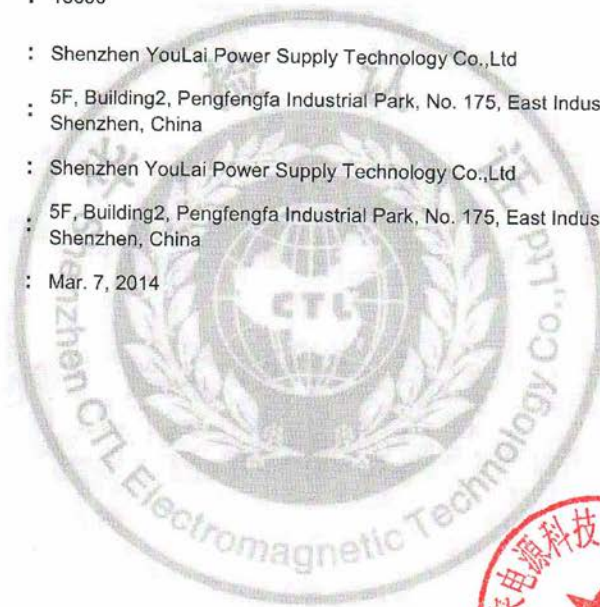




MSDS Report

Report No. : CTL1403040312-MSDS
Samples : Lithium ion battery
Models : 18650
Applicant : Shenzhen YouLai Power Supply Technology Co.,Ltd
Address : 5F, Building2, Pengfengfa Industrial Park, No. 175, East Industry Road, Longhua, Shenzhen, China
Manufacturer : Shenzhen YouLai Power Supply Technology Co.,Ltd
Address : 5F, Building2, Pengfengfa Industrial Park, No. 175, East Industry Road, Longhua, Shenzhen, China
Data of Issue : Mar. 7, 2014



Prepared by: *Alice Zhang*

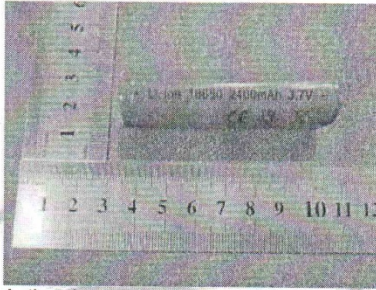
Approved by: *Jennifer M*



MSDS Report

Section 1- Chemical Product and Company Identification

Product Name : Lithium ion battery
Models : 18650
Product Photo :



Authenticate the photo on original report only

Manufacturer : Shenzhen YouLai Power Supply Technology Co.,Ltd
Address : 5F, Building2, Pengfengfa Industrial Park, No. 175, East Industry Road, Longhua, Shenzhen, China
TEL : 86-755-89484302
Emergency Telephone : 86-755-89484302
Fax : 86-0755-89484300
E-mail : 1951113826@126.com



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Section 2-Composition/ Information on Ingredients

Chemical Composition	Molecular Formula	CAS No.	Weight(%)
Lithium Cobalt Oxide	LiCoO ₂	12190-79-3	30-37
Graphite	C	7782-82-5	15-20
acetylene black	C(SP)	1333-86-4	0-1
PVDF/CMC	PVDF/CMC	24937-79-9	0-1
Lithium hexafluorophosphate	LiPF ₆	21324-40-3	12-16
Diaphragm paper	PE	9002-88-4	6-10
	PP	9003-07-0	
Aluminum foil	Al	7429-90-5	2-5
copper	Cu	7440-50-8	5-10
Steel shell	Fe	7439-89-6	10-15
PCB	Epoxy resin	C ₁₁ H ₁₂ O ₃	61788-97-4
	Glass fiber	/	/
	Filler	/	/
			2-5

Section 3- Hazards Identification

Health Hazards (Acute and Chronic)

These chemicals are contained in a sealed can. Risk of exposure occurs only if the battery is mechanically or electrically abused. Contact of electrolyte and extruded lithium with skin and eyes should be avoided.

Sign/Symptoms of Exposure

A shorted lithium battery can cause thermal and chemical burns upon contact with the skin.



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Section 4- First Aid Measures

Skin and Eyes:

In the event that battery ruptures, flush with copious quantities of flowing lukewarm water for a minimum of 15 minutes. Get immediate medical attention for eyes. Wash skin with soap and water.

Inhalation:

If vapors or fumes from vented or leaking battery are irritating to respiratory tract, move to fresh air. Seek medical attention immediately.

Ingestion:

Ingestion of a battery can be harmful. Call The National Capital Poison Control Center or your local Poison Control Center, day or night - for advice and follow-up.

Section 5- Fire-Fighting Measures

Flash Point: N/A

Extinguishing Media: Dry chemical, CO₂

Special Fire-Fighting Procedures: Self-contained breathing apparatus.

Unusual Fire and Explosion Hazards:

Cell may vent when subjected to excessive heat-exposing battery contents.

Hazardous Combustion Products:

Carbon monoxide, carbon dioxide, lithium oxide fumes, other irritating or toxic gases.

Section 6- Accidental Release Measures

Procedures to contain and clean up leaks or spills:

In the event of a battery rupture, prevent skin contact and collect all released material in a plastic lined metal container.

Reporting procedure:

Report all spills in accordance with Federal, State and Local reporting requirements.

Waste disposal method:

Earth or sand should be used to absorb the exudation, seal leaking battery and earth in a heavy duty polythene bag and dispose of as special waste in accordance with local regulations.



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Section 7- Handling and Storage

Handling precautions:

Do not short circuit or expose to temperatures above the temperature rating of the battery.
Do not recharge, over-discharge, force discharge, immerse, puncture or crush.

Storage:

Store in a cool place but prevent condensation on cells and batteries. Elevated temperatures can result in shortened battery life and degrade performance. Do not store batteries in high humidity environments for long periods of times.

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

Section 8- Exposure Controls/ Personal Protection

Respiratory protection:

Wear a niosh approved self contained breathing apparatus in the pressure demand mode, or a fullface supplied air respirator.

Ventilation:

Mechanical ventilation and / or local exhaust, sufficient in pattern and volume, to meet tlv requirements

Protective gloves:

Use polyethylene or nitrile gloves if frequent skin contact is likely.

Eye protection:

Safety glasses with splash guards or side shielding recommended.

Other protective clothing or equipment:

Wear impervious clothing if bodily exposure is anticipated.

Work / Hygienic practices:

Do not wear contact lenses. Wash contaminated clothing before reuse. Wear protective safety equipment as necessary to minimize contact. Wash hands with soap and water.

Section 9- Physical and Chemical Properties

Appearance characters: Silvery, Cylindrical, with odorless solid battery.



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Section 10- Stability and Reactivity

Stability:

Product is stable under normal storage and handling conditions.

Conditions to avoid:

High temperatures or incinerate. Deform, mutilate, crush, Pierce, short circuit. expose over a long period to humid conditions

Materials to avoid:

Oxidizing agents, alkalis, water.

Hazardous reactions:

If leaked, forbidden to contact with strong oxidizers, mineral acids, strong alkalies, halogenated hydrocarbons.

Section 11- Toxicological Information

Inhalation, skin contact and eye contact are possible when the battery is opened. Exposure to internal contents, the corrosive fumes will be very irritating to skin, eyes and mucous membranes. Overexposure can cause symptoms of non-fibrotic lung injury and membrane irritation.

Section 12- Ecological Information

When promptly used or disposed the battery dose not present environmental hazard.
When disposed, keep away from water, rain an snow.

Section 13- Disposal Considerations

APPROPRIATE METHOD OF DISPOSAL OF SUBSTANCE OR PREPARATION

If batteries are still fully charged or only partially discharged, they can be considered a reactive hazardous waste because of significant amount of not reaction or unconsumed lithium remaining in the spent battery. The battery must be neutralized through an approved secondary treatment facility prior to disposal as a hazardous waste, Recycling of battery can be done in authorized facility, through licensed waste carrier.



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Section 14- Transport Information

This report applies to by sea, by air and by land;
According to PACKING INSTRUCTION 965~967 of IATA DGR 55th Edition for transportation.
According to the special provision 188 of IMDG or the 《Recommendations On The Transport of Dangerous Goods-Model Regulations》 (18th). The products are not subject to dangerous goods.

More information concerning shipping, testing, marking and packaging can be obtained from Label master at <http://www.labelmaster.com>.

Separate Lithium-ion batteries when shipping to prevent short-circuiting. They should be packed in strong packaging for support during transport. Take in a cargo of them without falling, dropping, and breakage. Prevent collapse of cargo piles and wet by rain.

Section 15- Regulatory Information

OSHA hazard communication standard (29 CFR 1910.1200)
Hazardous Non-hazardous

Section 16- Other Information

The above information is based on the data of which we are aware and is believed to be correct as of the data hereof. Since this information may be applied under conditions beyond our control and with which may be unfamiliar and since data made available subsequent to the data hereof may suggest modifications of the information, we do not assume any responsibility for the results of its use. This information is furnished upon condition that the person receiving it shall make his own determination of the suitability of the material for his particular purpose.

*****END OF REPORT*****