052 mg/L (Oncorhynchus mykiss) 96h LC50: = 0.2 mg/L (Pimephales promelas) 96h LC50: < 0.3 mg/L (Pimephales promelas)		
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**(b) Persistence and Degradability**

No information available.

**(c) Bioaccumulative potential**

No information available.

**(d) Other adverse effects**

No information available.

## 13. Disposal considerations

**(a) Waste treatment methods**

Disposal methods

This material, as supplied, is not a hazardous waste according to Federal regulations (40CFR 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 141

Codes

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

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

## 14. Transport information

**Note:**

The transportation of primary lithium cells and batteries is regulated by the

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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"

<b>UN number</b>	3480&3481
<b>DOT</b>	NOT REGULATED
<b>Proper Shipping Name</b>	NON REGULATED
<b>Hazard Class</b>	N/A
<b>TDG</b>	Not regulated
<b>MEX</b>	Not regulated
<b>ICAO</b>	Not regulated
<b>IATA</b>	Not regulated
<b>Proper Shipping Name</b>	NON REGULATED
<b>Hazard Class</b>	N/A
<b>IMDG/IMO</b>	Not regulated
<b>Hazard Class</b>	N/A
<b>EmS-No.</b>	F-A, S-I
<b>RID</b>	Not regulated
<b>ADR</b>	Not regulated
<b>ADN</b>	Not regulated

## 15. Regulatory information

### (a) Safety, health and environmental regulations specific for the product in question

CAS No.	USA TSCA	EU EINECS	Japan ENCS	Korea ECL	China IECSC	Canada DSL
12190-79-3	Listed	Listed	Listed	Listed	Listed	Listed
7782-42-5	Listed	Listed	Not listed	Listed	Listed	Listed
69028-37-1	Not listed	Not listed	Listed	Listed	Listed	Not listed
61789-96-6	Not listed	Not listed	Not listed	Not listed	Listed	Not listed
9003-07-0	Listed	Listed	Listed	Listed	Listed	Listed
9002-88-4	Listed	Listed	Listed	Listed	Listed	Listed
21324-40-3	Not listed	Listed	Listed	Listed	Listed	Not listed
96-49-1	Listed	Listed	Not listed	Listed	Listed	Not listed
108-32-7	Listed	Listed	Not listed	Listed	Not listed	Not listed

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7440-50-8	Not listed	Listed	Listed	Listed	Listed	Not listed
7429-90-5	Listed	Listed	Not listed	Listed	Listed	Listed

## 16. Other information, including date of preparation or last revision

### **(a) Preparation and revision information**

Date of previous revision: Not applicable.

Date of this revision: 25-Feb-2018

Revision summary: The first New SDS

### **(b) Abbreviations and acronyms**

TSCA: Toxic Substances Control Act, The American chemical inventory.

DSL Domestic Substances List

EINECS: European Inventory of Existing Commercial chemical Substances

ENCS Japanese Existing and New Chemical Substances

ECL: Existing Chemicals List, the Korean chemical inventory.

IECSC: Inventory of existing chemical substances in China.

### **(c) Disclaimer**

Because all of our batteries are defined as "articles", they are exempted from the requirements of the Hazard Communication Standard. The information in this SDS is provided all the relevant data fully and truly. However, the information is provided without any warranty on their absolute extensiveness and accuracy. This SDS was prepared to provide safety preventive measures for the users who have got professional training. The personal user who obtained this SDS should make independent judgment for the applicability of this SDS under special conditions. In these special cases, we do not assume responsibility for the damage.

——End of the SDS——