物质安全资料表
Material Safety Data Sheet

1. 物品及厂商资料 Material and Company Identification：

物品识别 Material Identification:

PV50 3.89V 4850/5000mAh 18.86/19.45Wh(Rated/Typ)
锂离子电池组/二次鋰電池組
PV50 3.89V 4850/5000mAh 18.86/19.45Wh(Rated/Typ)
RECHARGEABLE LITHIUM ION BATTERY

制造商 Manufacturer:
飞毛腿（福建）电子有限公司
SCUD (FUJIAN) ELECTRONICS Co., Ltd.

中国福建省福州经济技术开发区飞毛腿工业园 350015
SCUD INDUSTRIAL PARK,MAIWEI ECONOMIC AND TECHNOLOGY DEVELOPMENT ZONE,FUZHOU,FUJIAN,CHINA 350015

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2. 成分识别资料 Substance Identification

纯物质：锂离子电池
Substance: Li-ion Battery

成分 Composition:

2-1.外壳：PC Cases: PC	无危险 No dangerous
2-2.印制板装配 Printed Circuit Board Assembly	无危险 No dangerous

2-3. 电芯：	冠宇	CA476486P	4870mAh*1
Cell:	COSMX	CA476486P	4870mAh*1

物质名称	含量	Cas No.
锂钴氧 Lithium cobalt oxide (Xn)	30－35%	12190-79-3
铝Aluminum	10%-15%	7429-90-5
石墨Graphite	21－22%	7782-42-5
铜Copper	13－15%	7440-50-8
Nickel	7440-02-0	1%－2%
碳酸乙烯酯 Ethylene carbonate	96-49-1	4%-5%
碳酸二甲酯 DMC	616-38-6	5%-6%
碳酸甲乙酯Ethyl methyl carbonate	623-53-0	3%-4%
六氟磷酸锂Lithium hexafluorophosphate	21324-40-3	2%-3%

UL 文件号: MH30140.
UL number: MH30140.

UN 分类：非危险物锂电池
UN Class: Even classified as lithium batteries, they are exempted from Dangerous Goods

UN 建议依据危险品运输规则条例（ST/SG/AC. 10/11/ Rev. 5/Amend.1）
UN-Recommendations on the Transport of Dangerous Goods Model Regulations.(ST/SG/AC. 10/11/ Rev. 5/Amend.1)

**达到如下规定的锂聚合物可充电电芯可以不需执行 UN 规章：
Li-polymer rechargeable cells are not subject to the UN Regulations if they meet the following provisions：

3. 危险物质鉴别 Hazards Identification

主要侵入途径：皮肤接触，皮肤吸收；眼睛接触，吸入。和
Primary routes of entry: Skin contact, Skin absorption; Eye contact, Inhalation. And

误食：无
ingestion: NO

暴露征兆：皮肤接触，在常规作业及使用中无影响。
Symptoms of exposure: Skin contact, No effect under routine handling and use.

皮肤吸收：在常规作业及使用中无影响。
Skin absorption: No effect under routine handling and use.

眼睛接触：在常规作业及使用中无影响。
Eye contact: No effect under routine handling and use.

吸入：在常规作业及使用中无影响。
Inhalation: No effect under routine handling and use.

致癌物质报告：不适用
Reported as carcinogen: Not applicable

4. 急救方法 First Aid Measures

摄取：若不甚吞咽，必须马上送医。
Ingestion: If swallowed, Obtain medical attention immediately.

吸入：离开这些区域，并马上送医。
Inhalation: Leave area immediately and seek medical attention.

眼睛接触：用清水清晰眼睛 15 分钟并马上送医。
Eye Contact: Rinse eyes with water for 15 minutes and seek medical attention

皮肤接触：用肥皂彻底清洗皮肤接触部位并马上送医。
Skin Contact: Wash area thoroughly with soap and water and seek medical attention.

误食：喝牛奶或清水并催吐；后马上送医。
Ingestion: Drink milk/water and induce vomiting; seek medical attention

若因外壳破损导致电芯内部材料暴露在空气中，则推荐如下措施：
IF EXPOSURE TO INTERNAL MATERIALS WITHIN CELL DUE TO DAMAGED OUTER CASING, THE FOLLOWING ACTIONS ARE RECOMMENDED：

5. 防火措施 Fire Fighting Measures

灭火介质：就燃烧材料使用合适的灭火介质。

Extinguishing Media: Use extinguishing media suitable for the materials that are buring.

灭火器材：使用 NIOSH/MSHA 批准的带有巴固呼吸器的全罩式防护沙尘面具。
Firefighting Equipment: Use NIOSH/MSHA approved full-face self-contained breathing apparatus (SCBA) with full protective gear.

6. 意外情况解救方法 Accidental Release Measures

陆地上：将泄漏物收集在可密闭容器中并寻求当地火警/警属部门帮助。
On Land: Place material into suitable containers and call local fire/police department.

水中：尽量将其从水中取出并寻求当地火警/警属部门帮助。
In Water: If possible, Remove from water and call local fire/police department.

7. 操作及贮存 Handling and Storage

操作：对于单个电池的操作无需着特别的防护服。
Handling: No special protective clothing required for handling individual pack.

贮存：保存在阴凉、干燥的地方。
Storage: Store in a cool, dry place.

8. 暴露管理/个人防护 Exposure Controls / Personal Protection

工程控制：远离热的或明火区域。
Engineering Controls: Keep away from heat and open flame.

个人防护 Personal Protection:
呼吸器：在正常操作下无须配戴，但在火灾发生时必须要求使用巴固呼吸器。
Respirator: Not required during normal operations.SCBA required in the event of a fire.

眼睛/脸部保护：在正常安全操作时无要求。
Eye/Face Protection: Not required beyond safety practices of employer.

手套：操作电池时无须使用。
Gloves: Not required for handling of battery.

足部保护：在搬动大包装箱时推荐穿着钢制钉鞋。
Foot Protection: Steel toed shoes recommended for large container handling.

9. 物理及化学特性 Physical and Chemical Properties

形态 State	固体 Solid
气味 Odor	不适用 N/A
酸碱度 PH	不适用 N/A
蒸气压力 Vapor pressure	不适用 N/A
蒸气密度 Vapor density	不适用 N/A
沸点 Boiling point	不适用 N/A
水溶性 Solubility in water	不溶 Insoluble
特殊引力 Specific gravity	不适用 N/A
密度 Density	不适用 N/A

10. 安定性和反应性 Stability and Reactivity

反应性：无
Reactivity: None

不相容性：在正常操作中无此情况。避免暴露在热的、明火附近区域和腐蚀性环境下。
Incompatibilities: None during normal operation. Avoid exposure to heat, open flame, and Corrosives.

避免情况：避免暴露在热的、明火附近区域。不得刺破、碾压或烧弃。
Conditions to Avoid: Avoid exposure to heat and open flame. Do not puncture, crush or incinerate.

11. 毒性资料 Toxicological Information

在正常操作和使用中不会引起毒学反应。

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

12. 生态信息 Ecological Information

Toxicity	No information available.
Other data	No information available.
Persistence and degradability	No information available.
Bioaccumulative potential	No information available.
Mobility in soil	No information available.
Results of PBT and vPvB assesement	No information available.
Endocrine disrupting properties	No information available.
Other adverse effects	No information available.
Ecological injuries are not known or expected under normal use. Do not flush into surface water or sanitary sewer system.	

13. 运输资料 Transport Information

在运输时，必须保证装载此物品的容器无漏液和溢出情况，搬动时勿造成坠落或直接丢落或破损，防止物品散落或受潮。包装箱必须小心轻放，勿振动，否则会造成电芯间的互相碰撞，如果包装破损时请小心处理可燃烧性的隐患，可参见条款 7-操作及贮存。

In the case of transportation, confirm no leakage and no overspill from a container. Take in a cargo of them without falling, dropping and breakage. Prevent collapse of cargo piles and wet by rain. The container must be handled carefully. Do not give shocks that result in a mark of hitting on a cell.Handle with care and flammability hazard exists if the package is damaged. Please refer to Section 7-HANDLING AND STORAGE also.

- 编码及类项依据法规条例如下：

  Codes and classifications according to：

  ＊国际空运危规按照 IATA-DGR 类项：PI 965 IB部分和PI 966/967 的 II 部分
  International regulations for transport Air IATA-DGR : section IB OF PI965 and section II OF PI966/967

  ＊国际海运危规按照 IMO IMDG CODE 类项: 特别规定 188
  International regulations for transport Sea IMDG CODE：special provision 188

  ＊铁路/公路运输危规按照 GB12268-2012和JT/T 617-2018 类项
  National regulations for transport land GB12268-2012 & JT/T 617-2018

  UN 分类文件号：类项 9 3480&3481

  The UN classification number : Class 9 3480&3481

  ＊电池芯的额定能量≤20Wh

＊电池的额定能量≤100Wh

＊遵守特殊规定A48，A88，A99，A154，A164

· Organizations governing the transport of lithium batteries

Area	Method	Organization	Special Prrovision
International	Air	IATA，ICAO	Packing Instruction 965-967
International	Marine	IMO	SP188
U.S.A	Air.Rall.Road.Marine	DOT	49 CFR Sectlon 173.185

尽管此该电池符合 IATA-DGR 的特别规定 PI 965 IB部分和PI 966/967 的 II 部分、IMDG CODE 的特别规定 188、陆运 GB12268-2012和JT/T 617-2018 规定，由于通过了UN38.3 检验，可以按照普通货 物办理正常运输。

However, since it corresponds to special provision section IB OF PI965 and section II OF PI966/967 of IATA-DGR 、 special provision 188 of IMDG CODE 、 GB12268-2012 and JT/T 617-2018 of land regulation,this battery cell can be conveyed normally.

Production of MSDS proving UN manual of Tests and Criteria, part III, sub-section 38.3 is met on MSDS .

14. 法规资料 Regulatory Information

职业安全与卫生条例关于危险物质信息标准规定(29 CFR 1910.1200)
OSHA Hazard communication standard (29 CFR 1910.1200)

_____危险 Hazardous　　_____√_____无危险 Non-hazardous

15. UN 检验结果 UN Test Result

根据 UN 建议进行检测表明本品不含有害物质（检验手册及标准，第 III 部分，38.3 项）There are no hazards in accordance with the UN recommendations tests (Manual of Tests and Criteria, Part III, sub-section 38.3)

编号 NO	项目 ITEMS	结果 RESULT	备注 REMARKS
1	高空模拟 Altitude Simulation	通过 Pass	
2	热试验 Thermal Shock	通过 Pass	
3	振动 Vibration	通过 Pass	
4	冲击 Shock	通过 Pass	
5	外部短路 External Short	通过 Pass	
6	撞击 Impact	通过 Pass	
7	过充电 Overcharge	通过 Pass	
8	强制放电 Forced Discharge	通过 Pass	

16. 其他信息 Other Information

包含在此份安全数据表中的所有信息均根据目前的知识形势及现有的法律法规。

The information contained in this Safety data sheet is based on the present state of knowledge and current legislation.

此份安全数据表提供了包括产品健康、安全和环境方面的指导，但不能作为技术参 数或特殊应用时所适用的保证。

This safety data sheet provides guidance on health, safety and environmental aspects of the product and should not be construed as any guarantee of technical performance or suitability for particular applications.

17. 参考 Reference

- 化学物质信息 Chemical substances information：

–日本高级安全信息中心和健康国际化学品安全卡(ICSCs)：

Japan Advanced Information center of Safety and Health International Chemical Safety Cards (ICSCs):

–国际职业安全与健康信息中心（CIS）。

International Occupational Safety and Health Information Centre (CIS) .

–1999 污染排放物极限值 TLVs 和生物暴露指数 BEIs：美国政府工业卫生师协会（ACGIH）。

1999 TLVs and BEIs: American Conference of Governmental Industrial Hygienists (ACGIH) .

- 危险品法规 Dangerous Goods Regulations：

–第 64版 IATA-DGR（2023/01/01 生效）：国际航空运输协会（IATA）；

64th Edition of IATA DGR Effective 1 January 2023: International Air Transport Association(IATA)；

–IMDG CODE 40-20版于 2022年 1 月 1 日生效：国际海事组织（IMO）；

40-20th Edition of IMDG CODE Effective 1 January 2022: International Maritime Organization(IMO)；

–GB12268 于 2012/11/01 生效：国家标准化管理委员会（SAC）。

GB12268 Effective 1 November 2012：Standardization Administration of the People's Republic of China.

–JT/T 617-2018 于 2018/12/01 生效：中华人民共和国交通运输部(MOT)。

JT/T 617-2018 Effective 1 December 2018：Ministry of Transport of the People's Republic of China.