



Lithium Ion Battery Pack

This document replaces Bacharach MSDS reference number 0099-0147, covering the specific manufactured articles listed.

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Revision Date: 04/09/2014

Version: 1.0

SECTION 1: IDENTIFICATION

Product Identifier

Product Form: Mixture

Product Name: Lithium Ion Battery Pack

Intended Use of the Product

Use of the Substance/Mixture: Industrial use. For professional use only.

Name, Address, and Telephone of the Responsible Party

Company

Bacharach, Inc.

621 Hunt Valley Circle

New Kensington, PA 15068

T 724-334-5760

msdsr@mybacharach.com - <http://www.mybacharach.com>

Emergency Telephone Number

Emergency number : 800-424-9300 (CHEMTREC)

SECTION 2: HAZARDS IDENTIFICATION

Classification of the Substance or Mixture

Classification (GHS-US)

Within the meaning of the OSHA Hazard Communication Standard [29 CFR 1910.1200] and the Canadian Hazardous Products Act (HPA): this product is considered a manufactured article and is not considered a hazard when used in a manner which is consistent with the labeled directions.

Label Elements

GHS-US Labeling No labeling required

Other Hazards

Other Hazards Not Contributing to the Classification: Within the meaning of the OSHA Hazard Communication Standard [29 CFR 1910.1200] and the Canadian Hazardous Products Act (HPA): this product is considered a manufactured article and is not considered a hazard when used in a manner which is consistent with the labeled directions. This mixture is considered an article in its final form. This MSDS covers the hazards and information of the materials contained within the article, in the event the product is damaged or mishandled. Under normal conditions of use these chemicals are not anticipated to be available for exposure. Substances within this product may be reactive with water, air, form combustible dust concentration in air, can be flammable if released, and cause severe health effects. Thermal decomposition of this product may generate corrosive, and toxic vapors. Avoid extremely high or low temperatures, keep away from incompatible materials. Do not puncture or incinerate container.

Unknown Acute Toxicity (GHS-US) Not available

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Substances

Mixture

Within the meaning of the OSHA Hazard Communication Standard [29 CFR 1910.1200] and the Canadian Hazardous Products Act (HPA): this product is considered a manufactured article and is not considered a hazard when used in a manner which is consistent with the labeled directions.

*The following ingredients may be contained within the product, but are not available under normal conditions of use. The hazards shown are for the individual ingredients.

Name*	Product identifier	% (w/w)	Classification (GHS-US)
Diethyl carbonate	(CAS No) 105-58-8	-	Flam. Liq. 3, H226
Cobalt oxide (Co2O3)	(CAS No) 1308-04-9	-	Acute Tox. 4 (Oral), H302 Skin Sens. 1, H317 Carc. 2, H351
Nickel	(CAS No) 7440-02-0	-	Comb. Dust

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			Skin Sens. 1, H317 Carc. 2, H351 STOT RE 1, H372 Aquatic Acute 1, H400 Aquatic Chronic 3, H412
Copper	(CAS No) 7440-50-8	-	Aquatic Acute 1, H400 Aquatic Chronic 3, H412
Graphite	(CAS No) 7782-42-5	-	Comb. Dust
Aluminum	(CAS No) 7429-90-5	-	Flam. Sol. 1, H228 Water-react. 2, H261
Propylene carbonate	(CAS No) 108-32-7	-	Eye Irrit. 2A, H319
Phosphate(1-), hexafluoro-, lithium	(CAS No) 21324-40-3	-	Acute Tox. 3 (Oral), H301 Skin Corr. 1A, H314 Eye Dam. 1, H318 STOT RE 1, H372
1,1-Difluoroethylene polymer	(CAS No) 24937-79-9	-	Not classified
Ethylene carbonate	(CAS No) 96-49-1	-	Eye Irrit. 2A, H319
Cobaltate (CoO21-), lithium	(CAS No) 12190-79-3	-	Repr. 2, H361

Full text of H-phrases: see section 16

SECTION 4: FIRST AID MEASURES

Description of First Aid Measures

General: The following first aid measures apply in case of exposure to the interior battery components, if the battery is damaged and exposure occurs. Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).

Inhalation: When symptoms occur: go into open air and ventilate suspected area. Obtain medical attention if breathing difficulty persists.

Skin Contact: Remove contaminated clothing. Drench affected area with water for at least 15 minutes. Obtain medical attention if irritation develops or persists.

Eye Contact: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Obtain medical attention if pain, blinking or redness persist.

Ingestion: Rinse mouth. Do not induce vomiting. Seek medical attention.

Most Important Symptoms and Effects Both Acute and Delayed

General: Not hazardous according to OSHA 29 CFR 1910.1200 and the Canadian HPA and is considered an article. Under normal conditions of use there are no physical or health hazards associated with this product. The following symptoms apply in the event an exposure occurs to the materials housed inside the product: May cause cancer. May cause heritable genetic damage. Inhalation may cause allergic respiratory reaction with asthma-like symptoms and difficulty breathing. May cause an allergic skin reaction. Causes serious eye damage. Corrosive. Causes burns. May damage fertility. May damage the unborn child. Causes damage to organs through prolonged or repeated exposure. Toxic if swallowed. May be fatal if inhaled.

Inhalation: Exposure to materials housed in battery: Exposure may produce an allergic reaction. May be fatal if inhaled. Inhalation may cause immediate severe irritation progressing quickly to chemical burns.

Skin Contact: Exposure to materials housed in battery: Corrosive. Causes burns. May cause an allergic skin reaction.

Eye Contact: Exposure to materials housed in battery: Causes serious eye damage.

Ingestion: Exposure to materials housed in battery: Toxic if swallowed.

Chronic Symptoms: Not available

Indication of Any Immediate Medical Attention and Special Treatment Needed

If exposed to materials encased within the product get medical attention immediately.

SECTION 5: FIRE-FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media: Metal fire extinction powder. Dry powder. Sand. Water spray. Smother with suitable dry powder.

Unsuitable Extinguishing Media: Do not use a heavy water stream. Use of heavy stream of water may spread fire.

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Special Hazards Arising From the Substance or Mixture

Fire Hazard: Not considered flammable but will burn at high temperatures.

Explosion Hazard: Product is not explosive, however in contact with incompatibilities may release explosive hydrogen gas.

Reactivity: Substances within this product may be reactive with water, air, form combustible dust concentration in air, can be flammable if released, and cause severe health effects. Thermal decomposition of this product may generate corrosive, and toxic vapors. Avoid extremely high or low temperatures, keep away from incompatible materials.

Advice for Firefighters

Precautionary Measures Fire: Exercise caution when fighting any chemical fire.

Firefighting Instructions: Use water spray or fog for cooling exposed containers.

Protection During Firefighting: Do not enter fire area without proper protective equipment, including respiratory protection.

Hazardous Combustion Products: Toxic fumes are released. May release flammable gases. Corrosive vapors. Highly reactive vapors. Metal oxides.

Other information: Do not allow run-off from fire fighting to enter drains or water courses.

Reference to Other Sections

Refer to section 9 for flammability properties.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures

General Measures: Product itself under normal conditions of use is not considered hazardous, for materials housed within product: . Avoid all eyes and skin contact and do not breathe vapor and mist. Do not allow product to spread into the environment.

For Non-Emergency Personnel

Protective Equipment: Use appropriate personal protection equipment (PPE).

Emergency Procedures: Evacuate unnecessary personnel.

For Emergency Personnel

Protective Equipment: Equip cleanup crew with proper protection.

Emergency Procedures: Ventilate area.

Environmental Precautions

Prevent entry to sewers and public waters. Avoid release to the environment.

Methods and Material for Containment and Cleaning Up

For Containment: Stop leak without risks if possible.

Methods for Cleaning Up: Clear up spills immediately and dispose of waste safely. For product itself take up mechanically, for inner materials in the event of release from damage neutralize, and absorb material with inert material. Stop leak if possible to do so without risk. Do not allow to spread into the environment. Contact competent authority after a spill, and follow local/national regulations.

Reference to Other Sections

See heading 8, Exposure Controls and Personal Protection.

SECTION 7: HANDLING AND STORAGE

Precautions for Safe Handling

Additional Hazards When Processed: Do not open or damage enclosure, or battery cell as this could cause a potential exposure and release of hazardous materials. Under normal conditions of use this product is considered an article and exposure to the ingredients contained within this product is unlikely. Substances within this product may be reactive with water, air, form combustible dust concentration in air, can be flammable if released, and cause severe health effects. Thermal decomposition of this product may generate corrosive, and toxic vapors. Avoid extremely high or low temperatures, keep away from incompatible materials. Do not puncture or incinerate container. Do not expose to heat, or ignition sources as this could cause an explosion. Avoid short circuiting the cell. Charge batteries that are rechargeable only with their specified charger.

Hygiene Measures: Handle in accordance with good industrial hygiene and safety procedures. Wash hands and other exposed areas with mild soap and water before eating, drinking, or smoking and again when leaving work.

Conditions for Safe Storage, Including Any Incompatibilities

Technical Measures: Comply with applicable regulations.

Storage Conditions: Keep container tightly closed. Store in original container. Store in a dry place. Keep/Store away from extremely high or low temperatures, direct sunlight, heat, ignition sources, incompatible materials.

Incompatible Materials: strong acids. Strong bases. Strong oxidizers. Water. Moisture.

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Specific End Use(s)

Industrial use. For professional use only.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

The following ingredients may be contained within the product, but are not available under normal conditions of use. This product is considered a manufactured article and not hazardous.

Control Parameters

Nickel (7440-02-0)		
Mexico	OEL TWA (mg/m ³)	1 mg/m ³
USA ACGIH	ACGIH TWA (mg/m ³)	1.5 mg/m ³
USA OSHA	OSHA PEL (TWA) (mg/m ³)	1 mg/m ³
USA NIOSH	NIOSH REL (TWA) (mg/m ³)	0.015 mg/m ³
USA IDLH	US IDLH (mg/m ³)	10 mg/m ³
Alberta	OEL TWA (mg/m ³)	1.5 mg/m ³
British Columbia	OEL TWA (mg/m ³)	0.05 mg/m ³
Manitoba	OEL TWA (mg/m ³)	1.5 mg/m ³
New Brunswick	OEL TWA (mg/m ³)	1 mg/m ³
Newfoundland & Labrador	OEL TWA (mg/m ³)	1.5 mg/m ³
Nova Scotia	OEL TWA (mg/m ³)	1.5 mg/m ³
Nunavut	OEL STEL (mg/m ³)	2 mg/m ³
Nunavut	OEL TWA (mg/m ³)	1 mg/m ³
Northwest Territories	OEL STEL (mg/m ³)	2 mg/m ³
Northwest Territories	OEL TWA (mg/m ³)	1 mg/m ³
Ontario	OEL TWA (mg/m ³)	1 mg/m ³
Prince Edward Island	OEL TWA (mg/m ³)	1.5 mg/m ³
Québec	VEMP (mg/m ³)	1 mg/m ³
Saskatchewan	OEL STEL (mg/m ³)	3 mg/m ³
Saskatchewan	OEL TWA (mg/m ³)	1.5 mg/m ³
Yukon	OEL STEL (mg/m ³)	3 mg/m ³
Yukon	OEL TWA (mg/m ³)	1 mg/m ³
Copper (7440-50-8)		
Mexico	OEL TWA (mg/m ³)	1 mg/m ³
Mexico	OEL STEL (mg/m ³)	2 mg/m ³
USA ACGIH	ACGIH TWA (mg/m ³)	0.2 mg/m ³
USA OSHA	OSHA PEL (TWA) (mg/m ³)	1 mg/m ³
USA NIOSH	NIOSH REL (TWA) (mg/m ³)	0.1 mg/m ³
USA IDLH	US IDLH (mg/m ³)	100 mg/m ³
Alberta	OEL TWA (mg/m ³)	1 mg/m ³
British Columbia	OEL TWA (mg/m ³)	0.2 mg/m ³
Manitoba	OEL TWA (mg/m ³)	0.2 mg/m ³
New Brunswick	OEL TWA (mg/m ³)	1 mg/m ³
Newfoundland & Labrador	OEL TWA (mg/m ³)	0.2 mg/m ³
Nova Scotia	OEL TWA (mg/m ³)	0.2 mg/m ³
Nunavut	OEL STEL (mg/m ³)	2 mg/m ³
Nunavut	OEL TWA (mg/m ³)	1 mg/m ³
Northwest Territories	OEL STEL (mg/m ³)	2 mg/m ³
Northwest Territories	OEL TWA (mg/m ³)	1 mg/m ³
Ontario	OEL TWA (mg/m ³)	1 mg/m ³
Prince Edward Island	OEL TWA (mg/m ³)	0.2 mg/m ³
Québec	VEMP (mg/m ³)	1 mg/m ³

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Saskatchewan	OEL STEL (mg/m ³)	3 mg/m ³
Saskatchewan	OEL TWA (mg/m ³)	1 mg/m ³
Yukon	OEL STEL (mg/m ³)	2 mg/m ³
Yukon	OEL TWA (mg/m ³)	1 mg/m ³

Graphite (7782-42-5)		
Mexico	OEL TWA (mg/m ³)	2 mg/m ³ (synthetic and natural)
USA ACGIH	ACGIH TWA (mg/m ³)	2 mg/m ³ (all forms except graphite fibers)
USA OSHA	OSHA PEL (TWA) (mg/m ³)	5 mg/m ³ (synthetic)
USA NIOSH	NIOSH REL (TWA) (mg/m ³)	2.5 mg/m ³ (natural)
USA IDLH	US IDLH (mg/m ³)	1250 mg/m ³
Alberta	OEL TWA (mg/m ³)	2 mg/m ³ (all forms except Graphite fibres)
British Columbia	OEL TWA (mg/m ³)	2 mg/m ³ (all forms except Graphite fibres)
Manitoba	OEL TWA (mg/m ³)	2 mg/m ³ (all forms except Graphite fibers)
New Brunswick	OEL TWA (mg/m ³)	2 mg/m ³ (all forms except graphite fibres)
Newfoundland & Labrador	OEL TWA (mg/m ³)	2 mg/m ³ (all forms except Graphite fibers)
Nova Scotia	OEL TWA (mg/m ³)	2 mg/m ³ (all forms except Graphite fibers)
Nunavut	OEL TWA (mg/m ³)	10 mg/m ³ (synthetic, total mass)
Northwest Territories	OEL TWA (mg/m ³)	10 mg/m ³ (synthetic, total mass)
Ontario	OEL TWA (mg/m ³)	2 mg/m ³ (except Graphite fibres)
Prince Edward Island	OEL TWA (mg/m ³)	2 mg/m ³ (all forms except Graphite fibers)
Québec	VEMP (mg/m ³)	2 mg/m ³ (containing no Asbestos and <1% Crystalline silica, except Graphite fibres)
Saskatchewan	OEL STEL (mg/m ³)	4 mg/m ³ (natural, except Graphite fibres)
Saskatchewan	OEL TWA (mg/m ³)	2 mg/m ³ (natural, except Graphite fibres)
Yukon	OEL TWA (mg/m ³)	10 mg/m ³ (synthetic)

Aluminum (7429-90-5)		
Mexico	OEL TWA (mg/m ³)	10 mg/m ³
USA ACGIH	ACGIH TWA (mg/m ³)	1 mg/m ³
USA OSHA	OSHA PEL (TWA) (mg/m ³)	5 mg/m ³
USA NIOSH	NIOSH REL (TWA) (mg/m ³)	5 mg/m ³
Alberta	OEL TWA (mg/m ³)	10 mg/m ³
British Columbia	OEL TWA (mg/m ³)	1.0 mg/m ³
Manitoba	OEL TWA (mg/m ³)	1 mg/m ³
New Brunswick	OEL TWA (mg/m ³)	10 mg/m ³
Newfoundland & Labrador	OEL TWA (mg/m ³)	1 mg/m ³
Nova Scotia	OEL TWA (mg/m ³)	1 mg/m ³
Nunavut	OEL STEL (mg/m ³)	20 mg/m ³
Nunavut	OEL TWA (mg/m ³)	10 mg/m ³
Northwest Territories	OEL STEL (mg/m ³)	20 mg/m ³
Northwest Territories	OEL TWA (mg/m ³)	10 mg/m ³
Ontario	OEL TWA (mg/m ³)	1 mg/m ³
Prince Edward Island	OEL TWA (mg/m ³)	1 mg/m ³
Québec	VEMP (mg/m ³)	10 mg/m ³
Saskatchewan	OEL STEL (mg/m ³)	20 mg/m ³
Saskatchewan	OEL TWA (mg/m ³)	10 mg/m ³

Exposure Controls

Appropriate Engineering Controls: Ensure adequate ventilation, especially in confined areas. Ensure all national/local regulations are observed.

Personal Protective Equipment: Not required under normal conditions of use, when handling damaged batteries: Gloves, Protective clothing, Protective goggles, Insufficient ventilation: wear respiratory protection.

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Materials for Protective Clothing: Not required under normal conditions of use, when handling damaged batteries: Chemically resistant materials and fabrics. Corrosionproof clothing.

Hand Protection: Not required under normal conditions of use, when handling damaged batteries: . Wear chemically resistant protective gloves.

Eye Protection: Not required under normal conditions of use, when handling damaged batteries: Chemical goggles or safety glasses.

Skin and Body Protection: Not required under normal conditions of use, when handling damaged batteries: Wear suitable protective clothing.

Respiratory Protection: Not required under normal conditions of use, when handling damaged batteries: Use a NIOSH-approved respirator or self-contained breathing apparatus whenever exposure may exceed established Occupational Exposure Limits.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Information on Basic Physical and Chemical Properties

Physical State	: Solid
Appearance	: Not available
Odor	: Not available
Odor Threshold	: Not available
pH	: Not available
Relative Evaporation Rate (butylacetate=1)	: Not available
Melting Point	: Not available
Freezing Point	: Not available
Boiling Point	: Not available
Flash Point	: Not available
Auto-ignition Temperature	: Not available
Decomposition Temperature	: Not available
Flammability (solid, gas)	: Not available
Lower Flammable Limit	: Not available
Upper Flammable Limit	: Not available
Vapor Pressure	: Not available
Relative Vapor Density at 20 °C	: Not available
Relative Density	: Not available
Specific Gravity	: Not available
Solubility	: Not available
Partition coefficient: n-octanol/water	: Not available
Viscosity	: Not available
Explosion Data – Sensitivity to Mechanical Impact	: Not expected to present an explosion hazard due to mechanical impact.
Explosion Data – Sensitivity to Static Discharge	: Not expected to present an explosion hazard due to static discharge.

SECTION 10: STABILITY AND REACTIVITY

Reactivity: Substances within this product may be reactive with water, air, form combustible dust concentration in air, can be flammable if released, and cause severe health effects. Thermal decomposition of this product may generate corrosive, and toxic vapors. Avoid extremely high or low temperatures, keep away from incompatible materials.

Chemical Stability: Stable under recommended handling and storage conditions (see section 7).

Possibility of Hazardous Reactions: Hazardous polymerization will not occur.

Conditions to Avoid: Extremely high or low temperatures. Direct sunlight. Incompatible materials. Ignition sources. Damaging, puncturing, or opening the battery cell. Do not connect positive terminal to negative terminal with electrical wire or chain. Do not use unauthorized charger or charging method. Do not deconstruct or disassemble battery or solder battery.

Incompatible Materials: Strong acids, strong bases, strong oxidizers. Water. Moisture.

Hazardous Decomposition Products: Thermal decomposition generates : Toxic vapors. May release flammable gases. Corrosive vapors. Highly reactive vapors. Metal oxides.

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SECTION 11: TOXICOLOGICAL INFORMATION

Information on Toxicological Effects - Product

Acute Toxicity: Not classified

LD50 and LC50 Data: Not available

Skin Corrosion/Irritation: Not classified.

Serious Eye Damage/Irritation: Not classified.

Respiratory or Skin Sensitization: Not classified

Germ Cell Mutagenicity: Not classified

Teratogenicity: Not available

Carcinogenicity: Not classified

Specific Target Organ Toxicity (Repeated Exposure): Not classified

Reproductive Toxicity: Not classified

Specific Target Organ Toxicity (Single Exposure): Not classified

Aspiration Hazard: Not classified

Symptoms/Injuries After Inhalation: Exposure to materials housed in battery: Exposure may produce an allergic reaction. May be fatal if inhaled. Inhalation may cause immediate severe irritation progressing quickly to chemical burns.

Symptoms/Injuries After Skin Contact: Exposure to materials housed in battery: Corrosive. Causes burns. May cause an allergic skin reaction.

Symptoms/Injuries After Eye Contact: Exposure to materials housed in battery: Causes serious eye damage.

Symptoms/Injuries After Ingestion: Exposure to materials housed in battery: Toxic if swallowed.

Information on Toxicological Effects - Ingredient(s)

The following ingredients may be contained within the product, but are not available under normal conditions of use. This product is considered a manufactured article and not hazardous.

LD50 and LC50 Data:

Nickel (7440-02-0)	
LD50 Oral Rat	> 9000 mg/kg
Propylene carbonate (108-32-7)	
LD50 Oral Rat	29000 mg/kg
LD50 Dermal Rabbit	> 20 ml/kg
Cobalt oxide (Co2O3) (1308-04-9)	
IARC Group	2B
Nickel (7440-02-0)	
IARC Group	2B
National Toxicity Program (NTP) Status	Reasonably anticipated to be Human Carcinogen.

SECTION 12: ECOLOGICAL INFORMATION

Toxicity

Ecology - General: The product itself is not considered hazardous and is considered an article according to 29 CFR 1910.1200 and the Canadian HPA and is considered a manufactured article. The ecotoxicological information applies to the materials encased within the product. Very toxic to aquatic life with long lasting effects.

Nickel (7440-02-0)	
LC50 Fish 1	100 mg/l (Exposure time: 96 h - Species: Brachydanio rerio)
EC50 Daphnia 1	100 mg/l (Exposure time: 48 h - Species: Daphnia magna)
EC50 Other Aquatic Organisms 1	0.18 mg/l (Exposure time: 72 h - Species: Pseudokirchneriella subcapitata)
LC 50 Fish 2	1.3 mg/l (Exposure time: 96 h - Species: Cyprinus carpio [semi-static])
EC50 Daphnia 2	1 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])
EC50 Other Aquatic Organisms 2	0.174 (0.174 - 0.311) mg/l (Exposure time: 96 h - Species: Pseudokirchneriella subcapitata [static])

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Copper (7440-50-8)	
LC50 Fish 1	<= 0.0068 (0.0068 - 0.0156) mg/l (Exposure time: 96 h - Species: Pimephales promelas)
EC50 Daphnia 1	0.03 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])
EC50 Other Aquatic Organisms 1	0.0426 (0.0426 - 0.0535) mg/l (Exposure time: 72 h - Species: Pseudokirchneriella subcapitata [static])
LC 50 Fish 2	0.3 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])
EC50 Other Aquatic Organisms 2	0.031 (0.031 - 0.054) mg/l (Exposure time: 96 h - Species: Pseudokirchneriella subcapitata [static])

Propylene carbonate (108-32-7)	
LC50 Fish 1	> 1000 mg/l (Exposure time: 96 h - Species: Cyprinus carpio [semi-static])
EC50 Daphnia 1	> 500 mg/l (Exposure time: 48 h - Species: Daphnia magna)
EC50 Other Aquatic Organisms 1	> 500 mg/l (Exposure time: 72 h - Species: Desmodesmus subspicatus)

Persistence and Degradability

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Persistence and Degradability	May cause long-term adverse effects in the environment.

Copper (7440-50-8)	
Persistence and Degradability	Not readily biodegradable.

Bioaccumulative Potential

Propylene carbonate (108-32-7)	
Log Pow	0.48 (at 25 °C)

Mobility in Soil Not available

Other Adverse Effects

Other Information: Avoid release to the environment.

SECTION 13: DISPOSAL CONSIDERATIONS

Waste Disposal Recommendations: Dispose of waste material in accordance with all local, regional, national, provincial, territorial and international regulations.

Ecology – Waste Materials: The materials contained within this product are hazardous to the environment, do not release into the environment.

SECTION 14: TRANSPORT INFORMATION

*When shipping follow all applicable regulations and special provisions for each transport agency. Classifications may differ from those below depending on the quantity of batteries and how they are packaged, among other factors.

14.1 In Accordance with DOT*

Proper Shipping Name : LITHIUM ION BATTERIES
Packing Group : II
Identification Number : UN3480
Hazard Class : 9
Label Codes : 9
ERG number : 147



14.2 In Accordance with IMDG*

Proper Shipping Name : LITHIUM ION BATTERIES
Hazard Class : 9
Identification Number : UN3480
Packing Group : II
Label Codes : 9
EmS-No. (Fire) : F-A
EmS-No. (Spillage) : S-I



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14.3 In Accordance with IATA*

Proper Shipping Name : LITHIUM ION BATTERIES
Packing Group : II
Identification Number : UN3480
Hazard Class : 9
Label Codes : 9
ERG Code (IATA) : 9F



14.4 In Accordance with TDG*

Proper Shipping Name : LITHIUM ION BATTERIES
Packing Group : II
Identification Number : UN3480
Hazard Class : 9
Label Codes : 9



SECTION 15: REGULATORY INFORMATION

US Federal Regulations

The product itself is not considered hazardous and is a manufactured article according to 29 CFR 1910.1200 and the Canadian HPA the following information is for the ingredients contained within this material that are not available under normal conditions of use.

Diethyl carbonate (105-58-8)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
Cobalt oxide (Co2O3) (1308-04-9)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
Nickel (7440-02-0)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
Listed on SARA Section 313 (Specific toxic chemical listings)	
RQ (Reportable Quantity, Section 304 of EPA's List of Lists):	100 lb (only applicable if particles are < 100 µm)
SARA Section 313 - Emission Reporting	0.1 %
Copper (7440-50-8)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
Listed on SARA Section 313 (Specific toxic chemical listings)	
SARA Section 313 - Emission Reporting	1.0 %
Graphite (7782-42-5)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
Aluminum (7429-90-5)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
Listed on SARA Section 313 (Specific toxic chemical listings)	
SARA Section 313 - Emission Reporting	1.0 % (dust or fume only)
Propylene carbonate (108-32-7)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
Phosphate(1-), hexafluoro-, lithium (21324-40-3)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
1,1-Difluoroethylene polymer (24937-79-9)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
Ethylene carbonate (96-49-1)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	

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Cobaltate (CoO21-), lithium (12190-79-3)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

US State Regulations

The product itself is not considered hazardous and is a manufactured article according to 29 CFR 1910.1200 and the Canadian HPA the following information is for the ingredients contained within this material that are not available under normal conditions of use.

Nickel (7440-02-0)

U.S. - California - Proposition 65 - Carcinogens List

WARNING: This product contains chemicals known to the State of California to cause cancer.

Diethyl carbonate (105-58-8)

U.S. - Massachusetts - Oil & Hazardous Material List - Groundwater Reportable Concentration - Reporting Category 1
U.S. - Massachusetts - Oil & Hazardous Material List - Groundwater Reportable Concentration - Reporting Category 2
U.S. - Massachusetts - Oil & Hazardous Material List - Reportable Quantity
U.S. - Massachusetts - Oil & Hazardous Material List - Soil Reportable Concentration - Reporting Category 1
U.S. - Massachusetts - Oil & Hazardous Material List - Soil Reportable Concentration - Reporting Category 2
U.S. - Massachusetts - Right To Know List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - New Jersey - Special Health Hazards Substances List
U.S. - Pennsylvania - RTK (Right to Know) List
U.S. - Texas - Effects Screening Levels - Long Term
U.S. - Texas - Effects Screening Levels - Short Term

Cobalt oxide (Co2O3) (1308-04-9)

U.S. - Illinois - Toxic Air Contaminant Carcinogens
U.S. - Illinois - Toxic Air Contaminants

Nickel (7440-02-0)

U.S. - California - Priority Toxic Pollutants - Freshwater Criteria
U.S. - California - Priority Toxic Pollutants - Human Health Criteria
U.S. - California - Priority Toxic Pollutants - Saltwater Criteria
U.S. - California - SCAQMD - Toxic Air Contaminants - Carcinogens
U.S. - California - SCAQMD - Toxic Air Contaminants - Non-Cancer Acute
U.S. - California - SCAQMD - Toxic Air Contaminants - Non-Cancer Chronic
U.S. - California - SDAPCD - Toxic Air Contaminants - Carcinogenic Impacts Must Be Calculated
U.S. - California - Toxic Air Contaminant List (AB 1807, AB 2728)
U.S. - Connecticut - Drinking Water Quality Standards - Maximum Contaminant Levels
U.S. - Connecticut - Hazardous Air Pollutants - HLVs (30 min)
U.S. - Connecticut - Hazardous Air Pollutants - HLVs (8 hr)
U.S. - Connecticut - Water Quality Standards - Acute Freshwater Aquatic Life Criteria
U.S. - Connecticut - Water Quality Standards - Acute Saltwater Aquatic Life Criteria
U.S. - Connecticut - Water Quality Standards - Chronic Freshwater Aquatic Life Criteria
U.S. - Connecticut - Water Quality Standards - Chronic Saltwater Aquatic Life Criteria
U.S. - Connecticut - Water Quality Standards - Consumption of Organisms Only
U.S. - Connecticut - Water Quality Standards - Consumption of Water and Organisms
U.S. - Connecticut - Water Quality Standards - Health Designations
U.S. - Delaware - Pollutant Discharge Requirements - Reportable Quantities
U.S. - Florida - Drinking Water Standards - Inorganic Contaminants - Maximum Contaminant Levels (MCLs)
U.S. - Georgia - Drinking Water - Maximum Contaminant Levels (MCLs)
U.S. - Idaho - Carcinogenic Toxic Air Pollutants - Acceptable Ambient Concentrations
U.S. - Idaho - Carcinogenic Toxic Air Pollutants - Emission Levels (ELs)
U.S. - Idaho - Occupational Exposure Limits - TWAs
U.S. - Illinois - Toxic Air Contaminant Carcinogens
U.S. - Illinois - Toxic Air Contaminants
U.S. - Louisiana - Reportable Quantity List for Pollutants

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U.S. - Maine - Air Pollutants - Hazardous Air Pollutants
U.S. - Maine - Chemicals of High Concern
U.S. - Maryland - Surface Water Quality Standards - Acute Freshwater Aquatic Life
U.S. - Maryland - Surface Water Quality Standards - Acute Saltwater Aquatic Life Criteria
U.S. - Maryland - Surface Water Quality Standards - Chronic Freshwater Aquatic Life
U.S. - Maryland - Surface Water Quality Standards - Chronic Saltwater Aquatic Life Criteria
U.S. - Maryland - Surface Water Quality Standards - Consumption of Organisms Only
U.S. - Maryland - Surface Water Quality Standards - Consumption of Water and Organisms
U.S. - Massachusetts - Allowable Ambient Limits (AALs)
U.S. - Massachusetts - Allowable Threshold Concentrations (ATCs)
U.S. - Massachusetts - Drinking Water Guidelines
U.S. - Massachusetts - Oil & Hazardous Material List - Groundwater Reportable Concentration - Reporting Category 1
U.S. - Massachusetts - Oil & Hazardous Material List - Groundwater Reportable Concentration - Reporting Category 2
U.S. - Massachusetts - Oil & Hazardous Material List - Reportable Quantity
U.S. - Massachusetts - Oil & Hazardous Material List - Soil Reportable Concentration - Reporting Category 1
U.S. - Massachusetts - Oil & Hazardous Material List - Soil Reportable Concentration - Reporting Category 2
U.S. - Massachusetts - Right To Know List
U.S. - Massachusetts - Threshold Effects Exposure Limits (TEELs)
U.S. - Massachusetts - Toxics Use Reduction Act
U.S. - Michigan - Occupational Exposure Limits - TWAs
U.S. - Michigan - Polluting Materials List
U.S. - Minnesota - Chemicals of High Concern
U.S. - Minnesota - Hazardous Substance List
U.S. - Minnesota - Permissible Exposure Limits - TWAs
U.S. - Nebraska - Drinking Water - Maximum Contaminant Levels (MCLs)
U.S. - New Hampshire - Prohibited Volatile Organic Compounds
U.S. - New Hampshire - Regulated Toxic Air Pollutants - Ambient Air Levels (AALs) - 24-Hour
U.S. - New Hampshire - Regulated Toxic Air Pollutants - Ambient Air Levels (AALs) - Annual
U.S. - New Jersey - Discharge Prevention - List of Hazardous Substances
U.S. - New Jersey - Environmental Hazardous Substances List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - New Jersey - Special Health Hazards Substances List
U.S. - New Mexico - Water Quality - Standards for Ground Water of 10,000 mg/L TDS Concentration or Less
U.S. - New York - Occupational Exposure Limits - TWAs
U.S. - New York - Priority Chemical Avoidance List
U.S. - New York - Reporting of Releases Part 597 - List of Hazardous Substances
U.S. - North Carolina - Control of Toxic Air Pollutants
U.S. - North Dakota - Air Pollutants - Guideline Concentrations - 8-Hour
U.S. - North Dakota - Water Quality Standards - Aquatic Life Acute Value for Classes I, IA, II, III
U.S. - North Dakota - Water Quality Standards - Aquatic Life Chronic Value for Classes I, IA, II, III
U.S. - North Dakota - Water Quality Standards - Human Health Value for Class III
U.S. - North Dakota - Water Quality Standards - Human Health Value for Classes I, IA, II
U.S. - Oregon - Permissible Exposure Limits - TWAs
U.S. - Pennsylvania - Beneficial Use of Sewage Sludge by Land Application - Pollutant Ceiling Limits
U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List
U.S. - Pennsylvania - RTK (Right to Know) - Special Hazardous Substances
U.S. - Pennsylvania - RTK (Right to Know) List
U.S. - Rhode Island - Air Toxics - Acceptable Ambient Levels - 1-Hour
U.S. - Rhode Island - Air Toxics - Acceptable Ambient Levels - 24-Hour
U.S. - Rhode Island - Air Toxics - Acceptable Ambient Levels - Annual
U.S. - Rhode Island - Water Quality Standards - Acute Freshwater Aquatic Life Criteria
U.S. - Rhode Island - Water Quality Standards - Acute Saltwater Aquatic Life Criteria

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U.S. - Rhode Island - Water Quality Standards - Chronic Freshwater Aquatic Life Criteria
U.S. - Rhode Island - Water Quality Standards - Chronic Saltwater Aquatic Life Criteria
U.S. - Rhode Island - Water Quality Standards - Human Health Criteria for Consumption of Aquatic Organisms Only
U.S. - Rhode Island - Water Quality Standards - Human Health Criteria for Consumption of Water and Aquatic Organisms
U.S. - South Carolina - Toxic Air Pollutants - Maximum Allowable Concentrations
U.S. - South Carolina - Toxic Air Pollutants - Pollutant Categories
U.S. - Tennessee - Occupational Exposure Limits - TWAs
U.S. - Texas - Effects Screening Levels - Long Term
U.S. - Texas - Effects Screening Levels - Short Term
U.S. - Utah - Drinking Water - Maximum Contaminant Levels (MCLs)
U.S. - Vermont - Hazardous Waste - Hazardous Constituents
U.S. - Vermont - Permissible Exposure Limits - TWAs
U.S. - Virginia - Water Quality Standards - Acute Freshwater Aquatic Life
U.S. - Virginia - Water Quality Standards - Acute Saltwater Aquatic Life
U.S. - Virginia - Water Quality Standards - Chronic Freshwater Aquatic Life
U.S. - Virginia - Water Quality Standards - Chronic Saltwater Aquatic Life
U.S. - Virginia - Water Quality Standards - Public Water Supply Effluent Limits
U.S. - Virginia - Water Quality Standards - Surface Waters Not Used for the Public Water Supply Effluent Limits
U.S. - Washington - Dangerous Waste - Dangerous Waste Constituents List
U.S. - Washington - Permissible Exposure Limits - STELS
U.S. - Washington - Permissible Exposure Limits - TWAs
U.S. - Wisconsin - Hazardous Air Contaminants - All Sources - Emissions From Stack Heights 25 Feet to Less Than 40 Feet
U.S. - Wisconsin - Hazardous Air Contaminants - All Sources - Emissions From Stack Heights 40 Feet to Less Than 75 Feet
U.S. - Wisconsin - Hazardous Air Contaminants - All Sources - Emissions From Stack Heights 75 Feet or Greater
U.S. - Wisconsin - Hazardous Air Contaminants - All Sources - Emissions From Stack Heights Less Than 25 Feet
U.S. - Alaska - Water Quality Standards - Acute Aquatic Life Criteria for Fresh Water
U.S. - Alaska - Water Quality Standards - Chronic Aquatic Life Criteria for Fresh Water
U.S. - Alaska - Water Quality Standards - Acute Aquatic Life Criteria for Marine Water
U.S. - Alaska - Water Quality Standards - Chronic Aquatic Life Criteria for Marine Water
U.S. - Arkansas - Surface Water Quality Standards - Chronic Aquatic Life Criteria
U.S. - Arkansas - Surface Water Quality Standards - Acute Aquatic Life Criteria

Copper (7440-50-8)

U.S. - California - Priority Toxic Pollutants - Freshwater Criteria
U.S. - California - Priority Toxic Pollutants - Human Health Criteria
U.S. - California - Priority Toxic Pollutants - Saltwater Criteria
U.S. - California - SCAQMD - Toxic Air Contaminants - Non-Cancer Acute
U.S. - California - Toxic Air Contaminant List (AB 1807, AB 2728)
U.S. - Colorado - Primary Drinking Water Regulations - Maximum Contaminant Level Goals (MCLGs)
U.S. - Colorado - Primary Drinking Water Regulations - Secondary Maximum Contaminant Levels (SMCLs)
U.S. - Connecticut - Drinking Water Quality Standards - Groundwater Sources
U.S. - Connecticut - Drinking Water Quality Standards - Maximum Contaminant Levels
U.S. - Connecticut - Hazardous Air Pollutants - HLVs (30 min)
U.S. - Connecticut - Hazardous Air Pollutants - HLVs (8 hr)
U.S. - Connecticut - Water Quality Standards - Acute Freshwater Aquatic Life Criteria
U.S. - Connecticut - Water Quality Standards - Acute Saltwater Aquatic Life Criteria
U.S. - Connecticut - Water Quality Standards - Chronic Freshwater Aquatic Life Criteria
U.S. - Connecticut - Water Quality Standards - Chronic Saltwater Aquatic Life Criteria
U.S. - Connecticut - Water Quality Standards - Consumption of Water and Organisms
U.S. - Connecticut - Water Quality Standards - Health Designations
U.S. - Delaware - Pollutant Discharge Requirements - Reportable Quantities
U.S. - Florida - Drinking Water Standards - Secondary Maximum Contaminant Levels (SMCLs)
U.S. - Georgia - Drinking Water - Secondary Maximum Contaminant Levels (SMCLs)

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U.S. - Idaho - Non-Carcinogenic Toxic Air Pollutants - Acceptable Ambient Concentrations
U.S. - Idaho - Non-Carcinogenic Toxic Air Pollutants - Emission Levels (ELs)
U.S. - Idaho - Occupational Exposure Limits - TWAs
U.S. - Illinois - Toxic Air Contaminants
U.S. - Louisiana - Reportable Quantity List for Pollutants
U.S. - Maryland - Surface Water Quality Standards - Acute Freshwater Aquatic Life
U.S. - Maryland - Surface Water Quality Standards - Acute Saltwater Aquatic Life Criteria
U.S. - Maryland - Surface Water Quality Standards - Chronic Freshwater Aquatic Life
U.S. - Maryland - Surface Water Quality Standards - Chronic Saltwater Aquatic Life Criteria
U.S. - Maryland - Surface Water Quality Standards - Consumption of Water and Organisms
U.S. - Massachusetts - Allowable Ambient Limits (AALs)
U.S. - Massachusetts - Allowable Threshold Concentrations (ATCs)
U.S. - Massachusetts - Drinking Water - Maximum Contaminant Levels (MCLs)
U.S. - Massachusetts - Drinking Water - Secondary Maximum Contaminant Levels (SMCLs)
U.S. - Massachusetts - Oil & Hazardous Material List - Groundwater Reportable Concentration - Reporting Category 1
U.S. - Massachusetts - Oil & Hazardous Material List - Groundwater Reportable Concentration - Reporting Category 2
U.S. - Massachusetts - Oil & Hazardous Material List - Reportable Quantity
U.S. - Massachusetts - Oil & Hazardous Material List - Soil Reportable Concentration - Reporting Category 1
U.S. - Massachusetts - Oil & Hazardous Material List - Soil Reportable Concentration - Reporting Category 2
U.S. - Massachusetts - Right To Know List
U.S. - Massachusetts - Threshold Effects Exposure Limits (TEELs)
U.S. - Massachusetts - Toxics Use Reduction Act
U.S. - Michigan - Occupational Exposure Limits - TWAs
U.S. - Michigan - Polluting Materials List
U.S. - Minnesota - Hazardous Substance List
U.S. - Minnesota - Permissible Exposure Limits - TWAs
U.S. - Missouri - Drinking Water - Maximum Contaminant Levels (MCLs)
U.S. - Missouri - Drinking Water - Secondary Maximum Contaminant Levels (SMCLs)
U.S. - Nevada - Drinking Water - Secondary Maximum Contaminant Levels (SMCLs)
U.S. - New Hampshire - Drinking Water - Secondary Maximum Contaminant Levels (SMCLs)
U.S. - New Hampshire - Regulated Toxic Air Pollutants - Ambient Air Levels (AALs) - 24-Hour
U.S. - New Hampshire - Regulated Toxic Air Pollutants - Ambient Air Levels (AALs) - Annual
U.S. - New Jersey - Discharge Prevention - List of Hazardous Substances
U.S. - New Jersey - Environmental Hazardous Substances List
U.S. - New Jersey - Primary Drinking Water Standards - Action Levels - ALs
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - New Jersey - Water Quality - Ground Water Quality Criteria
U.S. - New Jersey - Water Quality - Practical Quantitation Levels (PQLs)
U.S. - New Mexico - Water Quality - Standards for Ground Water of 10,000 mg/L TDS Concentration or Less
U.S. - New York - Occupational Exposure Limits - TWAs
U.S. - New York - Reporting of Releases Part 597 - List of Hazardous Substances
U.S. - North Dakota - Air Pollutants - Guideline Concentrations - 8-Hour
U.S. - North Dakota - Water Quality Standards - Aquatic Life Acute Value for Classes I, IA, II, III
U.S. - North Dakota - Water Quality Standards - Aquatic Life Chronic Value for Classes I, IA, II, III
U.S. - North Dakota - Water Quality Standards - Human Health Value for Classes I, IA, II
U.S. - Oregon - Permissible Exposure Limits - TWAs
U.S. - Pennsylvania - Beneficial Use of Sewage Sludge by Land Application - Pollutant Ceiling Limits
U.S. - Pennsylvania - Drinking Water - Maximum Contaminant Levels (MCLs)
U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List
U.S. - Pennsylvania - RTK (Right to Know) List
U.S. - Rhode Island - Air Toxics - Acceptable Ambient Levels - 1-Hour
U.S. - Rhode Island - Air Toxics - Acceptable Ambient Levels - Annual

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U.S. - Rhode Island - Water Quality Standards - Acute Freshwater Aquatic Life Criteria
U.S. - Rhode Island - Water Quality Standards - Acute Saltwater Aquatic Life Criteria
U.S. - Rhode Island - Water Quality Standards - Chronic Freshwater Aquatic Life Criteria
U.S. - Rhode Island - Water Quality Standards - Chronic Saltwater Aquatic Life Criteria
U.S. - Rhode Island - Water Quality Standards - Human Health Criteria for Consumption of Water and Aquatic Organisms
U.S. - South Carolina - Secondary Maximum Contaminant Levels (SMCLs)
U.S. - Tennessee - Occupational Exposure Limits - TWAs
U.S. - Texas - Drinking Water Standards - Secondary Constituent Levels (SCLs)
U.S. - Texas - Effects Screening Levels - Long Term
U.S. - Texas - Effects Screening Levels - Short Term
U.S. - Utah - Drinking Water - Secondary Maximum Contaminant Levels (SMCLs)
U.S. - Vermont - Permissible Exposure Limits - TWAs
U.S. - Virginia - Water Quality Standards - Acute Freshwater Aquatic Life
U.S. - Virginia - Water Quality Standards - Acute Saltwater Aquatic Life
U.S. - Virginia - Water Quality Standards - Chronic Freshwater Aquatic Life
U.S. - Virginia - Water Quality Standards - Chronic Saltwater Aquatic Life
U.S. - Virginia - Water Quality Standards - Public Water Supply Effluent Limits
U.S. - Washington - Permissible Exposure Limits - STELS
U.S. - Washington - Permissible Exposure Limits - TWAs
U.S. - West Virginia - Water Quality - Groundwater Standards - Ceiling Concentrations
U.S. - Wisconsin - Hazardous Air Contaminants - All Sources - Emissions From Stack Heights 25 Feet to Less Than 40 Feet
U.S. - Wisconsin - Hazardous Air Contaminants - All Sources - Emissions From Stack Heights 40 Feet to Less Than 75 Feet
U.S. - Wisconsin - Hazardous Air Contaminants - All Sources - Emissions From Stack Heights 75 Feet or Greater
U.S. - Wisconsin - Hazardous Air Contaminants - All Sources - Emissions From Stack Heights Less Than 25 Feet
U.S. - Alaska - Water Quality Standards - Acute Aquatic Life Criteria for Fresh Water
U.S. - Alaska - Water Quality Standards - Chronic Aquatic Life Criteria for Fresh Water
U.S. - Alaska - Water Quality Standards - Acute Aquatic Life Criteria for Marine Water
U.S. - Alaska - Water Quality Standards - Chronic Aquatic Life Criteria for Marine Water
U.S. - Arkansas - Surface Water Quality Standards - Chronic Aquatic Life Criteria
U.S. - Arkansas - Surface Water Quality Standards - Acute Aquatic Life Criteria

Graphite (7782-42-5)

U.S. - Idaho - Occupational Exposure Limits - Mineral Dusts
U.S. - Idaho - Occupational Exposure Limits - TWAs
U.S. - Massachusetts - Right To Know List
U.S. - Michigan - Occupational Exposure Limits - TWAs
U.S. - Minnesota - Hazardous Substance List
U.S. - Minnesota - Permissible Exposure Limits - TWAs
U.S. - New Hampshire - Regulated Toxic Air Pollutants - Ambient Air Levels (AALs) - 24-Hour
U.S. - New Hampshire - Regulated Toxic Air Pollutants - Ambient Air Levels (AALs) - Annual
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - New York - Occupational Exposure Limits - Mineral Dusts
U.S. - North Dakota - Air Pollutants - Guideline Concentrations - 8-Hour
U.S. - Oregon - Permissible Exposure Limits - Mineral Dusts
U.S. - Oregon - Permissible Exposure Limits - TWAs
U.S. - Pennsylvania - RTK (Right to Know) List
U.S. - Tennessee - Occupational Exposure Limits - TWAs
U.S. - Texas - Effects Screening Levels - Long Term
U.S. - Texas - Effects Screening Levels - Short Term
U.S. - Vermont - Permissible Exposure Limits - TWAs
U.S. - Washington - Permissible Exposure Limits - STELS
U.S. - Washington - Permissible Exposure Limits - TWAs
U.S. - Wisconsin - Hazardous Air Contaminants - All Sources - Emissions From Stack Heights 25 Feet to Less Than 40 Feet

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U.S. - Wisconsin - Hazardous Air Contaminants - All Sources - Emissions From Stack Heights 40 Feet to Less Than 75 Feet

U.S. - Wisconsin - Hazardous Air Contaminants - All Sources - Emissions From Stack Heights 75 Feet or Greater

U.S. - Wisconsin - Hazardous Air Contaminants - All Sources - Emissions From Stack Heights Less Than 25 Feet

Aluminum (7429-90-5)

U.S. - California - Toxic Air Contaminant List (AB 1807, AB 2728)

U.S. - Colorado - Primary Drinking Water Regulations - Secondary Maximum Contaminant Levels (SMCLs)

U.S. - Connecticut - Hazardous Air Pollutants - HLVs (30 min)

U.S. - Connecticut - Hazardous Air Pollutants - HLVs (8 hr)

U.S. - Connecticut - Water Quality Standards - Acute Freshwater Aquatic Life Criteria

U.S. - Connecticut - Water Quality Standards - Chronic Freshwater Aquatic Life Criteria

U.S. - Delaware - Pollutant Discharge Requirements - Reportable Quantities

U.S. - Florida - Drinking Water Standards - Secondary Maximum Contaminant Levels (SMCLs)

U.S. - Georgia - Drinking Water - Secondary Maximum Contaminant Levels (SMCLs)

U.S. - Idaho - Non-Carcinogenic Toxic Air Pollutants - Acceptable Ambient Concentrations

U.S. - Idaho - Non-Carcinogenic Toxic Air Pollutants - Emission Levels (ELs)

U.S. - Maryland - Surface Water Quality Standards - Acute Freshwater Aquatic Life

U.S. - Maryland - Surface Water Quality Standards - Chronic Freshwater Aquatic Life

U.S. - Massachusetts - Drinking Water - Secondary Maximum Contaminant Levels (SMCLs)

U.S. - Massachusetts - Right To Know List

U.S. - Massachusetts - Toxics Use Reduction Act

U.S. - Michigan - Occupational Exposure Limits - TWAs

U.S. - Minnesota - Hazardous Substance List

U.S. - Minnesota - Permissible Exposure Limits - TWAs

U.S. - Missouri - Drinking Water - Secondary Maximum Contaminant Levels (SMCLs)

U.S. - Nevada - Drinking Water - Secondary Maximum Contaminant Levels (SMCLs)

U.S. - New Hampshire - Drinking Water - Secondary Maximum Contaminant Levels (SMCLs)

U.S. - New Hampshire - Regulated Toxic Air Pollutants - Ambient Air Levels (AALs) - 24-Hour

U.S. - New Hampshire - Regulated Toxic Air Pollutants - Ambient Air Levels (AALs) - Annual

U.S. - New Jersey - Discharge Prevention - List of Hazardous Substances

U.S. - New Jersey - Environmental Hazardous Substances List

U.S. - New Jersey - Right to Know Hazardous Substance List

U.S. - New Jersey - Secondary Drinking Water Standards - Recommended Upper Limits (RULs)

U.S. - New Jersey - Special Health Hazards Substances List

U.S. - New Jersey - Water Quality - Ground Water Quality Criteria

U.S. - New Jersey - Water Quality - Practical Quantitation Levels (PQLs)

U.S. - New Mexico - Water Quality - Standards for Ground Water of 10,000 mg/L TDS Concentration or Less

U.S. - North Dakota - Air Pollutants - Guideline Concentrations - 8-Hour

U.S. - Oregon - Permissible Exposure Limits - TWAs

U.S. - Pennsylvania - Drinking Water - Secondary Maximum Contaminant Levels (SMCLs)

U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List

U.S. - Pennsylvania - RTK (Right to Know) List

U.S. - Rhode Island - Water Quality Standards - Acute Freshwater Aquatic Life Criteria

U.S. - Rhode Island - Water Quality Standards - Chronic Freshwater Aquatic Life Criteria

U.S. - South Carolina - Secondary Maximum Contaminant Levels (SMCLs)

U.S. - Tennessee - Occupational Exposure Limits - TWAs

U.S. - Texas - Drinking Water Standards - Secondary Constituent Levels (SCLs)

U.S. - Texas - Effects Screening Levels - Long Term

U.S. - Texas - Effects Screening Levels - Short Term

U.S. - Utah - Drinking Water - Secondary Maximum Contaminant Levels (SMCLs)

U.S. - Vermont - Permissible Exposure Limits - TWAs

U.S. - Washington - Permissible Exposure Limits - STELs

U.S. - Washington - Permissible Exposure Limits - TWAs

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U.S. - Alaska - Water Quality Standards - Acute Aquatic Life Criteria for Fresh Water	
U.S. - Alaska - Water Quality Standards - Chronic Aquatic Life Criteria for Fresh Water	
Propylene carbonate (108-32-7)	
U.S. - Delaware - Volatile Organic Compounds Exempt from Requirements	
U.S. - New Jersey - Excluded Volatile Organic Compounds	
U.S. - Texas - Effects Screening Levels - Long Term	
U.S. - Texas - Effects Screening Levels - Short Term	
Ethylene carbonate (96-49-1)	
U.S. - Massachusetts - Right To Know List	
U.S. - Pennsylvania - RTK (Right to Know) List	
U.S. - Texas - Effects Screening Levels - Long Term	
U.S. - Texas - Effects Screening Levels - Short Term	
Canadian Regulations	
The product itself is not considered hazardous and is a manufactured article according to 29 CFR 1910.1200 and the Canadian HPA the following information is for the ingredients contained within this material that are not available under normal conditions of use.	
Lithium Ion Battery Pack	
WHMIS Classification	Uncontrolled product according to WHMIS classification criteria
Diethyl carbonate (105-58-8)	
Listed on the Canadian DSL (Domestic Substances List) inventory.	
WHMIS Classification	Class B Division 2 - Flammable Liquid
Cobalt oxide (Co2O3) (1308-04-9)	
Listed on the Canadian DSL (Domestic Substances List) inventory.	
WHMIS Classification	Class D Division 2 Subdivision A - Very toxic material causing other toxic effects Class D Division 2 Subdivision B - Toxic material causing other toxic effects
Nickel (7440-02-0)	
Listed on the Canadian DSL (Domestic Substances List) inventory.	
Listed on the Canadian Ingredient Disclosure List	
WHMIS Classification	Class D Division 2 Subdivision A - Very toxic material causing other toxic effects Class D Division 2 Subdivision B - Toxic material causing other toxic effects
Copper (7440-50-8)	
Listed on the Canadian DSL (Domestic Substances List) inventory.	
Listed on the Canadian Ingredient Disclosure List	
WHMIS Classification	Uncontrolled product according to WHMIS classification criteria
Graphite (7782-42-5)	
Listed on the Canadian DSL (Domestic Substances List) inventory.	
WHMIS Classification	Class D Division 2 Subdivision A - Very toxic material causing other toxic effects
Aluminum (7429-90-5)	
Listed on the Canadian DSL (Domestic Substances List) inventory.	
Listed on the Canadian Ingredient Disclosure List	
WHMIS Classification	Class B Division 6 - Reactive Flammable Material Class B Division 4 - Flammable Solid
Propylene carbonate (108-32-7)	
Listed on the Canadian DSL (Domestic Substances List) inventory.	
Listed on the Canadian Ingredient Disclosure List	
WHMIS Classification	Class D Division 2 Subdivision B - Toxic material causing other toxic effects
Phosphate(1-), hexafluoro-, lithium (21324-40-3)	
Listed on Non-Domestic Substances List (NDSL)	

Lithium Ion Battery Pack

This document replaces Bacharach MSDS reference number 0099-0147, covering the specific manufactured articles listed.

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

WHMIS Classification	Class E - Corrosive Material Class D Division 1 Subdivision B - Toxic material causing immediate and serious toxic effects Class D Division 2 Subdivision B - Toxic material causing other toxic effects
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1,1-Difluoroethylene polymer (24937-79-9)

Listed on the Canadian DSL (Domestic Substances List) inventory.

WHMIS Classification	Uncontrolled product according to WHMIS classification criteria
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Ethylene carbonate (96-49-1)

Listed on the Canadian DSL (Domestic Substances List) inventory.

WHMIS Classification	Class D Division 2 Subdivision B - Toxic material causing other toxic effects
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Cobaltate (CoO21-), lithium (12190-79-3)

Listed on the Canadian DSL (Domestic Substances List) inventory.

WHMIS Classification	Class D Division 2 Subdivision A - Very toxic material causing other toxic effects
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This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the SDS contains all of the information required by CPR.

SECTION 16: OTHER INFORMATION, INCLUDING DATE OF PREPARATION OR LAST REVISION

Revision date : 04/09/2014

Other Information : his document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200. Within the meaning of the OSHA Hazard Communication Standard [29 CFR 1910.1200] and the Canadian Hazardous Products Act (HPA): this product is considered a manufactured article and is not considered a hazard when used in a manner which is consistent with the labeled directions.

GHS Full Text Phrases:

Acute Tox. 3 (Oral)	Acute toxicity (oral) Category 3
Acute Tox. 4 (Oral)	Acute toxicity (oral) Category 4
Aquatic Acute 1	Hazardous to the aquatic environment - Acute Hazard Category 1
Aquatic Chronic 3	Hazardous to the aquatic environment - Chronic Hazard Category 3
Carc. 2	Carcinogenicity Category 2
Comb. Dust	Combustible Dust
Eye Dam. 1	Serious eye damage/eye irritation Category 1
Eye Irrit. 2A	Serious eye damage/eye irritation Category 2A
Flam. Liq. 3	Flammable liquids Category 3
Flam. Sol. 1	Flammable solids Category 1
Repr. 2	Reproductive toxicity Category 2
Skin Corr. 1A	Skin corrosion/irritation Category 1A
Skin Sens. 1	Skin sensitization Category 1
STOT RE 1	Specific target organ toxicity (repeated exposure) Category 1
Water-react. 2	Substances and mixtures which in contact with water emit flammable gases Category 2
H226	Flammable liquid and vapor
H228	Flammable solid
H232	May form combustible dust concentrations in air
H261	In contact with water releases flammable gases
H301	Toxic if swallowed
H302	Harmful if swallowed
H314	Causes severe skin burns and eye damage
H317	May cause an allergic skin reaction
H318	Causes serious eye damage
H319	Causes serious eye irritation

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H351	Suspected of causing cancer
H361	Suspected of damaging fertility or the unborn child
H372	Causes damage to organs through prolonged or repeated exposure
H400	Very toxic to aquatic life
H412	Harmful to aquatic life with long lasting effects

Party Responsible for the Preparation of This Document

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This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

North America GHS US 2012 & WHMIS 2