

MATERIAL SAFETY DATA SHEET

Lithium Polymer Rechargeable Battery

Model: Lithium-ion Polymer Battery

Prepared by	Approved by
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1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT IDENTIFICATION

WX Lithium-ion Polymer Ce11/Battery

Normal Voltage: 3.7 V
Equivalent Lithium Content_120Wh
Testing Period June 10,2012 To June 10, 2012

MANUFACTURER

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2. COMPOSITION INFORMATION

INGREDIENTS	%	CAS NUMBER
Lithium Cobaltate	30.60%	12190-79-3
Graphite powder	15.06%	7782-42-5
Rubber	10.36%	69028-37-1
Carbon black	0.79%	1333-86-4
Styrene-butadiene rubber (SBR)	0.71%	61789-96-6
Polypropylene	1.74%	9003-07-0
Polyethylene	1.27%	9002-88-4
Lithium hexafluorophosphate	1.27%	21324-40-3
Ethylene carbonate (EC)	6.34%	96-49-1
Diethyl carbonate (DEC)	4.76%	105-58-8
Propylene carbonate (PC)	1.11%	108-32-7
Polycaprolactam (NYLON 6)	•	25038-54-4_
Copper	1.11%	7440-50-8
Aluminium	9.65%	7429-90-5
Nickel	4.12%	7440-02-0
Polymide Film	1.27%	58698-66-1
	0.43%	

3. HAZARDS IDENTIFICATION

PRIMARY ROUTES OF ENTRY

Skin contact, skin absorption, eye contact, inhalation, and ingestion: No

SYMPTOMS OF EXPOSURE

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The information and recommendations set forth are made in good faith and believed to be accurate as of the date of preparation. SHEN ZHEN TOP ENERGY CO.,LTD makes no warranty, expressed or implied, with respect to this information and disclaims all liabilities from reliance on it

File No./Rev.: WX-MSDS-002/B

Skin contact, Skin absorption, Eye contact, Inhalation

► No effect under routine handling and use.

REPORTED AS CARCINOGEN

NOT APPLICABLE

4. FIRST AID MEASURES

INHALATION, EYE CONTACT, and SKIN CONTACT: Not a health hazard.

INGESTION

If swallowed, obtain medical attention immediately.

If exposure to internal materials within cell due to damaged outer casing, the following actions are recommended.

INHALATION

Leave area immediately and seek medical attention.

EYE CONTACT

Rinse eyes with water for 15 minutes and seek medical attention.

SKIN CONTACT

Wash area thoroughly with soap and water and seek medical attention.

INGESTION

Drink milk/water and induce vomiting; seek medical attention.

5. FIRE FIGHTING MEASURES

GENERAL HAZARD

Cell is not flammable but internal organic material will burn if cells are incinerated.

Combustion products include, but are not limited to hydrogen fluoride, carbon monoxide and carbon dioxide.

EXTINGUISHING MEDIA

Use extinguishing media suitable for the materials that are burning.

SPECIAL FIREFIGHTING INSTRUCTIONS

If possible, remove cell(s) from fire fighting area. If heated above 125°C, cell(s) can explode/vent.

FIREFIGHTING EQUIPMENT

Use NIOSH/MSHA approved full-face self-contained breathing apparatus (SCBA) with full protective gear.

6. ACCIDENTAL RELEASE MEASURES

ON LAND

Place material into suitable containers and call local fire/police department.

IN WATER

If possible, remove from water and call local fire//police department.

7. HANDLING AND STORAGE

HANDLING

No special protective clothing required for handling individual cells.

STORAGE

Store in a cool and dry place.

8. Exposure controls/personal protection

ENGINEERING CONTROLS

Keep away from heat and open flame. Store in a cool and dry place.

PERSONAL PROTECTION

Respirator: Not required during normal operations. SCBA required in the event of a fire.

Eye/face protection: Not required beyond safety practices of employer.

Gloves: Not required for handling of cells.

Foot protection: Steel toed shoes recommended for large container handling.

9. Physical and chemical properties

State	Solid	Odor		N/A
PH	N/A	Vapor pressure		N/A
Vapor density	N/A	Boiling point	N/A	
Solubility in water	Insoluble	Specific gravity		N/A
Density	N/A			

10. STABILITY AND REACTIVITY

REACTIVITY

None

INCOMPATIBILITIES

None(during normal operation), avoid exposure to heat, open flame, and corrosives.

HAZARDOUS DECOMPOSITION PRODUCTS

None(during normal operating conditions).If cells are opened, hydrogen fluoride and carbon monoxide may be released.

CONDITIONS TO AVOID

Avoid exposure to heat and open flame. Do not puncture, crush or incinerate.

11. TOXCOLOGICAL INFORMATION

This product does not elicit toxicological properties during handling and use.

Sensitization: NO	Teratogenicity: NO	Reproductive: NO	Acute toxicity: NO
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This product does not contain any kinds of the following substances and halogen-type flame retardants including Chlorine and Bromide type harmful flame retardants which are listed in Appendix of TCO documents and relevant international ECO requirements:

Polybromated Biphenyls	(PBB)
Polybromated Biphenyl Ethers	(PBBE)
Polybromated Biphenyl Oxides	(PBBO)
Polybromated Diphenylethers	(PBDE)
Polychlorinated Biphenyl	(PCB)
Polychlorinated Diphenylethers	(PCDE)
Tetrabromophenol A	(TBBPA)

Asbestos, Antimonytrioxide, Dioxine

None of the following substances will be exposed, leaked, or emitted during transportation, storage or any operation and any temperature condition:

Chlorinated Fluorohydrocarbon	(FCKW)
Acrylonitrile, Styrol, Phenol, Benzol	
Mercury of greater than 0.0001 wt% for alkaline battery Mercury of greater Than 0.0005 wt% for other battery lithium content of greater than 0.5g/cell, 1.5g/battery Cadmium, lead, and other harmful heavy metal	

This product does not contain mercury, cadmium and lithium-metal.

Mercury content: N/A

1. For lithium ion batteries, UN ID number is 3480. For lithium ion batteries contained in equipment or lithium ion batteries packed with equipment, UN ID number is 3481.

2. The consignment should be fully described by proper shipping name and packed, marked and in proper condition for carriage by air. The consignment is not classified as dangerous under the current edition of the

IATA 52st Effective, Dangerous goods regulation and all applicable carrier and government regulations.

3. For transported by air, Lithium-ion Cells/Batteries shipped as "Not Restricted" Cargo must comply with Section C of P1965-P1967 accordingly; For cells, the Watt-hour rating should not be more than 20Wh; For batteries, the Watt-hour rating should not be more than 100Wh. Watt-hour rating must be marked on the outside of the battery case (marked by manufacturer). (Except those manufactured before 1 Jan 2011, which may be transported without this marking until 31 Dec 2011).

4. Each consignment must be accompanied with a document such as an air waybill with an indication. For those Lithium ion cells/ batteries contained in equipment, the equipment must be equipped with an effective means of preventing accidental activation. The telephone number for additional information for TOP ENERGY cells is +86-755-89773611.

5. Quantity per package shall not exceed 10kg.

6. Each package must be capable of withstanding a 1.2m drop test in any orientation without damage of cells or batteries contained therein.

7. Lithium batteries which meet the requirements of A154 could be transported by air, and the batteries manufactured by TOP ENERGY meet these requirements. (A154 Lithium batteries identified by the manufacturer as being defective for safety reasons, or that have been damaged, that have the potential of producing a dangerous evolution of heat, fire or short circuit are forbidden for transport.)

8. Cells and batteries must be protected so as to prevent short circuits. This includes protection against contact with conductive materials within the same packaging that could lead to short circuit.

16. Other Information

This information is not effective to all the batteries manufactured by TOP ENERGY. This information comes from reliable sources, but no warranty is made to the completeness and accuracy of information contained. TOP ENERGY doesn't assume responsibility for any damage or loss because of misuse of batteries. Users should grasp the correct use methods and be responsible for the use of batteries.