

# SAFETY DATA SHEET

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NGHS / English



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## 1. IDENTIFICATION

### Product identifier

**Product Name** Rechargeable Lithium Ion Battery Pack EPR40 28V

### Other means of identification

**Product Code(s)** 1584431

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

**Recommended Use** Lithium Ion Battery

**Restrictions on use** No information available

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

**Supplier Identification** Mowro

**Address** 506 North 200 West  
Cedar City  
UT  
84721  
US

**Telephone** Phone:18008763009

**E-mail** mowromedia@gmail.com

### Emergency telephone number

**Company Emergency Phone Number** 435-267-1497

## 2. HAZARDS IDENTIFICATION

### Classification

Acute toxicity - Oral	Category 4
Skin corrosion/irritation	Category 2



Serious eye damage/eye irritation	Category 2A
Skin sensitization	Category 1
Carcinogenicity	Category 1A
Specific target organ toxicity (single exposure)	Category 1
Specific target organ toxicity (repeated exposure)	Category 1

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

**Appearance** Black

**Physical state** Solid Gel Consistency  
Solid

**Odor** Odorless

**GHS Label elements, including precautionary statements**

**Danger**

**Hazard statements**

- Harmful if swallowed
- Causes skin irritation
- Causes serious eye irritation
- May cause an allergic skin reaction
- May cause cancer
- Causes damage to organs
- Causes damage to organs through prolonged or repeated exposure



**Precautionary Statements - Prevention**

- Obtain special instructions before use
- Do not handle until all safety precautions have been read and understood
- Wear protective gloves/protective clothing/eye protection/face protection
- Wash face, hands and any exposed skin thoroughly after handling
- Do not eat, drink or smoke when using this product
- Contaminated work clothing must not be allowed out of the workplace
- Do not breathe dust/fume/gas/mist/vapors/spray

**Precautionary Statements - Response**

Specific treatment (see supplemental first aid instructions on this label)

IF exposed: Call a POISON CENTER or doctor

**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 water and soap

Take off contaminated clothing and wash it before reuse

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

**Ingestion**

IF SWALLOWED: Call a POISON CENTER or doctor 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

**Other information**

Very toxic to aquatic life with long lasting effects.

**Unknown acute toxicity** 116 % of the mixture consists of ingredient(s) of unknown toxicity  
 73 % of the mixture consists of ingredient(s) of unknown acute oral toxicity  
 116 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity  
 108 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)  
 108 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)  
 108 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

**Substance**

Not applicable.

**Mixture**

Chemical name	CAS No.	Weight-%	Hazardous Material Information Review Act registry number (HMIRA registry #)	Date HMIRA filed and date exemption granted (if applicable)
Lithium Cobalt Oxide (CoLiO <sub>2</sub> )	12190-79-3	30	-	-
Graphite	7782-42-5	18	-	-
Nickel oxide	1313-99-1	10	-	-
Manganese dioxide	1313-13-9	10	-	-
Copper	7440-50-8	10	-	-
Cobalt(II) oxide	1307-96-6	10	-	-
Propylene carbonate	108-32-7	4	-	-
Ethylene carbonate	96-49-1	3	-	-
Phosphate(1-), hexafluoro-, lithium	21324-40-3	2	-	-
Aluminum	7429-90-5	2	-	-

**4. FIRST AID MEASURES**

**Description of first aid measures**

**General advice** Show this safety data sheet to the doctor in attendance. IF exposed or concerned: Get medical advice/attention. First aid is upon rupture of sealed battery.

**Inhalation** Remove to fresh air. IF exposed or concerned: Get medical advice/attention. Get medical attention immediately if symptoms occur.

**Eye contact** Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. If symptoms persist, call a physician. Keep eye wide open while rinsing. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation



develops and persists. Do not rub affected area.

**Skin contact** May cause an allergic skin reaction. If symptoms persist, call a physician. Wash off immediately with soap and plenty of water for at least 15 minutes.

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

**Self-protection of the first aider** Avoid contact with skin, eyes or clothing. Wear personal protective clothing (see section 8).

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

**Symptoms** Itching. Rashes. Hives. Burning sensation.

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

**Note to physicians** 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.

**Large Fire** CAUTION: Use of water spray when fighting fire may be inefficient.

**Unsuitable extinguishing media** Do not scatter spilled material with high pressure water streams.

**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** None.

**Sensitivity to Static Discharge** None.

**Special protective equipment for fire-fighters** Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

**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. Keep people away from and upwind of spill/leak.

**Other Information** 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

**Advice on safe handling**

In case of rupture: Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. In case of insufficient ventilation, wear suitable respiratory equipment. 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 Conditions**

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

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

**Exposure Limits**

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 7782-42-5	TWA: 2 mg/m <sup>3</sup> respirable particulate matter 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
Nickel oxide 1313-99-1	TWA: 0.2 mg/m <sup>3</sup>	TWA: 1 mg/m <sup>3</sup> Ni (vacated) TWA: 1 mg/m <sup>3</sup> Ni	IDLH: 10 mg/m <sup>3</sup> Ni TWA: 0.015 mg/m <sup>3</sup> except Nickel carbonyl Ni
Manganese dioxide 1313-13-9	TWA: 0.02 mg/m <sup>3</sup> Mn respirable particulate matter TWA: 0.1 mg/m <sup>3</sup> Mn inhalable particulate matter	(vacated) Ceiling: 5 mg/m <sup>3</sup> Ceiling: 5 mg/m <sup>3</sup> Mn	IDLH: 500 mg/m <sup>3</sup> Mn TWA: 1 mg/m <sup>3</sup> Mn STEL: 3 mg/m <sup>3</sup> Mn
Copper 7440-50-8	TWA: 0.2 mg/m <sup>3</sup> fume	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
Cobalt(II) oxide 1307-96-6	TWA: 0.02 mg/m <sup>3</sup> Co inhalable particulate matter	-	
Phosphate(1-), hexafluoro-, lithium	TWA: 2.5 mg/m <sup>3</sup> F	TWA: 2.5 mg/m <sup>3</sup> F (vacated) TWA: 2.5 mg/m <sup>3</sup>	IDLH: 250 mg/m <sup>3</sup> F

21324-40-3	TWA: 1 mg/m <sup>3</sup> respirable particulate matter		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		TWA: 10 mg/m <sup>3</sup> total dust TWA: 5 mg/m <sup>3</sup> respirable dust	
Aluminum 7429-90-5						
Chemical name	Alberta	British Columbia	Ontario TWAEV	Quebec		
Lithium Cobalt Oxide (CoLiO <sub>2</sub> ) 12190-79-3	TWA: 0.02 mg/m <sup>3</sup>	TWA: 0.02 mg/m <sup>3</sup>	TWA: 0.02 mg/m <sup>3</sup>	TWA: 0.02 mg/m <sup>3</sup>		
Graphite 7782-42-5	TWA: 2 mg/m <sup>3</sup>	TWA: 2 mg/m <sup>3</sup>	TWA: 2 mg/m <sup>3</sup>	TWA: 2 mg/m <sup>3</sup>		
Nickel oxide 1313-99-1	TWA: 0.2 mg/m <sup>3</sup>	TWA: 0.05 mg/m <sup>3</sup>	TWA: 0.2 mg/m <sup>3</sup>	TWA: 0.2 mg/m <sup>3</sup>		
Manganese dioxide 1313-13-9	TWA: 0.2 mg/m <sup>3</sup>	TWA: 0.2 mg/m <sup>3</sup> TWA: 0.02 mg/m <sup>3</sup>	TWA: 0.02 mg/m <sup>3</sup> TWA: 0.1 mg/m <sup>3</sup>	TWA: 0.2 mg/m <sup>3</sup>		
Copper 7440-50-8	TWA: 0.2 mg/m <sup>3</sup> TWA: 1 mg/m <sup>3</sup>	TWA: 1 mg/m <sup>3</sup> TWA: 0.2 mg/m <sup>3</sup>	TWA: 0.2 mg/m <sup>3</sup> TWA: 1 mg/m <sup>3</sup>	TWA: 0.2 mg/m <sup>3</sup> TWA: 1 mg/m <sup>3</sup>		
Cobalt(II) oxide 1307-96-6	TWA: 0.02 mg/m <sup>3</sup>	TWA: 0.02 mg/m <sup>3</sup>	TWA: 0.02 mg/m <sup>3</sup>	TWA: 0.02 mg/m <sup>3</sup>		
Phosphate(1-), hexafluoro-, lithium 21324-40-3	TWA: 2.5 mg/m <sup>3</sup>	TWA: 2.5 mg/m <sup>3</sup>	TWA: 2.5 mg/m <sup>3</sup>	TWA: 2.5 mg/m <sup>3</sup>		
Aluminum 7429-90-5	TWA: 10 mg/m <sup>3</sup>	TWA: 1.0 mg/m <sup>3</sup>	TWA: 1 mg/m <sup>3</sup>	TWA: 10 mg/m <sup>3</sup>		

**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 controls**

Showers  
Eyewash stations  
Ventilation systems.

**Individual protection measures, such as personal protective equipment**

**Eye/face protection**

Wear safety glasses with side shields (or goggles).

**Hand protection**

Wear suitable gloves. Impervious gloves.

**Skin and body protection**

Wear suitable protective clothing. Long sleeved 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.

**General hygiene considerations**

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. Wear suitable gloves and eye/face protection. Avoid contact with skin, eyes or clothing.

**9. PHYSICAL AND CHEMICAL PROPERTIES**



**Information on basic physical and chemical properties**

<b>Physical state</b>	Solid Gel Consistency; Solid
<b>Appearance</b>	Black
<b>Odor</b>	Odorless
<b>Color</b>	No information available
<b>Odor Threshold</b>	Not applicable

<u>Property</u>	<u>Values</u>	<u>Remarks</u>	<u>Method</u>
pH	No data available	None known	
Melting / freezing point	No data available	None known	
Boiling point / boiling range	No data available	None known	
Flash Point	No data available	None known	
Evaporation Rate	No data available	None known	
Flammability (solid, gas)	No data available	None known	
Flammability Limit in Air		None known	
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	
Relative density	No data available	None known	
Water Solubility	Insoluble in water		
Solubility(ies)	No data available	None known	
Partition coefficient: n-octanol/water	n/A		
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	

**Other Information**

<b>Explosive properties</b>	No information available
<b>Oxidizing properties</b>	No information available
<b>Softening Point</b>	No information available
<b>Molecular Weight</b>	No information available
<b>VOC Content (%)</b>	No information available
<b>Liquid Density</b>	No information available
<b>Bulk Density</b>	No information available
<b>Particle Size</b>	No information available
<b>Particle Size Distribution</b>	No information available

**10. STABILITY AND REACTIVITY**

<b>Reactivity</b>	No information available.
<b>Chemical stability</b>	Stable under normal conditions.
<b>Possibility of Hazardous Reactions</b>	None under normal processing.
<b>Hazardous Polymerization</b>	Hazardous polymerization does not occur.
<b>Conditions to avoid</b>	None known based on information supplied.
<b>Incompatible materials</b>	Strong acids. Strong bases. Strong oxidizing agents.
<b>Hazardous Decomposition Products</b>	Carbon oxides.

## 11. TOXICOLOGICAL INFORMATION

### Information on likely routes of exposure

<b>Product Information</b>	Product does not present an acute toxicity hazard based on known or supplied information In case of rupture:
<b>Inhalation</b>	Specific test data for the substance or mixture is not available. May cause irritation of respiratory tract.
<b>Eye contact</b>	Specific test data for the substance or mixture is not available. Causes serious eye irritation. (based on components). Irritating to eyes.
<b>Skin contact</b>	Specific test data for the substance or mixture is not available. May cause sensitization by skin contact. Causes skin irritation. (based on components). Repeated or prolonged skin contact may cause allergic reactions with susceptible persons.
<b>Ingestion</b>	Specific test data for the substance or mixture is not available. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. Harmful if swallowed. (based on components).

### Symptoms related to the physical, chemical and toxicological characteristics

**Symptoms** Itching. Rashes. Hives. Redness. May cause redness and tearing of the eyes.

### Numerical measures of toxicity

#### Acute Toxicity

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

<b>ATEmix (oral)</b>	598.30 mg/kg
<b>ATEmix (dermal)</b>	15,000.00 mg/kg
<b>ATEmix (inhalation-gas)</b>	45,000.00 ppm
<b>ATEmix (inhalation-dust/mist)</b>	15.00 mg/L
<b>ATEmix (inhalation-vapor)</b>	110.00 mg/L

**Unknown acute toxicity** 116 % of the mixture consists of ingredient(s) of unknown toxicity  
 73 % of the mixture consists of ingredient(s) of unknown acute oral toxicity  
 116 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity  
 108 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)  
 108 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)  
 108 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

#### Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Lithium Cobalt Oxide (CoLiO <sub>2</sub> )	> 5000 mg/kg ( Rat )	> 2000 mg/kg ( Rat )	> 5.05 mg/L ( Rat ) 4 h
Graphite	-	-	> 2000 mg/m <sup>3</sup> ( Rat ) 4 h
Nickel oxide	> 5000 mg/kg ( Rat )	-	-
Manganese dioxide	= 9000 mg/kg ( Rat )	-	> 1500 mg/m <sup>3</sup> ( Rat ) 4 h
Cobalt(II) oxide	= 159 mg/kg ( Rat ) = 202 mg/kg ( Rat )	-	-
Propylene carbonate	= 29000 mg/kg ( Rat )	> 3000 mg/kg ( Rabbit )	-
Ethylene carbonate	= 10 g/kg ( Rat )	> 3 g/kg ( Rabbit )	> 730 mg/m <sup>3</sup> ( Rat ) 8 h

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





- Skin corrosion/irritation** Classification based on data available for ingredients. Irritating to skin.
- Serious eye damage/eye irritation** Classification based on data available for ingredients. Causes serious eye irritation.
- Respiratory or skin sensitization** May cause sensitization by skin contact.
- Germ cell mutagenicity** No information available.
- Carcinogenicity** Contains a known or suspected carcinogen. Classification based on data available for ingredients. May cause cancer.

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	Reasonably Anticipated	X
Nickel oxide 1313-99-1	A1	Group 1	Known	X
Cobalt(II) oxide 1307-96-6	A3	Group 2B	Reasonably Anticipated	X

**Legend**

**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

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** Based on the classification criteria of the Globally Harmonized System as adopted in the country or region with which this safety data sheet complies, this product has been determined to cause systemic target organ toxicity from acute exposure. (STOT SE). Causes damage to organs if swallowed.
- STOT - repeated exposure** Causes damage to organs through prolonged or repeated exposure.
- Aspiration hazard** No information available.

**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)
Graphite	-	96h LC50: > 100 mg/L (Danio rerio)	-	-



Nickel oxide	72h EC50: > 127.3 mg/L (Pseudokirchneriella subcapitata)	96h LC50: > 100 mg/L (Brachydanio rerio)	-	48h EC50: > 100 mg/L (Daphnia magna)
Copper	72h EC50: 0.0426 - 0.0535 mg/L (Pseudokirchneriella subcapitata) 96h EC50: 0.031 - 0.054 mg/L (Pseudokirchneriella subcapitata)	96h LC50: = 0.2 mg/L (Pimephales promelas) 96h LC50: 0.0068 - 0.0156 mg/L (Pimephales promelas) 96h LC50: = 0.052 mg/L (Oncorhynchus mykiss) 96h LC50: < 0.3 mg/L (Pimephales promelas) 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: = 0.112 mg/L (Poecilia reticulata)	-	48h EC50: = 0.03 mg/L (Daphnia magna)
Propylene carbonate	72h EC50: > 500 mg/L (Desmodesmus subspicatus)	96h LC50: = 5300 mg/L (Leuciscus idus) 96h LC50: > 1000 mg/L (Cyprinus carpio)	EC50 > 10000 mg/L 17 h	48h EC50: > 500 mg/L (Daphnia magna)
Ethylene carbonate	-	96h LC50: > 100 mg/L (Oncorhynchus mykiss)	-	-

**Persistence and Degradability** No information available.

**Bioaccumulation**

**Component Information**

Chemical name	Log Pow
Manganese dioxide	<0
Propylene carbonate	0.48

**Mobility** No information available.

**Other adverse effects** No information available.

**13. DISPOSAL CONSIDERATIONS**

**Waste treatment methods**

**Waste from residues/unused products** Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

**Contaminated packaging** Do not reuse empty containers.

**California Waste Codes** 141

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



Chemical name	California Hazardous Waste
Lithium Cobalt Oxide (CoLiO <sub>2</sub> ) 12190-79-3	Toxic
Copper 7440-50-8	Toxic
Cobalt(II) oxide 1307-96-6	Toxic
Aluminum 7429-90-5	Ignitable powder

**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  
 147

**TDG**  
 UN-No. UN3480  
 Proper Shipping Name LITHIUM ION BATTERIES  
 Hazard Class 9  
 Description UN3480, LITHIUM ION BATTERIES, 9

**MEX**  
 UN-No. UN3480  
 Proper Shipping Name LITHIUM ION BATTERIES  
 Hazard Class 9  
 Description UN3480, LITHIUM ION BATTERIES, 9

**ICAO**  
 UN-No. UN3480  
 Proper Shipping Name LITHIUM ION BATTERIES  
 Hazard Class 9  
 Description UN3480, LITHIUM ION BATTERIES, 9

**IATA**  
 UN-No. UN3480  
 Proper Shipping Name LITHIUM ION BATTERIES  
 Hazard Class 9  
 Description UN3480, LITHIUM ION BATTERIES, 9



**IMDG/IMO**

UN-No.	UN3480
Proper Shipping Name	LITHIUM ION BATTERIES
Hazard Class	9
EmS-No.	F-A, S-I
Marine Pollutant	This product contains a chemical which is listed as a marine pollutant according to IMDG/IMO
Description	UN3480, LITHIUM ION BATTERIES, 9

**RID**

UN-No.	UN3480
Proper Shipping Name	LITHIUM ION BATTERIES
Hazard Class	9
Classification code	M4
Description	UN3480, LITHIUM ION BATTERIES, 9

**ADR**

UN-No.	UN3480
Proper Shipping Name	LITHIUM ION BATTERIES
Hazard Class	9
Classification code	M4
Description	UN3480, LITHIUM ION BATTERIES, 9

**ADN**

UN-No.	UN3480
Proper Shipping Name	LITHIUM ION BATTERIES
Hazard Class	9
Classification code	M4
Special Provisions	188, 230, 310, 348, 636, 661
Description	UN3480, LITHIUM ION BATTERIES, 9
Limited Quantity	0

**15. REGULATORY INFORMATION**

**Safety, health and environmental regulations/legislation specific for the substance or mixture**

**International Regulations**

The Montreal Protocol on Substances that Deplete the Ozone Layer Not applicable

The Stockholm Convention on Persistent Organic Pollutants Not applicable

The Rotterdam Convention Not applicable

**International Inventories**

TSCA	Contact supplier for inventory compliance status.
DSL/NDL	Contact supplier for inventory compliance status.
EINECS/ELINCS	Contact supplier for inventory compliance status.
ENCS	Contact supplier for inventory compliance status.
KECL	Contact supplier for inventory compliance status.
PICCS	Contact supplier for inventory compliance status.
AICS	Contact supplier for inventory compliance status.

**Legend**



**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory  
**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List  
**EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances  
**ENCS** - Japan Existing and New Chemical Substances  
**KECL** - Korean Existing and Evaluated Chemical Substances  
**PICCS** - Philippines Inventory of Chemicals and Chemical Substances  
**AICS** - Australian Inventory of Chemical Substances

**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 %
Lithium Cobalt Oxide (CoLiO <sub>2</sub> ) - 12190-79-3	12190-79-3	30	0.1
Nickel oxide - 1313-99-1	1313-99-1	10	0.1
Manganese dioxide - 1313-13-9	1313-13-9	10	1.0
Copper - 7440-50-8	7440-50-8	10	1.0
Cobalt(II) oxide - 1307-96-6	1307-96-6	10	0.1
Aluminum - 7429-90-5	7429-90-5	2	1.0

**SARA 311/312 Hazard Categories**

Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications. Under the amended regulations at 40 CFR 370, EPCRA 311/312 Tier II reporting for the 2017 calendar year will need to be consistent with updated hazard classifications.

**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
Nickel oxide 1313-99-1		X		
Copper 7440-50-8		X	X	

**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 7440-50-8	5000 lb		RQ 5000 lb final RQ RQ 2270 kg final RQ

**US State Regulations**

**California Proposition 65**

This product contains the following Proposition 65 chemicals.

Chemical name	California Proposition 65
Cobalt(II) oxide - 1307-96-6	carcinogen, 7/1/1992
Nickel oxide - 1313-99-1	Carcinogen



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

This product may contain substances regulated by state right-to-know regulations.

Chemical name	New Jersey	Massachusetts	Pennsylvania	Rhode Island	Illinois
Lithium Cobalt Oxide (CoLiO2) 12190-79-3	X		X	X	X
Graphite 7782-42-5	X	X	X		
Nickel oxide 1313-99-1	X	X	X	X	X
Manganese dioxide 1313-13-9	X		X	X	X
Copper 7440-50-8	X	X	X	X	X
Cobalt(II) oxide 1307-96-6	X		X	X	X
Ethylene carbonate 96-49-1		X	X		
Phosphate(1-), hexafluoro-, lithium 21324-40-3	X				
Aluminum 7429-90-5	X	X	X	X	

**16. OTHER INFORMATION**

<b><u>NFPA</u></b>	Health hazards 1	Flammability 0	Instability 0	Physical and Chemical Properties -
<b><u>HMIS</u></b>	Health hazards 0	Flammability 0	Physical hazards 0	Personal Protection X

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**Disclaimer**

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**End of Safety Data Sheet**

