MATERIAL SAFETY DATA SHEET

材料安全数据表

制造商

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产品名称 锂离子电池

Name of Product Lithium ion battery

(型号名称) (TERRAE INR 18650 30E)

(Model name) (TERRAE INR 18650 30E)

物质鉴定

Substance Identification

物质名称 Substance	锂离子电池 Lithium ion battery
CAS编号 CAS number	无 Not specified
联合国危险货物分类 UN Class	虽然归类于锂离子电池(UN/ID No,3480)，但并不属于危险品。 Even classified as lithium batteries(UN/ID No,3480), they are exempted from Dangerous Goods. 可充放锂离子电池如果满足下列条件，将不受联合国危险货物规定限制。（188特别规定） Lithium ion rechargeable cells are not subject to the UN Regulations if they meet the following provisions. (Special provision 188) 按照额定容量（Ah）的0.3倍计算，锂含量不超过1.5g。 The equivalent Lithium content calculated by 0.3 times of the rated capacity in Ampere-hour(Ah) is not more than 1.5g. 各类型的单体电池均满足UN38.3第三部分的测试要求。 Each cell is of type proved to meet the requirements of each test in the UN Manual of Test and Criteria, Part Ⅲ, sub-section 38.3

成分信息
Composition

化学组分名称 Chemical composition	%W
金属氧化物 Metal Oxide	40-45%
铝 Aluminum	3-5%
石墨 Graphite	25-30%
铜 Copper	9-12%
有机电解液 Organic electrolyte	12-15%

危险性和毒性概述
Hazardous and Toxicity Class

分类名称	：无规定的分类
Class name	: Not applicable for regulated class
危险性	：如果电池端子与其他金属接触，可能会到导致发热或者漏液，电解液是易燃的，如果出现了电解液泄露，立即将电池从火中移开。
Hazard	It may cause heat generation or electrolyte leakage if battery terminals contact with other metals. Electrolyte is flammable. In case of electrolyte leakage, move the battery from fire immediately.
毒性	：电池燃烧产生的气体会刺激眼睛、皮肤和喉咙。
Toxicity	Vapor generated from burning batteries, may make eyes, skin and throat irritate.

急救措施
First Aid Measures

该产品含有有机电解液，如果电池出现漏液，则需要进行以下操作

The product contains organic electrolyte. In case of electrolyte leakage from the battery, actions described below are required.

眼睛接触	：立即用大量干净的水冲洗眼睛至少15分钟，不要揉搓。严重者立即就医。如果不采取适当的措施，可能会引起眼睛不适。
Eye contact	Flush the eyes with plenty of clean water for at least 15 minutes immediately, without rubbing. Take a medical treatment. If appropriate procedures are not taken, this may cause an eye irritation.
皮肤接触	：立即用大量的水和肥皂清洗接触区域。如果应对措施不当，可能会引起皮肤刺激和化学灼伤。
Skin contact	Wash the contact areas off immediately with plenty of water and soap. If appropriate procedures are not taken, this may cause sores on the skin.
吸入	：立即转移到新鲜空气流通处。严重者立即就医。.
Inhalation	Remove to fresh air immediately. Take a medical treatment.

消防措施
Fire Fighting Measures

灭火方法 Extinguishing method	：由于电池燃烧产生的气体会刺激眼睛、鼻子和喉咙，所以一定要站在上风处把火扑灭，在某些情况下需要使用呼吸保护设备。 Since vapor, generated from burning batteries may make eyes, nose and throat irritate, be sure to extinguish the fire on the windward side.Wear the respiratory protection equipment in some cases.
灭火剂 Fire extinguishing agen	：使用干粉、泡沫、二氧化碳和大量的水灭火是很有效的。 Dry chemical, alcohol-resistant foam, carbon dioxide and plenty of water are effective.

泄露应对措施
Measures for electrolyte leakage from the battery

-使用吸附能力强的抹布

- Take up with absorbent cloth.

-将电池远离火源

- Move the battery away from the fire.

操作处置与储存
Handling and Storage

-在包装电池时，不要让电池端子相互接触或与其他金属接触。一定要装在有挡板的包装盒中，或单独的包装袋中，这样电池就不会混乱在一起了。

-- When packing the batteries, do not allow battery terminals to contact each other, or contact with other metals. Be sure to pack batteries by providing partitions in the packaging box, or in a separate plastic bag so that the single batteries are not mixed together.

-存储和运输过程中不要让水渗入。

- Do not let water penetrate into packaging boxes during their storage and transportation.

-将电池以10%-30%的电态存储于室温下。

- The Cell will be stored at room temperature, charged to about 10－30% of capacity.

-不要将电池存放在超过35℃的地方，也不要在阳光直射或靠近热源的地方存放。同时要避免湿度太高的环境。不要将电池暴露在冰点以下的环境中。

- Do not store the battery in places of the high temperature exceeding 35 deg. C or under direct sunlight or in front of a stove. Please also avoid the places of high humidity. Be sure not to expose the battery to condensation, water drop or not to store it under frozen condition.

-在常规运输过程中，电池的包装要防止造成电池短路。

- Cells are sure to be packed in such a way as to prevent short circuits under conditions normally encountered in transport.

-请避免将电池储存在接触静电的地方，以免对电池组的保护电路造成损坏。

- Please avoid storing the battery in the places where it is exposed to the static electricity so that no damage will not be caused to the protection circuit of the battery pack.

漏液控制

Exposure Control

可接受的浓度	:在ACGIH中未注明
Acceptable concentration	: Not specified in ACGIH.
设施	:提供适当的通风系统，如在贮存地方的局部通风机。
Facilities	: Provide appropriate ventilation system such as local ventilator in the storage place
防护服	:有机气体防毒面具，安全护目镜，安全手套。
Protective clothing	:Gas mask for organic gases, safety goggle, safety glove

理化性质

Physical and Chemical Properties

外观	:单体电芯 ： 圆柱型电池
Appearance	: Single cell: Cylindrical or Prismatic cell
额定电压	:单体电芯 ：3.65V
Nominal voltage	: Single cell: 3.65volts

稳定性和反应性

Stability and Reactivity

由于电池使用化学反应，所以它们实际上被认为是一种化学产品。因此，即便储存很长一段时间也不被使用 ，电池性能也会随着时间的推移而恶化。此外，不同的使用条件，如没有在规定的温度范围内进行充电、放电，电池的寿命可能缩短，或电池使用的设备可能因电解液泄漏而损坏。

Since batteries utilize a chemical reaction they are actually considered a chemical product. As such, battery performance will deteriorate over time even if stored for a long period of time without being used. In addition, the various usage conditions such as charge, discharge, ambient temperature, etc. are not maintained within the specified ranges the life expectancy of the battery may be shortened or the device in which the battery is used may be damaged by electrolyte leakage.

毒理学资料

Toxicological Information

急性毒性	:口服(老鼠) 半数致死量50 > 2 g /公斤(估计)
Acute toxicity	:Oral（rat）LD50 >2g/kg (estimated)
刺激	: 刺激眼睛和皮肤
Irritation	: Irritating to eyes and skin.
诱变	:不明确
Mutagenicity	: Not specified
慢性毒性	:不明确
Chronic toxicity	: Not specified

生态学资料

Ecological Information

-如果在土地上处理破损的电池，电池壳可能会被腐蚀，并泄漏电解液。但是遗憾的是我们没有生态信息。

- In case of the worn-out battery was disposed in land, the battery case may be corroded, and leak electrolyte. But, we have no ecological information.

-电池中的重金属

-Heavy metal in cell

电池中既不含有也不使用汞和镉。

Mercury (Hg) and Cadmium (Cd) are neither contained nor used in cell.

废弃处置(回收措施)

Disposal Considerations (Precautions for recycling)

-当电池耗尽时，应根据当地政府的条例或有关部门发出的规定进行处理。

- When the battery is worn out, dispose of it under the ordinance of each local government or the low issued by relating government.

-废旧电池的处理可能受到回收部门的管制。

- Disposal of the worn-out battery may be subjected to Collection and Recycling Regulation.

运输信息

Transport Information

- 运输时，避免暴露于高温下，并且防止冷凝形成。集装箱必须小心操作。防止货物堆叠倒塌或者淋雨而受潮。防止跌落，打破和损坏。请参考“操作处置与存储”指示。

- Do not store the battery in places of the high temperature exceeding 35 deg. C or under direct sunlight or in front of a stove. Please also avoid the places of high humidity. Be sure not to expose the battery to condensation, water drop or not to store it under frozen condition. Prevent cargo from collapsing or getting wet in the rain. Prevent fall, break and damage.Please refer to “Handling and Storage”.

UN 规则

The UN rules

UN 3480-38.3 (当电池被放在设备内或与设备组装在一起) 合适的运输名称：锂离子电池组

UN 3480-38.3 (when the battery is placed in the device or assembled with the device) suitable transport name: lithium ion battery pack.

运输时电池是“危险品”或“非危险品”是根据不同地区和运输条件来决定。不同的地区和运输条件有不同的规则。

The battery is "dangerous goods" or "non-dangerous goods" according to different areas and conditions of transportation. Different areas and conditions of transportation have different rules.

全世界范围空运

Air travel worldwide.

IATA-DGR（被认为是非危险品）包装建议965 章节 II

IATA-DGR (considered non-dangerous goods) packaging recommendation 965 chapter II.

被认为是危险品， 包装按965 章节IB

It is considered dangerous goods, packed in section 965 IB.

(当电池与设备组合或设备内包含电池组，参考建议966或967)

(when the battery and equipment are included in the battery pack, refer to recommendation 966 or 967)

全世界范围海运

Ocean shipping all over the world

IMO-IMDG Code（特别条款188）

IMO-IMDG Code (special clause 188)

欧洲 陆运

European land transportation

ADR（特别条款188）

ADR (special clause 188)

法规信息
Regulatory Information

- IATA危险品条例第62版，2021年1月1日生效。
- IATA Dangerous Goods Regulations 62nd Edition Effective 1 January 2021
-民航组织安全运输危险品的技术指导
-- ICAO Technical Instructions for the safe transport of dangerous goods by air

其他信息
Others

引用

References

(1) 联合国关于运输危险货物规例的建议(ST/SG/AC.10/1/Rev.15)

(1) UN Recommendations on the Transportation of Dangerous Goods Model Regulations (ST/SG/AC.10/1/Rev.15)

(2) IATA危险品条例第62版，2021年1月1日生效。

(2) IATA Dangerous Goods Regulations 62nd Edition Effective 1 January 2021

(3) TLVs和BEIs2010 ACGUIH

(3) TLVs and BEIs 2010 ACGIH