



# 深圳市泰量电子有限公司

## 材料安全数据表 Material Safety Data Sheet

### 1. Identification of the product and supplier(产品和厂商信息)

产品名称 Name of goods	锂离子聚合物电池 Li-polymer Battery
产品型号 Type/Mode	TE-PL481850 3.7V 450mAh 1.665Wh
制造商 Manufacturer	深圳市泰量电子有限公司 Shenzhen Tenerg Electronic Co.,Ltd.
制造商地址 Manufacturer address	广东省深圳市龙华新区民治大道 58 号恒润大厦 638 室 Room 638, Henrun Building, No.58, Minzhi Road, Longhua District, Shenzhen, Guangdong, China.
生产厂 Factory	东莞市海量能源科技有限公司 Dongguan Hilion Battery Co.,Ltd.
生产厂地址 Factory address	广东省东莞市常平镇东深路常平段 302 号 13 号楼 Building 13, No.302 Changping Section, Dongshen Road, Changping Town, Dongguan City, Guangdong
鉴定依据 Inspection according to	EEC Directive 93/112/EC 联合国《关于危险品货物运输的建议书》 UN“Recommendations on the TRANSPORT OF DANGEROUS GOODS”
紧急联系电话 Emergency telephone call	+86-755 33231651
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## 2. Composition/Information on Ingredient(成分/组成信息)

危险成分(化学名称) Hazardous Ingredients (Chemical Name)	含量及含量百分比(%) Concentration or concentration ranges(%)	CAS 编号 CAS Number
钴酸锂/Lithium Cobalt Oxide	37.82%	12190-79-3
聚偏氟乙烯/Polyvinylidene(PVDF)	1.46%	24937-79-9
铝/Aluminium(Al)	9.03%	7429-90-5
石墨/Graphite	16.48%	7782-42-5
丁苯橡胶/Styrene-Butadiene Rubber(SBR)	0.39%	61789-96-6
羧甲基纤维/Carboxymethylcellulose	0.31%	9000-11-7
铜/Copper(Cu)	9.74%	7440-50-8
镍/Nickel(Ni)	1.08%	7440-02-0
六氟磷酸锂/Lithium Hexafluorophosphate	18.56%	21324-40-3
聚乙烯/Polyethylene	3.03%	9002-88-4
尼龙/Nylon	0.8%	24937-16-4
聚丙烯/Polypropylene	1.3%	9003-07-0

## 3. Hazards Identification(主要危险性鉴定)

爆炸危险性 Explosive risk	该物品不属于爆炸物品 This article does not belong to the explosion dangerous goods
易燃危险性 Flammable risk	该物品不属于易燃危险品 This article does not belong to the flammable material
氧化危险性 Oxidation risk	该物品不属于氧化危险品 This article does not belong to the oxidation of dangerous goods
毒害危险性 Toxic risk	该物品不属于毒害危险品 This article does not belong to the toxic dangerous goods
放射危险性 Radioactive risk	该物品不属于放射危险品 This article does not belong to the radiation of dangerous goods
腐蚀危险性 Mordant risk	该物品不属于腐蚀危险品 This article does not belong to the corrosion of dangerous goods
其他危险性 Other risk	该物品为锂离子电池, 瓦时率为 1.665 Wh This article is Li-ion Battery, Watt hour rate 1.665 Wh



## 4. First aid measures(急救措施)

### Eye

Flush eye with plenty of water for at least 15 minutes ,occasionally lifting the upper and lower eyelids.Get medical aid.

### Skin

Remove contaminated clothes and rinse skin with plenty of water or shower for 15 minutes .Get medical aid.

### Inhalation

Remove from exposure and move to fresh air immediately.Use oxygen if available

### Ingestion

Give at least 2 glasses of milk or water .Induce vomiting unless patient is unconscious ,Call a physician.

## 5. Fire-fighting measures(消防措施)

**Flash Point:**N/A.

**Auto-Ignition Temperature:**N/A .

**Extingguishing Media:**Water,CO<sub>2</sub>.

### Special Fire-Fighting Procedures

Self-contained breathing apparatus.

### Unusual Fire and Explosion Hazards

Cell may vent when subjected to excessive heat –exposing battey contents.

### Hazardous Combustion Products

Carbon monoxide,carbon dioxide,lithium oxide fumes.

## 6. Accidental release measures(泄露应急处理)

### Steps to be Taken in case Material is Released or spilled

If the battery material is released ,remove personnel from area until fumes dissipate .Provide maximum ventilation to clear out hazardous gases .Wipe it up with a cloth,,and dispose of it in a plastic bag and put into a steel can .The preferred response is to leave the area and allow the battery to cool and vapors to dissipate.Provide maximum ventilation.Avoid skin and eye contact or inhalation of vapors.Remove spilled liquid with absorbent and incinerate.

### Waste Disposal Method

It is recommended to discharge the battey to the end, to use up the metal lithium inside the baattery, and to bury the discharged barrey in soil.

## 7. Handling and storage(操作处置和储存)

The battey should not be opened,destroyed or incinerate,since they may leak or rupture and release to the environment the ingredients that they contain in the hermetically sealed container.

Do not short circuit terminals,or over charge the battery,forced over-discharge,throw to fire.

Do not crush or puncture the battey,or immerse in liquids.

### Precautions to be taken in handling and storing

Avoid mechanical or electrical abuse .Storage preferably in cool,dry and ventilated area, which is subjet to little temperature change.Storage at high temperatures should be avoided.Do not place the battey near heating equipment,nor expose to direct sunlight for long periods.

### Other Precautions

The battery may explode or cause burns,if disassembled,crushed or exposed to fire or high temperatures.Do

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not short or install with incorrect polarity.

## 8.Exposure controls/personal protection(接触控制/个人保护)

### Respiratory protection

In case of battery venting, provide as much ventilation as possible. Avoid confined areas with venting cell cores.

Respiratory protection is not necessary under conditions of normal use.

### Ventilation

Not necessary under conditions of normal use.

### Other protective Clothing or Equipment

Not necessary under conditions of normal use.

### Personal Protection is recommended for venting battery

Respiratory protection, protective Gloves, Protective Clothing and safety glass with side shields.

## 9.Physical and chemical properties(物理和化学特征)

**Appearance:**Priamatic shape

**Odour:**If leaking,smells of medical ether.

**pH:**Not applicable as supplide.

**Flash Point:**Not applicable unless individual components exposed.

**Flammability:**Not applicable unless individual components exposed,

**Relative density:** Not applicable unless individual components exposed,

**Solubility(water):** Not applicable unless individual components exposed,

**Solubility(other):** Not applicable unless individual components exposed,

## 10.Stability and reactivity(稳定性和反应活性)

**Stability:**Product is stable under conditions described in Section 7.

**Conditions to avoid:**Heat above 70°C or incinerate. Deform. Mutilate. Crush. Disassemble. Overcharge.

Short circuit. Expose over a long period to humid conditions.

**Materials to avoid:**Oxidising agents, alkalis, water.

**Hazardous Decomposition Products:**Toxic Fumes, and may form peroxides.

**Hazardous Polymerization:**N/A.

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

## 11.Toxicological information(毒理性资料)

**Signs & symptoms:**None,unless battery ruptures.

In the event of exposure to internal contents,vapour fumes may be very irritating to the eyes and skin.

**Inhalation:**Lung irritant.

**Skin contact:**Skin irritant

**Eye contact:**Eye irritant

**Ingestion:**Poisoning if swallowed

Medical conditions generally aggravated by exposure: In the event of exposure to internal contents, moderate to severe irritation, burning and dryness of the skin may occur, Target organs nerves, liver and kidneys.



## 12. Ecological information(生态学资料)

**Mammalian effects:** None known at present.

**Eco-toxicity:** None known at present.

**Bioaccumulation potential:** Slowly Bio-degradable.

**Environmental fate:** None known environmental hazards at present.

## 13. Disposal consideration(废弃处置)

1. Disposal of the battery should be performed by permitted, professional disposal firms knowledgeable in Federal, State or Local requirements of hazardous waste treatment and hazardous waste transportation.
2. The battery should be completely discharged prior to disposal and/or the terminals taped or capped to prevent short circuit. When completely discharged it is not considered hazardous
3. The battery contains recyclable materials Recycling options available in your local area should be considered when disposing of this product, through licensed waste Carrier

## 14. Transport information(运输信息)

According to PACKING INSTRUCTION 965~967 of IATA DGR 63rd Edition for transportation, the special provision 188 of IMDG (inc Amdt 40-20). The batteries should be securely packed and protected against short-circuits. Examine whether the package of the containers are intact and tightly closed before transport. Take care of them without falling, dropping, and breakage. Prevent collapse of cargo piles. Don't put the goods together with oxidizer and other food chemicals. The transport vehicle and ship should be cleaned and sterilized before transport. During transport, the vehicle should prevent exposure, rain and high temperature. For stopovers, the vehicle should be away from fire and heat sources. When transported by sea, the assembly place should keep away from bedroom and kitchen, and isolated from the engine room, power and fire source. Under the condition of Road Transportation, the driver should drive in accordance with regulated route, don't stop over in the residential area and congested area.

- (a) **UN number**  
3480&3481
- (b) **UN Proper shipping name**  
LITHIUM ION BATTERIES (including lithium ion polymer batteries) or; LITHIUM ION BATTERIES CONTAINED IN EQUIPMENT or LITHIUM ION BATTERIES PACKED WITH EQUIPMENT (including lithium ion polymer batteries)
- (c) **Packing Instruction (if applicable)**  
965 IB, 966 II, 967 II
- (d) **Marine pollutant (Yes/No)**  
No
- (e) **Transport in bulk (according to Annex II of MARPOL 73/78 and the IBC Code)**  
No information available.
- (f) **Special precautions**  
No information available.

## 15. Regulation information(法规信息)

The transport of rechargeable lithium-ion batteries regulated by the United Nations as detailed in the "Model Regulations on the transport of dangerous Goods Ref. ST/SG/AC 10/1 Revision 21 2019" Defined by UN in the "Recommendations on the transport of Dangerous Goods Chapter 38.3 Manual of Tests and Criteria Ref. ST/SG/AC 10/11 Rev. 7 2019". The Lithium-ion Cells and the battery Packs may or may not be assigned to the UN No 3480 Class-9 that is restricted for transport

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## 16. Other information(其他信息)

This information is not effective to all the batteries manufactured by Shenzhen Tenerg Electronic Co.,Ltd. This information comes from reliable sources, but no warranty is made to the completeness and accuracy of information contained. Shenzhen Tenerg Electronic Co.,Ltd. doesn't assume responsibility for any damage or loss because of misuse of batteries. User's should grasp the correct use method and be responsible for the use of batteries.

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