

Material Safety Data Sheet

Issuing Date 09-Dec-2010

Revision Date 09-Dec-2010

Revision Number 2

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name Lithium ion cell
UN-No UN3480
Recommended Use Lithium ion battery.

Supplier Address

Great Power Battery Co.,LTD
912 Xicun Section,Shiliang
Road,Shawan,Panyu,Guangzhou,China
, Guangzhou, Guangdong, 511483
CN
Phone:86-02-61920399
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Contact:Michael
Contact Phone:86-756-6198687
Emergency Phone: 86-756-6198687

Company Emergency Phone Number 86-756-6198687

2. HAZARDS IDENTIFICATION

Emergency Overview

In case of rupture:
Harmful by inhalation, in contact with skin and if swallowed
Corrosive
The product causes burns of eyes, skin and mucous membranes
May produce an allergic reaction

Appearance Metallic

Physical State Solid.

Odor No information available

OSHA Regulatory Status

This product is an article which is a sealed battery and as such does not require an MSDS per the OSHA hazard communication standard unless ruptured. The hazards indicated are for a ruptured battery. While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this MSDS contains valuable information critical to the safe handling and proper use of the product. This MSDS should be retained and available for employees and other users of this product.

Potential Health Effects

Principle Routes of Exposure

Eye contact. Skin contact.

Acute Toxicity

Eyes

Not an expected route of exposure. In case of rupture: Causes burns. Corrosive to the eyes and may cause severe damage including blindness. Risk of serious damage to eyes.

Skin

Not an expected route of exposure. In case of rupture: Causes burns. May be harmful in contact with skin. May cause sensitization by skin contact. Repeated or prolonged skin contact may cause allergic reactions with susceptible persons.

Inhalation Ingestion

Not an expected route of exposure. In case of rupture: Harmful by inhalation.

Not an expected route of exposure. In case of rupture: Harmful if swallowed. Ingestion causes burns of the upper digestive and respiratory tract.

Chronic Effects	Avoid repeated exposure. Chronic exposure to corrosive fumes/gases may cause erosion of the teeth followed by jaw necrosis. Bronchial irritation with chronic cough and frequent attacks of pneumonia are common. Gastrointestinal disturbances may also be seen. Repeated contact may cause allergic reactions in very susceptible persons.
Aggravated Medical Conditions	Allergies. Skin disorders. Respiratory disorders. Pre-existing eye disorders. Kidney disorders. Liver disorders. Central Vascular System (CVS). Nasal cavities. Lungs.
Interactions with Other Chemicals	Irritants. Sensitizers. Epoxies.
Environmental Hazard	See Section 12 for additional Ecological Information.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS-No	Weight %
Stainless steel	12597-68-1	40-70
Lithium Cobalt Oxide (CoLiO ₂)	12190-79-3	10-30
Electrolytes	RR-14099-8	10-30
Aluminum	7429-90-5	7-13
Graphite	7782-42-5	7-13
Copper	7440-50-8	5-10
Polypropylene	9003-07-0	1 - 5

4. FIRST AID MEASURES

General Advice	First aid is upon rupture of sealed battery. Call 911 or emergency medical service. Remove and isolate contaminated clothing and shoes.
Eye Contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Call a physician immediately.
Skin Contact	Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes. If skin irritation persists, call a physician.
Inhalation	Move to fresh air. If symptoms persist, call a physician. Administer oxygen if breathing is difficult. If breathing has stopped, contact emergency medical services immediately.
Ingestion	Call a physician or Poison Control Center immediately. Clean mouth with water Do NOT induce vomiting. Never give anything by mouth to an unconscious person.
Notes to Physician	Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated. Do not give chemical antidotes. Asphyxia from glottal edema may occur. Marked decrease in blood pressure may occur with moist rales, frothy sputum, and high pulse pressure. May cause sensitization of susceptible persons. Treat symptomatically.
Protection of First-aiders	Use personal protective equipment. Avoid contact with skin, eyes and clothing.

5. FIRE-FIGHTING MEASURES

Flammable Properties	This article contains flammable electrolytes and therefore can cause a fire hazard if ruptured and chemicals are leaked out.
Flash Point	Not determined.
Suitable Extinguishing Media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Hazardous Combustion Products

Hazardous metal fumes and oxides.

Explosion Data**Sensitivity to Mechanical Impact**

No.

Sensitivity to Static Discharge

No.

Specific Hazards Arising from the Chemical

Thermal decomposition can lead to release of irritating gases and vapors. The product causes burns of eyes, skin and mucous membranes. In the event of fire and/or explosion do not breathe fumes. Product is or contains a sensitizer.

Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

NFPA**Health Hazard** 0**Flammability** 0**Stability** 0

Physical and Chemical Hazards Rating is provided for sealed battery

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions

Use personal protective equipment. Remove all sources of ignition. Avoid contact with skin, eyes and clothing.

Environmental Precautions

Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Prevent entry into waterways, sewers, basements or confined areas. Do not flush into surface water or sanitary sewer system.

Methods for Containment

Prevent further leakage or spillage if safe to do so.

Methods for Cleaning Up

Use personal protective equipment. Pick up and transfer to properly labeled containers. In case of rupture: Take up with sand or other noncombustible absorbent material and place into containers for later disposal. Prevent product and washings from entering drains, sewers or surface water due to high toxicity to aquatic organisms.

Other Information

ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area) Refer to protective measures listed in Sections 7 and 8.

7. HANDLING AND STORAGE

Handling

In case of rupture: Keep away from open flames, hot surfaces and sources of ignition. Wear personal protective equipment. Avoid contact with skin, eyes and clothing. Ensure adequate ventilation. Do not breathe vapors/dust.

Storage

Keep container tightly closed in a dry and well-ventilated place. Keep out of the reach of children. Keep in properly labeled containers.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Guidelines

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Lithium Cobalt Oxide (CoLiO ₂) 12190-79-3	TWA: 0.02 mg/m ³		
Aluminum 7429-90-5	TWA: 1 mg/m ³ respirable fraction	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 respirable fraction	TWA: 5 mg/m ³ respirable dust TWA: 10 mg/m ³ total dust
Graphite 7782-42-5	TWA: 2 mg/m ³ respirable fraction all forms except graphite fibers	(vacated) TWA: 2.5 mg/m ³ respirable dust TWA: 15 mppcf	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

Immediately Dangerous to Life or Health.

Other Exposure Guidelines

Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992).

Engineering Measures

Showers
Eyewash stations
Ventilation systems

Personal Protective Equipment

Eye/Face Protection

No special protective equipment required. Risk of contact, wear: Safety glasses with side-shields.

Skin and Body Protection

No special protective equipment required. Risk of contact: Protective gloves.

Respiratory Protection

None required under normal usage. If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Metallic.	Odor	No information available.
Odor Threshold	No information available.	Physical State	Solid
pH	No information available		
Flash Point	Not determined.	Autoignition Temperature	No information available
Decomposition Temperature	No information available	Boiling Point/Range	No information available
Melting Point/Range	No information available		
Flammability Limits in Air	No information available	Explosion Limits	No information available
Water Solubility	Insoluble in water.	Solubility	No information available
Evaporation Rate	No information available	Vapor Pressure	No data available
Vapor Density	No data available	VOC Content (%)	Not applicable
Partition Coefficient: n-octanol/water			

10. STABILITY AND REACTIVITY

Stability	Stable under recommended storage conditions.
Incompatible Products	Contact with metals (aluminum, zinc, tin) may release hydrogen gas. Incompatible with strong acids and bases. Incompatible with oxidizing agents. Water.
Conditions to Avoid	Heat, flames and sparks.
Hazardous Decomposition Products	None under normal use. Thermal decomposition can lead to release of irritating gases and vapors. Nickel oxides.
Hazardous Polymerization	Hazardous polymerization does not occur.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

Product Information Product does not present an acute toxicity hazard based on known or supplied information.

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Stainless steel	-	-	-
Lithium Cobalt Oxide (CoLiO ₂)	-	-	-
Electrolytes	-	-	-
Aluminum	-	-	-
Graphite	-	-	-
Copper	-	-	-
Polypropylene	-	-	-

Chronic Toxicity

Chronic Toxicity Avoid repeated exposure. Chronic exposure to corrosive fumes/gases may cause erosion of the teeth followed by jaw necrosis. Bronchial irritation with chronic cough and frequent attacks of pneumonia are common. Gastrointestinal disturbances may also be seen. Repeated contact may cause allergic reactions in very susceptible persons.

Carcinogenicity The table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical Name	ACGIH	IARC	NTP	OSHA
Lithium Cobalt Oxide (CoLiO ₂)	A3	Group 2B		X
Polypropylene		Group 3		

ACGIH: (American Conference of Governmental Industrial Hygienists)

A3 - Animal Carcinogen

IARC: (International Agency for Research on Cancer)

Group 2B - Possibly Carcinogenic to Humans

Group 3 - Not Classifiable as to Carcinogenicity in Humans

OSHA: (Occupational Safety & Health Administration)

X - Present

Sensitization May cause sensitization of susceptible persons.

Target Organ Effects Central Vascular System (CVS). Eyes. Kidney. Liver. Lungs. Nasal cavities. Respiratory system. Skin.

12. ECOLOGICAL INFORMATION

Ecotoxicity

The environmental impact of this product has not been fully investigated.

Chemical Name	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Daphnia Magna (Water Flea)
Copper	EC50: 0.0426 - 0.0535 mg/L Pseudokirchneriella subcapitata 72 h static EC50: 0.031 - 0.054 mg/L Pseudokirchneriella subcapitata 96 h static	LC50: 0.0068 - 0.0156 mg/L Pimephales promelas 96 h LC50: <0.3 mg/L Pimephales promelas 96 h static LC50: 0.2 mg/L Pimephales promelas 96 h flow-through LC50: 0.052 mg/L Oncorhynchus mykiss 96 h flow-through LC50: 1.25 mg/L Lepomis macrochirus 96 h static LC50: 0.3 mg/L Cyprinus carpio 96 h semi-static LC50: 0.8 mg/L Cyprinus carpio 96 h static LC50: 0.112 mg/L Poecilia reticulata 96 h flow-through		EC50: 0.03 mg/L Daphnia magna 48 h Static

13. DISPOSAL CONSIDERATIONS

Waste Disposal Methods Should not be released into the environment.

Contaminated Packaging Dispose of in accordance with local regulations.

California Hazardous Waste Codes 141

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

Chemical Name	California Hazardous Waste
Lithium Cobalt Oxide (CoLiO ₂)	Toxic
Aluminum	Ignitable powder
Copper	Toxic

14. TRANSPORT INFORMATION

Note: The transportation of primary lithium cells and batteries is regulated by the International Civil Aviation Organization, International Air Transport Association, International Maritime Dangerous Goods Code and the US Department of Transportation. The batteries must meet the following criteria for shipment:

1. Air shipments must meet the requirements listed in Special Provision A45 of the International Air Transport Association Dangerous Goods Regulations.
2. Meet the requirements for the US Department of Transportation listed in 49 CFR 173.185.
3. The transport of primary lithium batteries is prohibited aboard passenger aircraft. Refer to the Federal Register December 15, 2004 (Hazardous Materials; Prohibited on the Transportation of Primary Lithium Batteries and Cells Aboard Passenger Aircraft; Final Rule)

Lithium batteries shipped as "Lithium batteries", "Lithium batteries packed with equipment", or "Lithium batteries contained in equipment" may not be classified as "Dangerous Goods" when shipped in accordance with "special provision A45 of IATA-DGR" or "special provision 188 of IMO-IMDG Code"

DOT

14. TRANSPORT INFORMATION

UN-No	UN3480
Proper Shipping Name	Lithium ion batteries
Hazard Class	9
Packing Group	II
Description	UN3480, Lithium ion batteries, 9, II
Emergency Response Guide Number	147

TDG

UN-No	UN3090
Proper Shipping Name	Lithium batteries
Hazard Class	9
Packing Group	II
Description	UN3090, Lithium batteries, 9, PG II

MEX

UN-No	UN3090
Proper Shipping Name	Lithium batteries
Hazard Class	9
Packing Group	II
Description	UN3090, Lithium batteries, 9, II

ICAO

UN-No	UN3480
Proper Shipping Name	Lithium ion batteries
Hazard Class	9
Packing Group	II
Description	UN3480,Lithium ion batteries,9,PG II

IATA

UN-No	UN3480
Proper Shipping Name	Lithium ion batteries
Hazard Class	9
Packing Group	II
ERG Code	9F
Description	UN3480,Lithium ion batteries,9,PG II

IMDG/IMO

UN-No	UN3480
Proper Shipping Name	Lithium ion batteries
Hazard Class	9
Packing Group	II
EmS No.	F-A, S-I
Description	UN3480, Lithium ion batteries,9,PG II,Marine Pollutant

RID

UN-No	UN3480
Proper Shipping Name	Lithium ion batteries
Hazard Class	9
Packing Group	II
Classification Code	M4
Description	UN3480 Lithium ion batteries,9,II

ADR

UN-No	UN3480
Proper Shipping Name	Lithium ion batteries

14. TRANSPORT INFORMATION

Hazard Class	9
Packing Group	II
Classification Code	M4
Description	UN3480 Lithium ion batteries,9,II

ADN

UN-No	UN3480
Proper Shipping Name	Lithium ion batteries
Hazard Class	9
Packing Group	II
Classification Code	M4
Special Provisions	188, 230, 310, 636
Description	UN3480 Lithium ion batteries,9,II
Hazard Labels	9
Limited Quantity	LQ0

15. REGULATORY INFORMATION

International Inventories

TSCA	Exempt
DSL	Does not Comply
EINECS/ELINCS	Does not Comply
ENCS	Does not Comply
IECSC	Does not Comply
KECL	Does not Comply
PICCS	Does not Comply
AICS	Does not Comply

U.S. 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 ₂)	12190-79-3	10-30	0.1
Aluminum	7429-90-5	7-13	1.0
Copper	7440-50-8	5-10	1.0

SARA 311/312 Hazard Categories

Acute Health Hazard	No
Chronic Health Hazard	No
Fire Hazard	No
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

Clean Water Act

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42):

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Copper		X	X	

Clean Air Act, Section 112 Hazardous Air Pollutants (HAPS) (see 40 CFR 61)

This product contains the following substances which are listed hazardous air pollutants (HAPS) under Section 112 of the Clean Air Act:

Chemical Name	CAS-No	Weight %	HAPS data	VOC Chemicals	Class 1 Ozone Depletors	Class 2 Ozone Depletors
Lithium Cobalt Oxide (CoLiO ₂)	12190-79-3	10-30	Present (includes any unique chemical substance that contains Cobalt as part of its infrastructure)			

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
Copper	5000 lb	

U.S. State Regulations**California Proposition 65**

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

Chemical Name	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Lithium Cobalt Oxide (CoLiO ₂)		X	X	X	
Copper	X	X	X	X	X
Aluminum	X	X	X		X
Graphite	X	X	X		X

International Regulations**Mexico - Grade**

Moderate risk, Grade 2

Chemical Name	Carcinogen Status	Exposure Limits
Copper		Mexico: TWA= 1 mg/m ³ Mexico: TWA= 0.2 mg/m ³ Mexico: STEL= 2 mg/m ³
Aluminum		Mexico: TWA= 10 mg/m ³
Graphite		Mexico: TWA= 2 mg/m ³

Canada

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

WHMIS Hazard Class

Non-controlled

Chemical Name	NPRI
Aluminum	X

Legend

NPRI - National Pollutant Release Inventory

16. OTHER INFORMATION

Issuing Date	09-Dec-2010
Revision Date	09-Dec-2010
Revision Note	No information available

General 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

MATERIAL SAFETY DATA SHEET

Date : Jan/23/2012
File No.: PH-W5-878

1. Identification of the substance/preparation and of the company/undertaking

Identification of the product

Product name : Lithium Ion Cell
Chemical System: LiFePO4/C
Model: Cylindrical and Prismatic Type Cells_
Designated for RECHARGE? Yes No

Manufacturer/supplier identification

Company : Guangzhou Great Power Energy & Technology Co., Ltd.
Contact for information : 922 Xicun Section, Shiliang Road, Shawan, Panyu,
Guangzhou, GD, PRC
Emergency telephone No. : 0086-20-61920399

2. Composition/information on ingredients

Ingredient	Percent	CAS Index No./EC No.	Molar mass	Molecular formula	Symbol
Lithium iron phosphate	23%	N/A		LiFePO4	
Graphite	11.5%	7782-42-5		C	
Organic Electrolyte	13.2%	N/A			
Polypropylene	2%	N/A			
Iron	38.1%	7439-89-6		Fe	
Copper	6.7%	7440-50-8		Cu	
Aluminum	5.5%	7429-90-5		Al	

Weight of metallic lithium per cell: 0g. There is no metallic lithium in the lithium ion battery.

3. Hazards identification

Health Hazards (Acute and Chronic):

For the battery cell, chemical materials are stored in a hermetically sealed can, designed to withstand temperatures and pressures encountered during normal use. As a result, during normal use, there is no physical danger of ignition or explosion and chemical danger of hazardous materials leakage.

However, if exposed to a fire, added mechanical shocks, decomposed, or added electric stress by misuse the cell case will be breached and hazardous materials may be released. Moreover, if heated strongly by the surrounding fire, acrid gas may be emitted.

Carcinogenicity:

NTP: None IARC Monograph: None OSHA Regulated: None

Medical Conditions Generally Aggravated by Exposure:

An acute exposure will not generally aggravate any medical condition.

Human health effects:

Inhalation: The steam of the electrolyte has an anesthesia action and stimulates a respiratory tract.

Skin contact: The steam of the electrolyte stimulates a skin. The electrolyte skin contact causes a sore and the stimulation on the skin.

Eye contact: The steam of the electrolyte stimulates eyes. The electrolyte eye contact causes a sore and the stimulation on the eye. Inflammation of the eyes may occur.

Environmental effects:

Since a battery cell remains in the environment, do not throw out it into the environment.

Specific hazards:

If the electrolyte contacts with water, it may generate detrimental hydrogen fluoride.

Since the leaked electrolyte is inflammable liquid, do not bring close to fire.

4. First aid measures

After inhalation contact:	Make the victim blow his/her nose, gargle. Seek medical attention if necessary.
After skin contact:	Remove contaminated clothes and shoes immediately. Immediately wash extraneous matter or contact region with soap and plenty of water.
After eye contact:	Do not rub eyes. Immediately flush eyes with water continuously for at least 15 minutes. Seek medical attention.
After ingestion contact:	Make the victim vomit. Immediately seek medical attention.

5. Fire-fighting measures

Extinguishing Media:	Plenty of water, CO ₂ gas, nitrogen gas, chemical powder fire extinguishing medium and fire foam.
Specific methods of fire-fighting:	When the battery burns with other combustibles simultaneously, take fire extinguishing method which corresponds to the combustibles. Extinguish a fire from the windward as much as possible.
Flammable Limits:	Not available

6. Accidental release measures

The preferred response is to leave the area and allow the batteries to cool and the vapors to dissipate. Avoid skin and eye contact or inhalation of vapors. Remove spilled liquid with absorbent and incinerate.

7. Handling and storage

Avoid mechanical or electrical abuse. Batteries may explode or cause burns, if disassembled, crushed or exposed to fire or high temperatures. Do not short or install with incorrect polarity.

8. Exposure controls/personal protection

Specific control parameter :

Personal protective equipment :

Respiratory protection (Specify Type) :	Not necessary under conditions of normal use.
Ventilation:	Not necessary under conditions of normal use.
Protective Gloves:	Not necessary under conditions of normal use.
Eye protection:	Not necessary under conditions of normal use.
Other Protective (Clothing or Equipment):	Not necessary under conditions of normal use.

9. Physical and chemical properties

Appearance	
Physical state:	Solid
Form:	Cylindrical
Color:	Metallic color
Odor:	No odor
PH	N/A
Specific temperatures	Temperature ranges changes in physical state occur.
Flash point	N/A
Explosion properties	N/A
Density	N/A
Solubility	with indication of the solvent(s): Insoluble in water

10. Stability and reactivity

Stability:	Stable
Conditions to Avoid:	When cell is exposed to an external short-circuit, crushes, deformation, high temperature above 100 degree C, it will cause heat generation and ignition. Avoid direct sunlight and high humidity.
Hazardous Decomposition or By-products:	Acrid or harmful gas is emitted during fire.
Materials to avoid:	Conductive materials, water, seawater, strong oxidizers and strong acids.

Hazardous polymerization will not occur.

11. Toxicological information

Acute toxicity :	
Copper	60-100mg sized coarse particulate causes a gastrointestinal disturbance with nausea and inflammation. TDLo, hypodermic - Rabbit 375mg/kg
Organic electrolyte	LD50, oral - Rat 2,000mg/kg or more
Further toxicological information :	
Aluminum	By the long-term inhalation of coarse particulate or fume, it is possible to cause lung damage (aluminum lungs).
Graphite	Long-term inhalation of high levels of graphite coarse particulate may cause lung disease or a tracheal disease.

12. Ecological information

Ecotoxic effects : N/A
Further ecological data : N/A

13. Disposal considerations

Great Power encourages battery recycling. Our Li-ion batteries are recyclable through the Rechargeable Battery Recycling Corporation's (RBRC) **Charge Up to Recycle! Program**. For information call 1-800-8-BATTERY or see their website at www.rbrc.org. Li-ion batteries must be handled in accordance with all applicable state and

federal laws and regulations.

DO NOT INCINERATE or subject battery cells to temperatures in excess of 212° F. Such treatment can vaporize the liquid electrolyte causing cell rupture. Do not use in combination with fresh and used lithium batteries neither with other type of battery.

14. Transport information

International transport regulations 1. International Air Transport Association (IATA 52nd edition) pursuant to PI 965 Section II.
2. International Maritime Dangerous Goods Code (IMDG) pursuant to Special Provisions 188 and 230.
4. U.S. hazardous materials regulations pursuant to 49 CFR 173.185 and Special Provision 188.

UN-No.: 3480

IATA Packaging Instruction Section II of PI 965

Great Power Li-ion cells contain no metallic lithium and pass the tests defined in UN model regulation section 38.3.

If Great Power Li-ion cells are used to construct battery packs, the assembler of that pack is responsible to ensure the battery has been tested in accordance with the requirements contained in the UN Model Regulations, Manual of Test and Criteria. Part III, subsection 38.3.

15. Regulatory information

N/A

16. Other information

Make people : Professional post : R&D Engineer Name(sign) : James Lee
Make unit : Name : R&D Department Phone : 0086-20-61920399
Address : R&D Dept., Panyu Plant.,

Date of issue : 2012/01/23

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