

SAFETY DATA SHEET

Issuing Date 10-Dec-2019

Revision Date 16-Oct-2019

Revision Number 1

NGHS / English



The supplier identified below generated this SDS using the UL SDS template. UL did not test, certify, or approve the substance described in this SDS, and all information in this SDS was provided by the supplier or was reproduced from publically available regulatory data sources. UL makes no representations or warranties regarding the completeness or accuracy of the information in this SDS and disclaims all liability in connection with the use of this information or the substance described in this SDS. The layout, appearance and format of this SDS is © 2014 UL LLC. All rights reserved.

1. IDENTIFICATION

Product identifier

Product Name BA5600T battery pack (560Wh)

Other means of identification

Product Code(s) 1545525

Recommended use of the chemical and restrictions on use

Recommended Use LITHIUM ION BATTERIES

Restrictions on use No information available

Details of the supplier of the safety data sheet

Supplier Identification Nanjing Chervon Industry Co., Ltd.

Address 159 South Jiang Jun Rd. Jiangning Economic & Technical Development Zone
Nanjing
Jiangsu
211106
CN

Telephone Phone: +862552101133

E-mail hj.ye@cn.chervongroup.com

Emergency telephone number

Company Emergency Phone Number +862552101133

2. HAZARDS IDENTIFICATION

Classification

Acute toxicity - Oral	Category 3
Skin corrosion/irritation	Category 2



Serious eye damage/eye irritation	Category 1
Skin sensitization	Category 1
Carcinogenicity	Category 1B
Reproductive toxicity	Category 1B
Specific target organ toxicity (repeated exposure)	Category 1

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

Appearance Solid

Physical state Solid

Odor Odorless

GHS Label elements, including precautionary statements

Danger

Hazard statements

Toxic if swallowed
 Causes skin irritation
 Causes serious eye damage
 May cause an allergic skin reaction
 May cause cancer
 May damage fertility or the unborn child
 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

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

Eyes

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

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: Immediately call a POISON CENTER or doctor
 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

131 % of the mixture consists of ingredient(s) of unknown toxicity

97 % of the mixture consists of ingredient(s) of unknown acute oral toxicity

131 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity

130 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)

130 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)

130 % 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)
Litium nickel oxide(Li ₂ NiO ₂)	12325-84-7	35	-	-
Graphite	7782-42-5	30	-	-
Iron	7439-89-6	20	-	-
Copper	7440-50-8	15	-	-
Methyl propionate	554-12-1	5	-	-
Lithium Cobalt Oxide (CoLiO ₂)	12190-79-3	5	-	-
Aluminum	7429-90-5	5	-	-
Phosphate(1-), hexafluoro-, lithium	21324-40-3	3	-	-
Nickel	7440-02-0	1	-	-
Lithium carbonate	554-13-2	1	-	-
Iron oxide	1309-37-1	1	-	-
Ethylbenzene	100-41-4	1	-	-
Chromium	7440-47-3	1	-	-
Carbon black	1333-86-4	1	-	-
Boehmite (Al(OH)O)	1318-23-6	1	-	-
1-Methyl-2-pyrrolidone	872-50-4	1	-	-

4. FIRST AID MEASURES**Description of first aid measures****General advice**

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

Inhalation

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



Eye contact	Get immediate medical advice/attention. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Keep eye wide open while rinsing. Do not rub affected area.
Skin contact	Wash off immediately with soap and plenty of water for at least 15 minutes. May cause an allergic skin reaction. In the case of skin irritation or allergic reactions see a physician.
Ingestion	Do NOT induce vomiting. Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Get medical attention.
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 Burning sensation. Itching. Rashes. Hives.

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. Use personal protective equipment as required. Ensure adequate ventilation. 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. Do not eat, drink or smoke when using this product. Ensure adequate ventilation. In case of insufficient ventilation, wear suitable respiratory equipment. Take off contaminated clothing and wash before reuse. Remove contaminated clothing and shoes.

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
Litium nickel oxide(Li ₂ NiO ₂) 12325-84-7	-	-	IDLH: 10 mg/m ³ Ni TWA: 0.015 mg/m ³ except Nickel carbonyl Ni
Graphite 7782-42-5	TWA: 2 mg/m ³ respirable particulate matter all forms except graphite fibers	TWA: 15 mg/m ³ total dust synthetic TWA: 5 mg/m ³ respirable fraction synthetic (vacated) TWA: 2.5 mg/m ³ respirable dust natural (vacated) TWA: 10 mg/m ³ total dust synthetic (vacated) TWA: 5 mg/m ³ respirable fraction synthetic TWA: 15 mppcf natural	IDLH: 1250 mg/m ³ TWA: 2.5 mg/m ³ respirable dust
Copper 7440-50-8	TWA: 0.2 mg/m ³ fume	TWA: 0.1 mg/m ³ fume TWA: 1 mg/m ³ dust and mist (vacated) TWA: 0.1 mg/m ³ Cu dust, fume, mist	IDLH: 100 mg/m ³ dust, fume and mist TWA: 1 mg/m ³ dust and mist TWA: 0.1 mg/m ³ fume
Lithium Cobalt Oxide (CoLiO ₂) 12190-79-3	TWA: 0.02 mg/m ³	-	
Aluminum 7429-90-5	TWA: 1 mg/m ³ respirable particulate matter	TWA: 15 mg/m ³ total dust TWA: 5 mg/m ³ respirable fraction (vacated) TWA: 15 mg/m ³ total dust (vacated) TWA: 5 mg/m ³	TWA: 10 mg/m ³ total dust TWA: 5 mg/m ³ respirable dust

Phosphate(1-), hexafluoro-, lithium 21324-40-3	TWA: 2.5 mg/m ³ F	respirable fraction TWA: 2.5 mg/m ³ F (vacated) TWA: 2.5 mg/m ³	IDLH: 250 mg/m ³ F	
Nickel 7440-02-0	TWA: 1.5 mg/m ³	TWA: 1 mg/m ³ (vacated) TWA: 1 mg/m ³	IDLH: 10 mg/m ³ TWA: 0.015 mg/m ³	
Iron oxide 1309-37-1	TWA: 5 mg/m ³ respirable particulate matter	TWA: 10 mg/m ³ fume TWA: 15 mg/m ³ total dust TWA: 5 mg/m ³ respirable fraction (vacated) TWA: 10 mg/m ³ fume and total dust Iron oxide (vacated) TWA: 5 mg/m ³ respirable fraction regulated under Rouge	IDLH: 2500 mg/m ³ Fe dust and fume TWA: 5 mg/m ³ Fe dust and fume	
Ethylbenzene 100-41-4	STEL = 125 ppm TWA: 100 ppm	TWA: 100 ppm TWA: 435 mg/m ³ (vacated) TWA: 100 ppm (vacated) TWA: 435 mg/m ³ (vacated) STEL: 125 ppm (vacated) STEL: 545 mg/m ³	IDLH: 800 ppm 10% LEL TWA: 100 ppm TWA: 435 mg/m ³ STEL: 545 mg/m ³ STEL: 125 ppm	
Chromium 7440-47-3	TWA: 0.5 mg/m ³ inhalable particulate matter	TWA: 1 mg/m ³ (vacated) TWA: 1 mg/m ³	IDLH: 250 mg/m ³ TWA: 0.5 mg/m ³	
Carbon black 1333-86-4	TWA: 3 mg/m ³ inhalable particulate matter	TWA: 3.5 mg/m ³ (vacated) TWA: 3.5 mg/m ³	IDLH: 1750 mg/m ³ TWA: 3.5 mg/m ³ TWA: 0.1 mg/m ³ Carbon black in presence of Polycyclic aromatic hydrocarbons PAH	
Boehmite (Al(OH)O) 1318-23-6	TWA: 1 mg/m ³ respirable particulate matter	-		
Chemical name	Alberta	British Columbia	Ontario TWAEV	Quebec
Graphite 7782-42-5	TWA: 2 mg/m ³	TWA: 2 mg/m ³	TWA: 2 mg/m ³	TWA: 2 mg/m ³
Copper 7440-50-8	TWA: 0.2 mg/m ³ TWA: 1 mg/m ³	TWA: 1 mg/m ³ TWA: 0.2 mg/m ³	TWA: 0.2 mg/m ³ TWA: 1 mg/m ³	TWA: 0.2 mg/m ³ TWA: 1 mg/m ³
Lithium Cobalt Oxide (CoLiO ₂) 12190-79-3	TWA: 0.02 mg/m ³	TWA: 0.02 mg/m ³	TWA: 0.02 mg/m ³	TWA: 0.02 mg/m ³
Aluminum 7429-90-5	TWA: 10 mg/m ³	TWA: 1.0 mg/m ³	TWA: 1 mg/m ³	TWA: 10 mg/m ³
Phosphate(1-), hexafluoro-, lithium 21324-40-3	TWA: 2.5 mg/m ³	TWA: 2.5 mg/m ³	TWA: 2.5 mg/m ³	TWA: 2.5 mg/m ³
Nickel 7440-02-0	TWA: 1.5 mg/m ³	TWA: 0.05 mg/m ³	TWA: 1 mg/m ³	TWA: 1 mg/m ³
Iron oxide 1309-37-1	TWA: 5 mg/m ³	TWA: 10 mg/m ³ TWA: 3 mg/m ³ TWA: 5 mg/m ³ STEL: 10 mg/m ³	TWA: 5 mg/m ³	TWA: 5 mg/m ³ TWA: 10 mg/m ³
Ethylbenzene 100-41-4	TWA: 100 ppm TWA: 434 mg/m ³ STEL: 125 ppm STEL: 543 mg/m ³	TWA: 20 ppm	TWA: 20 ppm	TWA: 100 ppm TWA: 434 mg/m ³ STEL: 125 ppm STEL: 543 mg/m ³
Chromium 7440-47-3	TWA: 0.5 mg/m ³	TWA: 0.5 mg/m ³	TWA: 0.5 mg/m ³	TWA: 0.5 mg/m ³
Carbon black 1333-86-4	TWA: 3.5 mg/m ³	TWA: 3 mg/m ³	TWA: 3 mg/m ³	TWA: 3.5 mg/m ³
Boehmite (Al(OH)O)		TWA: 1.0 mg/m ³	TWA: 1 mg/m ³	

1318-23-6			
1-Methyl-2-pyrrolidone 872-50-4			TWA: 400 mg/m ³

Other Exposure Guidelines

Hexavalent Chrome may be formed during welding. 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**

Tight sealing safety 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

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

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	Solid
Appearance	Solid
Odor	Odorless
Color	No information available
Odor Threshold	No information available

<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		
Solubility(ies)	No data available	None known	
Partition coefficient: n-octanol/water	0		
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

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

10. STABILITY AND REACTIVITY

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

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

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

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms	Redness. Burning. May cause blindness. Itching. Rashes. Hives. 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 .

ATEmix (oral)	59.90 mg/kg
ATEmix (dermal)	9,813.60 mg/kg
ATEmix (inhalation-gas)	75,000.00 ppm
ATEmix (inhalation-dust/mist)	25.00 mg/L
ATEmix (inhalation-vapor)	183.30 mg/L

Unknown acute toxicity 131 % of the mixture consists of ingredient(s) of unknown toxicity
 97 % of the mixture consists of ingredient(s) of unknown acute oral toxicity
 131 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity
 130 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)
 130 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)
 130 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Graphite	-	-	> 2000 mg/m ³ (Rat) 4 h
Iron	= 30 g/kg (Rat)	-	-
Methyl propionate	= 5 g/kg (Rat)	> 5 g/kg (Rabbit)	-
Lithium Cobalt Oxide (CoLiO ₂)	> 5000 mg/kg (Rat)	> 2000 mg/kg (Rat)	> 5.05 mg/L (Rat) 4 h
Nickel	> 9000 mg/kg (Rat)	-	> 10.2 mg/L (Rat) 1 h
Lithium carbonate	= 525 mg/kg (Rat)	-	> 2.17 mg/L (Rat) 4 h
Iron oxide	> 10000 mg/kg (Rat)	-	-
Ethylbenzene	= 3500 mg/kg (Rat)	= 15400 mg/kg (Rabbit)	= 17.4 mg/L (Rat) 4 h
Carbon black	> 15400 mg/kg (Rat)	> 3 g/kg (Rabbit)	-
Boehmite (Al(OH)O)	> 5050 mg/kg (Rat)	-	> 5.09 mg/L (Rat) 4 h
1-Methyl-2-pyrrolidone	= 3914 mg/kg (Rat)	= 8 g/kg (Rabbit)	> 5.1 mg/L (Rat) 4 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 burns. Risk of serious damage to eyes.
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 nickel oxide(Li ₂ NiO ₂) 12325-84-7	-	Group 1	Known	X
Lithium Cobalt Oxide (CoLiO ₂)	A3	Group 2B	Reasonably Anticipated	X

12190-79-3				
Nickel 7440-02-0	-	Group 2B	Reasonably Anticipated	X
Iron oxide 1309-37-1	-	Group 3	-	-
Ethylbenzene 100-41-4	A3	Group 2B	-	X
Chromium 7440-47-3	-	Group 3	-	-
Carbon black 1333-86-4	A3	Group 2B	-	X

Legend**ACGIH (American Conference of Governmental Industrial Hygienists)**

A3 - Animal Carcinogen

IARC (International Agency for Research on Cancer)

Group 1 - Carcinogenic to Humans

Group 2B - Possibly Carcinogenic to Humans

Group 3 - Not Classifiable as to Carcinogenicity in Humans

NTP (National Toxicology Program)

Known - Known Carcinogen

Reasonably Anticipated - Reasonably Anticipated to be a Human Carcinogen

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

X - Present

Reproductive toxicity Contains a known or suspected reproductive toxin. Classification based on data available for ingredients. May damage fertility or the unborn child.

STOT - single exposure No information available.

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)	-	-
Iron	-	96h LC50: = 13.6 mg/L (Morone saxatilis)	-	-
Copper	72h EC50: 0.0426 - 0.0535 mg/L (Pseudokirchneriella subcapitata) 96h EC50: 0.031 - 0.054 mg/L (Pseudokirchneriella subcapitata)	96h LC50: = 0.052 mg/L (Oncorhynchus mykiss) 96h LC50: = 0.3 mg/L (Cyprinus carpio) 96h LC50: 0.0068 - 0.0156 mg/L (Pimephales promelas) 96h LC50: = 0.2 mg/L (Pimephales promelas) 96h LC50: = 0.8 mg/L (Cyprinus carpio) 96h LC50: = 0.112 mg/L (Poecilia reticulata) 96h LC50: = 1.25 mg/L (Lepomis	-	48h EC50: = 0.03 mg/L

		macrochirus) 96h LC50: < 0.3 mg/L (Pimephales promelas)		
Nickel	96h EC50: 0.174 - 0.311 mg/L (Pseudokirchneriella subcapitata) 72h EC50: = 0.18 mg/L (Pseudokirchneriella subcapitata)	96h LC50: = 1.3 mg/L (Cyprinus carpio) 96h LC50: = 10.4 mg/L (Cyprinus carpio) 96h LC50: > 100 mg/L (Brachydanio rerio)	-	48h EC50: = 1 mg/L 48h EC50: > 100 mg/L
Lithium carbonate	-	96h LC50: = 30.3 mg/L (Oncorhynchus mykiss)	-	-
Iron oxide	-	96h LC50: = 100000 mg/L (Danio rerio)	-	-
Ethylbenzene	72h EC50: = 4.6 mg/L (Pseudokirchneriella subcapitata) 72h EC50: 2.6 - 11.3 mg/L (Pseudokirchneriella subcapitata) 96h EC50: 1.7 - 7.6 mg/L (Pseudokirchneriella subcapitata) 96h EC50: > 438 mg/L (Pseudokirchneriella subcapitata)	96h LC50: 11.0 - 18.0 mg/L (Oncorhynchus mykiss) 96h LC50: = 4.2 mg/L (Oncorhynchus mykiss) 96h LC50: 7.55 - 11 mg/L (Pimephales promelas) 96h LC50: 9.1 - 15.6 mg/L (Pimephales promelas) 96h LC50: = 32 mg/L (Lepomis macrochirus) 96h LC50: = 9.6 mg/L (Poecilia reticulata)	EC50 = 9.68 mg/L 30 min EC50 = 96 mg/L 24 h	48h EC50: 1.8 - 2.4 mg/L
Carbon black	-	-	-	24h EC50: > 5600 mg/L
Boehmite (Al(OH)O)	-	96h LC50: > 100 mg/L (Pimephales promelas) 96h LC50: > 100 mg/L (Oncorhynchus mykiss)	-	48h EC50: > 100 mg/L
1-Methyl-2-pyrrolidone	72h EC50: > 500 mg/L (Desmodesmus subspicatus)	96h LC50: = 1400 mg/L (Poecilia reticulata) 96h LC50: = 832 mg/L (Lepomis macrochirus) 96h LC50: = 1072 mg/L (Pimephales promelas) 96h LC50: = 4000 mg/L (Leuciscus idus)	-	48h EC50: = 4897 mg/L

Persistence and Degradability No information available.

Bioaccumulation

Component Information

Chemical name	Log Pow
Ethylbenzene	3.2
1-Methyl-2-pyrrolidone	-0.46

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.

US EPA Waste Number D007

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
Copper 7440-50-8	Toxic
Methyl propionate 554-12-1	Ignitable
Lithium Cobalt Oxide (CoLiO ₂) 12190-79-3	Toxic
Aluminum 7429-90-5	Ignitable powder
Nickel 7440-02-0	Toxic powder Ignitable powder
Ethylbenzene 100-41-4	Toxic Ignitable
Chromium 7440-47-3	Toxic Corrosive Ignitable

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

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

TDG

UN-No. UN3480
Proper Shipping Name LITHIUM ION BATTERIES



Hazard Class	9
Marine Pollutant	This product contains a chemical which is listed as a severe marine pollutant according to TDG.
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/NDSL	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 nickel oxide(Li ₂ NiO ₂) - 12325-84-7	12325-84-7	35	0.1
Copper - 7440-50-8	7440-50-8	15	1.0
Lithium Cobalt Oxide (CoLiO ₂) - 12190-79-3	12190-79-3	5	0.1
Aluminum - 7429-90-5	7429-90-5	5	1.0
Nickel - 7440-02-0	7440-02-0	1	0.1
Lithium carbonate - 554-13-2	554-13-2	1	1.0
Ethylbenzene - 100-41-4	100-41-4	1	0.1
Chromium - 7440-47-3	7440-47-3	1	1.0
1-Methyl-2-pyrrolidone - 872-50-4	872-50-4	1	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
Litium nickel oxide(Li2NiO2) 12325-84-7		X		
Copper 7440-50-8		X	X	
Nickel 7440-02-0		X	X	
Ethylbenzene 100-41-4	1000 lb	X	X	X
Chromium 7440-47-3		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
Nickel 7440-02-0	100 lb		RQ 100 lb final RQ RQ 45.4 kg final RQ
Ethylbenzene 100-41-4	1000 lb		RQ= 1000 lb final RQ RQ= 454 kg final RQ
Chromium 7440-47-3	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
Litium nickel oxide(Li2NiO2) - 12325-84-7	carcinogen, 5/7/2004
Carbon black - 1333-86-4	Carcinogen
Lithium carbonate - 554-13-2	Developmental
Nickel - 7440-02-0	carcinogen, 10/1/1989 (metallic)
1-Methyl-2-pyrrolidone - 872-50-4	Developmental
Ethylbenzene - 100-41-4	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
Litium nickel oxide(Li2NiO2) 12325-84-7	X		X	X	X
Graphite 7782-42-5	X	X	X		
Copper 7440-50-8	X	X	X	X	X
Methyl propionate 554-12-1	X	X	X		
Lithium Cobalt Oxide (CoLiO2)	X		X	X	X

12190-79-3					
Aluminum 7429-90-5	X	X	X	X	
Phosphate(1-), hexafluoro-, lithium 21324-40-3	X				
Nickel 7440-02-0	X	X	X	X	X
Lithium carbonate 554-13-2	X	X		X	
Iron oxide 1309-37-1	X	X	X		
Ethylbenzene 100-41-4	X	X	X	X	X
Chromium 7440-47-3	X	X	X	X	X
Carbon black 1333-86-4	X	X	X		X
1-Methyl-2-pyrrolidone 872-50-4	X	X	X	X	

16. OTHER INFORMATION

NFPA	Health hazards 1	Flammability 0	Instability 0	Physical and Chemical Properties -
HMIS	Health hazards 0	Flammability 0	Physical hazards 0	Personal Protection X

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

Issuing Date 10-Dec-2019

Revision Date 16-Oct-2019

Revision Note No information available

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

End of Safety Data Sheet

