材料安全数据表
Material Safety Data Sheet

报告编号Report No.: S03A21010479M00601

样品名称： Sample Name:	锂离子电池 Li-ion Battery
样品型号： Sample Model:	TEC018 103450 1S1P SOFT PACK
委托单位： Applicant:	阳江纳谷科技有限公司 Ledlenser Corporation Ltd.
签发日期： Issue Date:	2022-03-24

广东储能检测技术有限公司

Guangdong ESTL Technology Co., Ltd.

Guangdong ESTL Technology Co., Ltd.
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第一部分 产品和厂商信息 Section 1 Identification of the product and supplier	
样品名称 Sample Name	锂离子电芯 Li-ion Cell
样品型号 Sample Model	103450 1S1P
规格 Rating	3.7V 1900mAh 7.03Wh
测试实验室 Testing laboratory	广东储能检测技术有限公司 Guangdong ESTL Technology Co., Ltd.
测试地址 Testing Address	广东省东莞市松山湖园区总部二路9号1栋1单元101、201-208室。 Room 101, 201-208, Unit 1, Building 1, No. 9 Headquarters 2nd Road, Songshan Lake Park, Dongguan, Guangdong, China.
委托单位 Applicant	阳江纳谷科技有限公司 Ledlenser Corporation Ltd.
委托单位地址 Applicant Address	中国 广东省阳江市阳东区东城镇裕东一路25号 No.25, Yudong 1 Road, Dongcheng Town, Yangdong District, Yangjiang City, GD, 529931, China
制造商 Manufacturer	东莞市乔新电子科技有限公司 Dongguan City Qiaoxin Electronic Technology Co.,Ltd
制造商地址 Manufacturer Address	中国广东省东莞市塘厦镇林村新贵路7号 No.7, Xingui Road, Lin Village, Tangxia Town, Dongguan City, Guangdong Province, China
鉴定依据 Inspection according to	依据GB/T16483-2008&ISO11014:2009编制 According to GB/T16483-2008&ISO11014:2009
紧急联系电话 Emergency telephone call	+86 13701684622
测试日期 Tested date	2022-03-22 to 2022-03-24
生效时间 Effective Date	2022-03-24

检测 Tested by 王宁

审核 Reviewed by 胡丽玲

批准 Approved by

广东储能检测技术有限公司 报告专用章 Special Seal for Report Guangdong ESTL Technology Co., Ltd. 4419820021070

第二部分 成分/组成信息
Section 2 Composition/Information on Ingredient

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	49.5	12190-79-3
聚偏氟乙烯 PVDF	0.33	24937-79-9
铝 Aluminium	7.6	7429-90-5
石墨 Graphite	16.3	7782-42-5
丁苯橡胶 SBR	0.05	9003-55-8
羧甲基纤维素 Carboxymethylcellulose	0.28	9000-11-7
铜 Copper	6.96	7440-50-8
镍 Nickel	0.06	7440-02-0
六氟磷酸锂 Lithium Hexaflourophosphate	10.96	21324-40-3
聚乙烯 Polyethlene	4.03	9002-88-4
尼龙 Nylon	3.93	24937-16-4

第三部分 主要危险性鉴定
Section 3 Hazards Identification

爆炸危险性 Explosive risk	该物品不属于爆炸危险品 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	该物品为锂离子电芯，瓦时率为7.03Wh。 This article is the Li-ion Cell, Watt hour rate 7.03Wh.

第四部分 急救措施
Section 4 First aid measures

眼睛接触：提起眼皮用大量水冲洗眼睛至少15分钟，立即就医。

After Eye Contact：Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.

皮肤接触：脱掉被污染的衣服，并用大量水或淋浴冲洗皮肤15分钟，立即就医。

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

吸 入：如有吸入，迅速脱离现场至新鲜空气处，如果停止呼吸，进行人工呼吸。如果呼吸困难，供给氧气。

After Inhalation：If inhaled, quickly leave the site to fresh air. If you stop breathing, perform artificial respiration. If breathing is difficult, supply oxygen.

食 入：如有知觉，请用水冲洗口腔，就医。

After Ingestion：If swallowed, wash out mouth with water provided person is conscious Call a physician.

第五部分 消防措施
Section 5 Fire-fighting measures

危险特性：在火灾时可释放有害浓烟、气体或者蒸汽。

Characteristics of Hazard: Toxic fumes; gases or vapors may evolve on burning.

有害燃烧产物：一氧化碳和二氧化碳、HF、氟磷化物。

Hazardous Combustion Products: CO,CO_2, HF, phosphorus fluoride.

灭火方法及灭火剂：对锂电池，大量冷水是一个有效的灭火剂。不要使用温或热水。不要使用哈龙类灭火材料。可使用干粉、沙、土。

Fire-extinguishing Methods and Extinguishing Media: Copious amounts of cold water are an effective extinguishing medium for lithium batteries. Don't use warm or hot water. Don't use Halon type extinguishing material.

May use dry powder, sand, earth.

灭火注意事项：消防人员须佩戴防毒面具、穿全身消防服。

Attention in Fire-extinguishing: The Firemen should put on antigas masks and full fire-fighting suits.

第六部分 泄漏应急处理
Section 6 Accidental release measures

当电池发生泄漏，液体可以用砂，土，或其他惰性物质吸收，受污染的区域应同时通风。

When leakage of batteries happens, liquid could be absorbed with sands, earth, or other inert substance, and the contaminated area should be ventilated meantime.

未放热或燃烧的破损电池，应装入密封的塑料袋或容器。

Damaged batteries that are not hot or burning should be placed in a sealed plastic bag or container.

第七部分 操作处置和储存
Section 7 Handling and storage

操作注意事项：储存时远离食物和水源。吃饭喝水前彻底清洗双手。储有化学物的容器搬用时需防止静电的产生和积聚。

Precautions for safe handling: Consumption of food and beverage should be avoided in work areas. Wash hands with soap and water before eating, drinking. Ground containers when transferring liquid to prevent static accumulation and discharge.

有关火灾及防止爆炸的资料：电池在拆开、挤压、遇火或高温情况下，会引起起火或爆炸，严禁短路或非正确操作。

Information about fire and explosion protection: Batteries may explode or cause burns, if disassembled, crushed or exposed to fire or high temperatures. Do not short or install with incorrect polarity.

储存注意事项：储存在一个低温，干燥，通风良好的环境。远离热源，避免长时间阳光照射。未使用时密封容器。

Conditions for safe storage, including any incompatibilities: Requirements to be met by storerooms and receptacles. Store in a cool, dry, well-ventilated place. Keep away from heat, avoiding the long time of sunlight.

第八部分 接触控制 / 个人保护
Section 8 Exposure controls/personal protection

最高容许浓度：没有适用标准

Maximum Allowable Concentration: No Standard available

工程控制：操作未破损的电池，没有工程控制要求。对于破损的电池，个人防护用品应包括 化学品防护手套和安全眼镜。

Engineering Controls: no engineering controls are required for handling batteries that have not been damaged. Personal protective equipment for damaged batteries should include chemical resistant gloves and safety glasses.

第九部分 理化特性
Section 9 Physical and Chemical Properties

有关基本物理及化学特性的信息 Information on basic physical and chemical properties	
外观Appearance	蓝色 Blue
形状Form	方形 Prismatic
气味Odour	无味 Odorless

第十部分 稳定性和反应活性
Section 10 Stability and reactivity

稳定性：常温常压稳定。

Stability: Stable under normal temperatures and pressures.

禁配物：氧化剂。

Incompatibility: Oxidizing agents.

避免接触的条件：热和明火、短路和水。

Conditions to Avoid: Heat and open flame, short circuit, and water.

聚合危害：不会发生。

Hazardous polymerization: Will not occur.

分解产物：一氧化碳、二氧化碳、HF、氟磷化物。

Decomposition Products: CO, CO_2, HF, Phosphorus fluoride.

第十一部分 毒理性资料
Section 11 Toxicological information

标志及症状：无，除非电池破裂。

Signs & symptoms: None, unless battery ruptures.

内部物质暴露的情况下，蒸汽烟雾可能对眼睛和皮肤的刺激性。

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

吸入：对肺有刺激性。

Inhalation: Lung irritant.

皮肤接触：对皮肤有刺激性。

Skin contact: Skin irritant.

眼睛接触：对眼睛有刺激性。

Eye contact: Eye irritant.

食入：吞下中毒。

Ingestion: Poisoning if swallowed.

下列情况下会危险人员身体健康：如果与电池内部材料直接接触，皮肤可能会出现干燥、灼烧等 轻微或严重的刺激，并且损坏靶器官的神经，肝脏和肾脏。

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

第十二部分 生态学资料
Section 12 Ecological information

生态毒性： 无

Ecological Toxicity: N/A

生物降解性：无

Biodegradability: N/A

非生物降解性：无

Non-biodegradability: N/A

其它有害作用：该物质对环境有无明显危害。

Other Hazardous: Will not effect environmental evidently。

第十三部分 废弃处置
Section 13 Disposal consideration

废弃处置方法：建议遵照国家和地方法规处置或再利用。

Waste Treatment: Recycle or dispose of in accordance with government, state & local regulations.

废弃注意事项：废电池不能被当作普通垃圾。不能扔进火中或置于高温下。不能解体，刺穿, 破碎或类似的处理。最好的办法是回收利用。

Attention for Waste Treatment: Deserted batteries couldn't be treated as ordinary trash.

Couldn't be thrown into fire or placed in high temperature. Couldn't be dissected, pierced, crushed or treated similarly. Best way is recycling.

第十四部分 运输信息
Section 14 Transport information

UN 编号 UN NO.	UN3480 UN3481
运输专有名称 Proper Shipping Name	UN3480 锂离子电池 UN3480 Lithium Ion Batteries UN3481 锂离子电池与设备打包 UN3481 Lithium Ion Batteries Packed With Equipment UN3481 锂离子电池装在设备中 UN3481 Lithium Ion Batteries Contained In Equipment
运输标签 Label for conveyance	锂电池操作标签 Lithium Battery Label 9类危险品标签 Class 9 Hazard Label 仅限货机标签 Cargo aircraft Only Label

危险品规例规定，运输前，每一个电池设计通过联合国《试验和标准手册》第七版第38.3节所载的测试。报告编号：S03A21010479U00601。

The dangerous goods regulations require that each battery design be subject to tests contained in UNITED NATIONS the "Manual of Test and Criteria" (ST/SG/AC.10/11/Rev.7) Section 38.3.

Report No.: S03A21010479U00601.

危险性分类：

该电池包装应遵守IATA DGR 64版包装说明965/966/967的运输要求。

The package of battery should be complied with the requirements of Packing Instruction 965/966/967 of IATA DGR 64th Edition for transportation.

该电池包装应遵守IMDG-CODE（40-20）特殊规定SP188。

The package of battery should be complied with the requirements Special Provisions 188 of IMDG-CODE (40-20).

第十五部分 法规信息
Section 15 Regulation information

法规信息：

联合国《关于危险货物运输的建议书规章范本》（21版或22版）、国际航空运输协会 《危险品规则》（64版）、《国际海运危险货物规则》（IMDGCODE）（40-20版）、《国际危险货物道路运输欧洲协定》（ADR）（2023版）、《国际危险货物铁路运输欧洲协定》（RID）（2023 版）

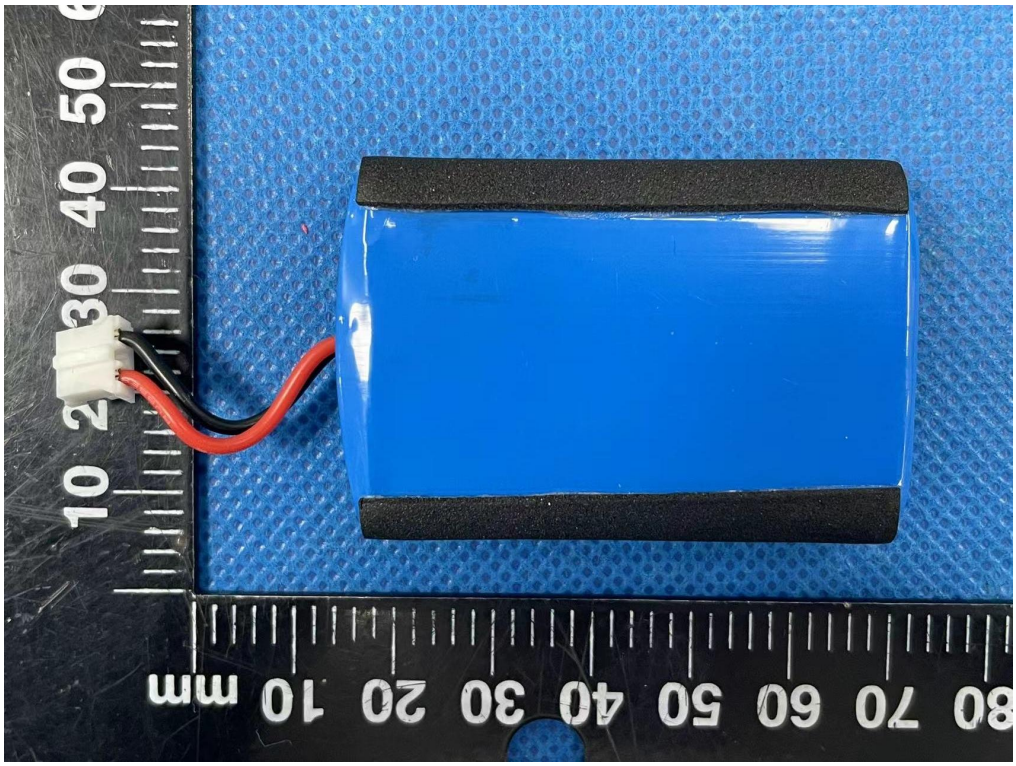
Regulatory information: Recommendations on the transport of dangerous goods-model Regulations 21th or 22nd, IATA dangerous goods regulations 64th, International Maritime Dangerous Goods Code (40-20), European Agreement concerning the International Carriage of Dangerous Goods by Road (2023), Regulations concerning the International Carriage of Dangerous Goods by Rail (2023)

第十六部分 其他信息
Section 16 Other information

此信息并非对所有由东莞市乔新电子科技有限公司生产的电池均有效。此信息来自可靠来源，但不对所包含信息的完整性和准确性做任何保证。广东储能检测技术有限公司对因电池使用不当造成的任何损坏或损失不承担任何责任，用户应掌握正确的使用方法并对电池的使用负责。

This information is not effective to all the batteries manufactured by Dongguan City Qiaoxin Electronic Technology Co.,Ltd This information comes from reliable sources, but no warranty is made to the completeness and accuracy of information contained. Guangdong ESTL Technology 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.

Photos of Samples and Labels/样品照片及标识



声明
Declaration

1. 本报告无批准人、审核人及鉴定人签名无效。

The test report is invalid without the signatures of Ratifier, Reviewer and Testing engineer.

2. 对检验报告若有异议，应于收到报告之日起十五天内向检验单位提出。

Objections to the test report must be submitted to ESTL within 15 days.

3. 未经本试验室书面同意，不得部分地复制本报告。

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5. 本报告涂改无效。

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--- 报告结束 ---
--- End of report ---