



Material Safety Data Sheets

For

Lithium ion battery

Model Number:

653035, 502035, 552535, 803040, 222471, 502030, 601243, 902030, 351026, 401235, 042030, 902535,
602030, 752530, 401119

Report No.	: UNI2014041503MR-1
Applicant	: Dongguan ThinkANT Energy Technology Co., Ltd.
Address	: 2 nd Floor, C Building, Lizhu Industrial Park, Stone Ridge, Wulian Village, Fenggang Town, Dongguan City, China
Manufacture	: Dongguan ThinkANT Energy Technology Co., Ltd.
Address	: 2 nd Floor, C Building, Lizhu Industrial Park, Stone Ridge, Wulian Village, Fenggang Town, Dongguan City, China
Date of Test	: Apr., 13, 2014 to Apr., 15, 2014
Date of Issue	: Apr., 15, 2014

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Material Safety Data Sheets

Section 1

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

Identification of the preparation	:	Lithium ion battery
		653035,3.7V, 400mAh
Company Identification	:	Dongguan ThinkANT Energy Technology Co., Ltd.
Company Address	:	2 nd Floor, C Building, Lizhu Industrial Park, Stone Ridge, Wulian Village, Fenggang Town, Dongguan City, China
Contact person	:	Mr. Rongzhang Yu
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Mail	:	thinkant@126.com
MSDS No.	:	UNI2014041503MR-1

Section 2

Composition/ Information on Ingredients

Common Chemical Name	CAS #	Percent of Content (%)	Classification and Hazard Labelling
Lithium Iron Phosphate (LiFePO ₄)	15365-14-7	39	Eye, Skin, Respiratory Irritant
Carbon, as Graphite	7440-44-0	19	Eye, Skin, Respiratory Irritant
Aluminum metal	7429-90-5	12	Inert
Copper metal	7440-50-8	10	Inert
Electrolyte		20	Mixture:
Ethylene carbonate	96-49-1		Flammable; Reactive;
Dimethyl carbonate	616-38-6		Sensitizer; Eye, Skin &
Ethyl methyl carbonate	623-53-0		Respiratory Irritant
Lithium Hexafluorophosphate	21324-40-3		

Section 3

Hazards Identification

Do not short circuit, puncture, incinerate, crush, immerse, force discharge or expose to temperatures above the declared operating temperature range of the product.

Health Hazards:

No hazard exists under normal use. Can cause thermal and chemical burns upon contact with the skin.

Environment Hazards:

Like any sealed container, battery cells may rupture when exposed to excessive heat; this could result in the release of flammable or corrosive materials

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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

Combustible: Not applicable

Special fire-fighting Procedures:

As with any fire, wear self-contained breathing apparatus to avoid inhalation of hazardous decomposition product

Hazardous thermal (de) composition products:

Like any sealed container, battery cells may rupture when exposed to excessive heat; this could result in the release of flammable or corrosive materials.

Emergency treatment: Use water, foam or dry powder, as appropriate

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:	Solid	Color	Silvery
Smell:	No data	PH	No data
Solubility:	No data	Melting Point	No data
Flash point:	No data	Explosive	No data
Specific heat:	No data	Flammability	No data

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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:

Lithium metal reacts with water to produce highly flammable gasses.

Section 11

Toxicological Information

Acute Toxicity:

Inhalation	:	Lung irritant
Ingestion	:	Poisoning if swallowed
Eye Contact	:	Eye irritant
Skin Contact	:	Skin irritant
Chronic Toxicity	:	No data available
Sensitization	:	No data available
Mutagenicity	:	No data available
Carcinogenicity	:	No data available
Reproductive Toxicity	:	No data available
Other	:	No data available

Section 12

Ecological Information

Ecotoxicity: No data available

Environmental Fate: No data available

Environmental Degradation: No data available

Soil Absorption / Mobility: Slowly bio-degradable

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Section 13

Disposal Considerations

Waste Nature:

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste.

Recovery and reuse:

Use standard landfill methods consistent with applicable Federal, State, Provincial and local laws.

Section 14

Transport Information

Data Audit Units: United Testing Technology (Hong Kong) Limited

Shipping name: Lithium ion battery

Hazard classification: Depending on their lithium polymer content

Packaging Type: No data available

Mode of transport: Sea, air, road, railway transport

UN Number: UN3480

Packaging Mark: No data available

The consignment complies with the current edition-55th 2014 of the IATA regulation

1. Section IB of Packing Instruction 965.

2. UN manual of tests and criteria, part III, sub-section 38.3 (withstanding a 1.2m drop test), and meets all requirements under UN manual of tests and criteria part III, sub-section 38.3.

3. With content of lithium less than 20Wh per cell or 100Wh per battery.

The consignment can be shipped as "Not Restricted" in accordance with the current edition of IATA-DGR-2014.

A) This consignment does not contain any recalled and / or defective batteries.

B) This consignment have been packed in comply with Section IB of PI965.

C) Handle with care, Flammability hazard exists if the package is damaged.

D) In any event of the package is fond damaged, please follow the special procedures. If package is damaged, batteries must be protected so as to prevent short circuit

No	ITEMS	RESULT	REMARKS
1	Altitude simulation	Pass	Test 1 to 5 must be conducted in sequence on the same cell or battery
2	Thermal test	Pass	
3	Vibration	Pass	
4	Shock	Pass	
5	External short circuit	Pass	
6	Impact	Pass	
7	Overcharge	Pass	Only battery do need this test item
8	Forced discharge	Pass	

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The product is not classified as dangerous under the current edition of the ICAO & IATA dangerous goods regulations and according PI996 all applicable Carriers. The product is safe for air transportation and not regulated by ICAL & IATA DGR.

Section 15

Regulatory Information

Risk Phrases:

R 14/15 Reacts violently with water liberating extremely flammable gases.

R21 harmful in contact with skin

R22 harmful if swallowed

R35 causes severe burns

R41 risk of serious damage to the eye

Safety advises:

S2 keep out of reach from children

S8 keep away from moisture

S24 avoid contact with skin

S26 in case of contact with eyes, rinse immediately with plenty of water and seek medical attention

Do not incinerate Do not disassemble Do not short circuit

Use specified charger only

Section 16

Other information

Date: Apr., 15, 2014

Department: Quality department

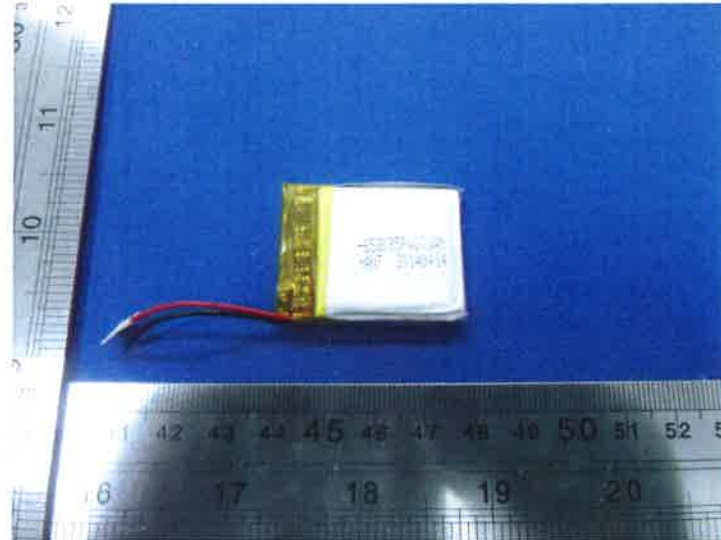
Data Audit Units: United Testing Technology (Hong Kong) Limited

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Appearance Photo of Sample



*****End of Report*****

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