Material Safety Data Sheet
化学品安全技术说明书

Report No.: RSZBHST211116752-2	Date of Issue: Dec.25 2021

Approved by 批准：

1. PRODUCT AND COMPANY IDENTIFICATION 产品和公司基本信息

Product Detail 产品详情	
Product Name: 产品名称：	锂离子电芯 Li-ion Cell
Product Use: 产品使用：	Used in portable applications 用于便携式应用
Model： 型号：	18650/2500mAh 3.7V
Supplier Name: 申请商名称：	汕头市金隆杰电子有限公司 Shantou Jinlongjie Electronics Co., LTD
Supplier Address: 申请商地址：	汕头市澄海区澄华工业区沙田片工业区西 2 号厂房第三层 F/3, NO.2 Factory, Shatianpian Industrial Park West, Chenghua Industrial District, Chenghai District, Shantou City.
Supplier Phone Number: 申请商号码：	+86-754-85836803
Emergency telephone number: 紧急联系号码：	+86-754-85836803

2. COMPOSITION / INFORMATION ON INGREDIENTS 成分及组成信息

Ingredient Name **成分名称**	**CAS No.** **CAS号(化学文摘索引登记号)**	**Percent of Content (%)含量百分比**
Lithium Cobalt Oxide	12190-79-3	24

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(CoLiO2)/钴酸锂		
Copper /铜	7440-50-8	10 - 30
Graphite /石墨	7782-42-5	23
Ethylene carbonate 碳酸亚乙酯	96-49-1	7 - 13
Phosphate(1-), hexafluoro-, lithium /磷酸锂	21324-40-3	5 - 10
Aluminum foil /铝	7429-90-5	1 - 5

Note 注：
Labeling according to directives. 标签根据 EC 指令
No symbol and Hazard phrase are required. 不需要象形符号和危险短语。
Percent of Content is the range value 含量百分比是范围值
CAS：Chemical Abstracts Service (Division of the American Chemical Society). CAS 号是化学文摘服务注册号
EC#：European Inventory of Existing Commercial Chemical Substances. 欧洲现有商业化学品目录
N/A=Not apply. N/A=不适用。

3. HAZARDS IDENTIFICATION 危险性概述

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Hazard description: Harmful! Do not short circuit, recharge, puncture, incinerate, crush, immerse, force discharge or expose to temperatures above the declared operating temperature range of the product. Risk of fire or explosion.

危害说明：有害！ 请勿短路，充电，穿刺，焚烧，挤压，浸泡，强制放电或暴露在高于产品声明的工作温度范围的温度下。 有火灾或爆炸的危险。

Under normal conditions of use, the electrode materials and liquid electrolyte they contain are not exposed to the outside, provided the battery integrity is maintained and seals remain intact. Risk of exposure only in case of abuse (mechanical, thermal, electrical) which leads to the activation of safety valves and/or the rupture of the battery containers. Electrolyte leakage, electrode materials reaction with moisture/water or battery vent/explosion/fire may follow, depending upon the circumstances.

在正常使用条件下，它们所含的电极材料和液体电解质不会暴露在外面，只要保持电池完整性并且密封保持完整。 仅在滥用（机械，热，电）的情况下暴露风险，这会导致安全阀的激活和/或电池容器的破裂。 根据具体情况，可能会出现电解液泄漏，电极材料与湿气/水反应或电池通风/爆炸/火灾。

4. FIRST-AID MEASURES 急救措施

Eyes: 眼睛：	Irrigate thoroughly with water for at least 15 minutes. Obtain medical attention. 用水彻底冲洗至少15分钟。迅速就医。
Skin: 皮肤：	Wash off skin thoroughly with water. Remove contaminated clothing and wash before reuse. In severe cases obtain medical attention. 用水彻底冲洗皮肤。 脱去污染的衣服，并在重新使用前清洗。 在严重的情况下迅速就医。

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Inhalation: 吸入:	Remove from exposure, rest and keep warm. In severe cases obtain medical attention. 暴露，休息和保暖。在严重的情况下迅速就医。
Ingestion: 摄入:	Wash out mouth thoroughly with water and give plenty of water to drink. Obtain medical attention. 用水彻底冲洗口腔，并喝足够的水。迅速就医。
Further treatment: 进一步治疗：	All cases of eye contamination, persistent skin irritation and casualties who have swallowed this substance or been affected by breathing its vapours should be seen by a Doctor. 医生应该看到所有眼睛污染，持续性皮肤刺激和吞咽这种物质或受到蒸气呼吸影响的人员。

5. FIRE-FIGHTING MEASURES 消防措施	
Hazardous Combustion Products: 有害燃烧产物：	When burned, hazardous products of combustion including fume of carbon monoxide and carbon dioxide can occur. 燃烧时，会产生包括一氧化碳和二氧化碳的燃烧的有害燃烧物。
Extinguishing Media: 灭火介质：	Water, carbon dioxide, dry chemical or foam. 水，二氧化碳，干化学品或泡沫。
Basic Fire Fighting Procedures: 基本消防程序：	Wear NIOSH/MSHA approved positive pressure self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes. 佩戴NIOSH / MSHA认可的正压自给式呼吸器和防护服，以防止接触皮肤和眼睛。

6. ACCIDENTAL RELEASE MEASURES 泄露应急处理	
Accidental: 非主要的：	If the battery breakage and electrolyte leakage, evacuate personnel until the smoke cleared. 如果电池破损和电解液泄漏，疏散人员直到烟雾消失。 Wipe with a cloth and placed in steel drums into the bag inside. If the battery is hot, away from the scene firstly, cool the battery,

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	so that the steam dissipated. Adequate ventilation. 用布擦拭，然后将钢桶放入袋内。如果电池很热，请先离开现场，冷却电池，使蒸汽消散。 通风良好。 Avoid skin or eye contact steam. 避免皮肤或眼睛接触蒸汽。
Waste treatment: 废物处理：	The battery Should discharge completely, the waste batteries will be turned over in the relevant sector, and all waste must refer to the United Nations, national, local regulations for disposal. Reference to national or federal Environmental Protection Agency EPA. 电池应完全放电，废电池将在相关部门翻转，所有废物必须参考联合国，国家和地方的处置规定。 参考国家或联邦环境保护局EPA。

7. HANDLING AND STORAGE 操作处置与储存

Prohibit mechanical or electrical damage battery.
禁止机械或电气损坏电池。
Stored in a dry, cool and ventilated environment, to avoid temperature changes or high temperature.
储存在干燥，阴凉，通风的环境中，避免温度变化或高温。
Keep away from heat, avoid prolonged sun exposure.
远离热源，避免长时间暴露在阳光下。
Against short circuit, overcharge, forced discharge, or in a fire.
防止短路，过充电，强制放电或发生火灾。
Battery disassembly, crush, fire or high temperatures can cause fire or explosion, prohibit short-circuit or error operation.
电池拆卸，挤压，着火或高温可能引起火灾或爆炸，禁止短路或误操作。

8.EXPOSURE CONTROLS / PERSONAL PROTECTIO 接触控制/个体防护

Respiratory protection:	If the battery leaks, the need for full ventilation.

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呼吸系统防护：	如果电池漏液，需要充分通风。
Hand Protection: 手部防护：	Under normal use, do not. 在正常情况下不需要。
Personal Protection: 个人防护：	Under normal use, do not. 在正常情况下不需要。
Other protection: 其他保护：	Under normal use, do not. 在正常情况下不需要。

If the battery leaks, must wear the following protection products.

如果电池漏液，必须佩戴以下保护产品。

	Respiratory Protection 呼吸系统防护	In all fire situations, use self-contained breathing apparatus. 在所有火灾情况下，请使用自给式呼吸器。
	Hand Protection 手部防护	In the event of leakage wear gloves. 在发生泄漏时戴上手套。
	Eye Protection 眼睛保护	Safety glasses are recommended during handling. 处理过程中建议使用安全眼镜。
	Other 其他	In the event of leakage, wear chemical apron. 如果发生泄漏，请穿化学防护。

9. PHYSICAL AND CHEMICAL PROPERTIES 理化特性

Nominal Voltage: 标称电压	3.7V
Capacity: 容量	2500mAh
Watt-hour: 瓦时	9.25Wh

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Appearance characters: 外观：	Blue almost cylinder 蓝色近圆柱体
Size: 尺寸：	Φ18.5mm×65.4mm
Form： 物理形态：	Solid 固态
PH： PH值：	Not Applicable 不适用
Odour： 气味：	Not Applicable 不适用
Boiling point and Boiling range： 沸点及沸点范围：	Not Applicable 不适用
Flash point： 闪点：	Not Applicable 不适用
Upper/lower flammability or explosive limits： 易燃或爆炸极限的上限/下限：	Not Applicable 不适用
Vapor Pressure: 蒸汽压：	Not Applicable 不适用
Vapor Density: 蒸汽密度：	Not Applicable 不适用
Relative density: 相对密度：	Not Applicable 不适用
Auto-ignition temperature: 自燃温度：	Not Applicable 不适用
Decomposition temperature: 分解温度：	Not Applicable 不适用
Evaporation rate：	Not Applicable

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蒸发速度：	不适用
Flammability（soil，gas）: 可燃性（土壤，空气）:	Not Applicable 不适用
Viscosity： 黏度：	Not Applicable 不适用

10. STABILITY AND REACTIVITY 稳定性和反应活性	
Product is stable under conditions described in Section 7. 产品在第七部分所诉的条件下稳定。 Hazardous reactions may occur under some specific conditions. 在某些特定条件下可能会发生危险反应。	
Conditions to avoid: 应避免的条件：	When a battery cell is exposed to an external short-circuit, crushes, modification, high temperature above 100 degree C, it will be the cause of heat generation and ignition. Avoid to be exposed to direct sunlight and high humidity. 当电池暴露在外部短路，压碎，改性，高于 100℃的高温时，它将成为发热和点火的原因。 避免暴露在阳光直射和高湿度的环境中。
Materials to avoid: 要避免的材料：	Conductive materials, water, seawater, strong oxidizers and strong acids. 导电材料，水，海水，强氧化剂和强酸。
Hazardous decomposition products: 危险分解物：	Acrid or harmful gas is emitted during fire. 火灾时会释放出刺激性或有害气体。

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11. TOXICOLOGICAL INFORMATION 毒理学资料	
Primary irritant effect: 主要刺激作用：	None, unless battery ruptures. In the event of exposure to internal contents, corrosive fumes will be very irritating to skin, eyes and mucous membranes. Overexposure can cause symptoms of non-fibrotic lung injury and membrane irritation. 无，除非电池破裂。 如果暴露在内部物质中，腐蚀性烟雾会对皮肤，眼睛和粘膜造成很大的刺激。 过度暴露可引起非纤维化肺损伤和膜刺激的症状。
Inhalation: 吸入：	Lung irritant. 呼吸道有刺激性。
Skin contact: 皮肤接触：	Skin irritant. 皮肤有刺激性。
Eye contact: 眼睛接触：	Eye irritant. 眼睛有刺激性。
Ingestion: 摄入：	Tissue damage to throat and gastro-respiratory tract if swallowed. 吞咽会对喉咙和胃肠道造成组织损伤。
Medical conditions generally aggravated by exposure: 暴露会加剧医疗条件：	In the event of exposure to internal contents, eczema, skin allergies, lung injuries, asthma and other respiratory disorders may occur. 如果接触到内部物质，可能会发生湿疹，皮肤过敏，肺部损伤，哮喘和其他呼吸系统疾病。
12. ECOLOGICAL INFORMATION 生态学资料	
Environmental Impact: 对环境造成的影响：	Proper use and disposal of the battery will not harm the environment. Dispose of the battery, away from water, rain and snow. 正确使用和处理电池不会损害环境。处理电池，远离水，雨和雪。
13. DISPOSAL CONSIDERATIONS 废弃处置	
Do not incinerate, or subject cells to temperatures in excess of 100℃. Such abuse can result in loss of seal, leakage, and/or cell explosion. 不要焚烧或使细胞温度超过100℃。 这种滥用可导致密封，泄漏和/或细胞爆炸的丧失。	

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Waste disposal must be in accordance with the applicable regulations. Disposal of the lithium ion battery cells should be performed by permitted, professional disposal page: firms knowledgeable in state or local requirements of hazardous waste treatment and hazardous waste transportation. Incineration should never be performed by battery but users, eventually by trained professional in authorized facility with proper gas and fume treatment.

废物处理必须符合适用法规。 锂离子电池的处理应通过允许的专业处理页面进行：公司了解危险废物处理和危险废物运输的州或地方要求。 焚烧不应该由电池进行，而是由用户进行，最终由经过授权的设施中经过培训的专业人员进行适当的气体和烟气处理。

Deserted batteries could not be treated as ordinary trash. could not be thrown into fire or placed

in high temperature. could not be dissected, pierced, crushed or treated similarly. Best way is recycling.

废弃的电池不能被视为普通垃圾。 不能被扔进火里或被放置在高温下。 不能被解剖，刺穿，压碎或类似处理。 最好的方法是回收。

14. TRANSPORT INFORMATION 运输信息

ICAO/IATA： 国际民间航空组织/国际航空运输协会：	Can be shipped by air in accordance with international Civil Aviation Organization (ICAO), TI or International Air Transport Association (IATA) DGR 63rd Packing Instructions Section IB of 965 or Section II of 966 /967 appropriately 可以按照国际民用航空组织(ICAO),国际航空运输协会(IATA) DGR第63号包装说明PI965 Section IB或PI966、PI967 Section II的规定空运。
IMDG CODE： 国际海运危险货物规则：	The batteries are not restricted to IMDG Code 2020 Edition Amdt 40-20.according to special provision 188 根据特殊规定 188，该电池不受 IMDG Code 2020 版（Amdt 40-20）限制。
ADR/AND： 欧洲国际陆运危险货	European Agreement concerning the International Carriage of Dangerous Goods by Road under Special Provision 188 根据特别条款 188 的欧洲国际公路运输危险货物协定

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物协定/关于内陆水道国际运输危险货物的欧洲协定：	
UN number： UN 编号：	UN3480 or UN 3481 UN3480 或 UN 3481
Label for conveyance 运输标签：	Lithium Battery Label 锂电池标签
Transport hazard class(es) 运输风险类别	9
UN Proper shipping name UN 航运名称	UN3480 Lithium ion Batteries (Including lithium ion polymer batteries) UN3481 PI966 Lithium ion Batteries packed with equipment (including lithium ion polymer batteries) UN3481 PI967 Lithium ion Batteries Contained In Equipment (including lithium ion polymer batteries) UN3480 锂离子电池（包括锂离子聚合物电池） UN3481 PI966 锂离子电池和设备一起（包括锂离子聚合物电池） UN3481 PI967 锂离子电池安装在设备中包括锂离子聚合物电池）

15. REGULATORY INFORMATION 法规信息

《Dangerous Goods Regulation》
《危险物品规则》

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《Recommendations on the Transport of Dangerous Goods Model Regulations》 《对危险货物运输的有关规定的建议》
《International Maritime Dangerous Goods》 《国际海运危险货物规则》
《Technical Instructions for the Safe Transport of Dangerous Goods》 《危险品安全运输技术指令》
《Classification and code of dangerous goods》 《危险货物分类和品名编号》
OSHA Hazard Communication Standard Status 《职业安全卫生法》
Toxic Substances Control Act (TSCA) Status 《有毒物质控制法》
SARA Title III 《超级基金修正案和再授权法案 III(302/311/312/313)》
RCRA 《资源保护及恢复法案》
In accordance with all Federal, State and Local laws 根据所有联邦、州和地方法律。
16. OTHER INFORMATION 其他信息
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. 以上信息基于我们所知的数据，并且据信其数据是正确的。 由于此信息可能在我们无法控制的条件下应用，并且可能不熟悉，并且由于在此数据之后提供的数据可能建议修改信息，因此我们对其使用结果不承担任何责任。 提供此信息的条件是，收到该信息的人应自行确定材料是否适合其特定用途。

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