材料安全数据表

Material Safety Data Sheet

委托单位: **Applicant:**	深圳市云球贸易科技有限公司 SHENZHEN YUNQIU TRADE TECHNOLOGY CO., LTD
货物名称: **Name Of Goods:**	锂离子电芯 BD-PROXT XT35-18650 3.7V 3500mAh 13Wh Lithium-ion cell BD-PROXT XT35-18650 3.7V 3500mAh 13Wh
测试机构: **Testing By:**	深圳市元素检测有限公司 Shenzhen Element Testing Co., Ltd.
测试机构地址: **Testing Institution Address:**	深圳市龙岗区坪地街道坪西社区龙岭北路 76 号 2 号厂房 401、4 号厂房 101 邮编 518117 101 of Plant 4, & 401 of Plant 2, No.76, Longling North Road, Pingxi, Pingdi Subdistrict, Longgang District, Shenzhen, Guangdong, China/518117
签发日期: **Issue Date:**	2025-03-05

主检人: 廖铭韬/测试工程师 廖铭韬 Mint Liao
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Checked By: April Ye/Project Engineer

批准人: 卢敏/技术负责人 卢敏 Jerry Lu
Approved By: Lu Min/Technical Director

深圳市元素检测有限公司
Shenzhen Element Testing Co., Ltd.
（盖章 stamp）

第一部分 化学品及企业标识
Section 1 Chemical Product and Company Identification

样品名称 Sample Name	锂离子电芯 BD-PROXT Lithium-ion cell BD-PROXT		型号 Model	XT35-18650	
额定容量 Rated capacity	3500mAh		额定能量 Rated Energy	13Wh	
电池尺寸 Battery Dimension (D×H)	(18.5×65.5)mm		电池质量 Battery Mass	48.6g	
委托单位 Applicant	深圳市云球贸易科技有限公司 SHENZHEN YUNQIU TRADE TECHNOLOGY CO., LTD				
委托单位地址 Applicant Address	中国深圳市宝安区沙井镇沙井街道博港社区中亚硅谷岗头路 20-2 号楼 3 号 No.20-2, Gangtou Road, No.3 Building, Central Asia Silicon Valley, Pokgang Community, Shajing Street, Shajing Town, Bao'an District, Shenzhen, China				
制造单位 Manufacturer	力钜新能源(中山)有限公司 Blackcell New Energy (Zhongshan) Co., Ltd				
制造单位地址 Manufacturer Address	中山市三角镇福泽路 9 号荔源科技产业园 6 栋 Building 6, Liyuan science and Technology Industrial Park, Fuze Road No.9, Sanjiao Town, Zhongshan, Guangdong, China				
联系电话 Telephone	+86-18123951639	应急电话 Emergency telephone	+86-18123951639	邮箱 Email	info@blackcellglobal.com

第二部分 危险性概述
Section 2 hazards summarizing

危险性类别 Classification of Danger	见第 14 部分 (See section 14)
侵入途径 Invasion Route	吸入、皮肤接触、眼睛接触和食入 Inhalation, skin contact, eye contact and ingestion
燃爆危险 Fire and explosion risk	高温或短路条件下可能会起火或者爆炸 May occur fire or explode under high temperature or short circuit conditions
腐蚀危险性 Mordant risk	无相关数据 No information available
健康危害 Health hazard	正常条件下根据生产商的说明使用电池不会产生危害。使用不当的情况下，有破裂、火灾、发热、膨胀、漏液的风险，并可能造成意外损失。使用不当的行为包括但不限于下列情况：长时间充电、短路、投入火中，硬物猛击，尖物刺破、破裂。

	Batteries are not hazardous when used according to the instruction of manufacturer under normal conditions. In the case of abuse, rupture, fire, heat, swelling, leakage risk, and may result in unexpected losses.Abuse includes but not limited to the following cases: charged for long time, short-circuited, put into fire, hit with hard object, punctured with acute object, crushed, and broken.
环境危害 Environmental hazards	无相关数据 No information available

第三部分 成分/组成信息
Section 3 Composition, Information on Ingredients

该物质或混合物的分类：☐纯品 ☒混合物

Classification of the substance or mixture: ☐substance ☒mixture

化学名称 Chemical Composition	化学式 Chemical Formula	CAS 号 CAS No.	百分含量 Weight（%）
镍钴锰酸锂 Lithium nickel-Cobalt-manganese Oxide	$LiNiCoMnO_2$	12190-79-3	49.5
聚偏氟乙烯 PVDF	$(C_2H_2F_2)n$	24937-79-9	0.33
铝 Aluminium	Al	7429-90-5	7.6
石墨 Graphite	$C_{24}X_{12}$	7782-42-5	16.3
丁苯橡胶 SBR	$(C_8H_8.C_4H_6)x$	9003-55-8	0.05
羧甲基纤维素 Carboxymethylcellulose	N/A	9000-11-7	0.28
铜 Copper	Cu	7440-50-8	6.96
镍 Nickel	Ni	7440-02-0	0.06
六氟磷酸锂 Lithium Hexaflourophosphate	F_6LiP	21324-40-3	10.96

聚乙烯 Polyethlene	$(C_2H_4)n$	9002-88-4	4.03
尼龙 Nylon	C_2ClF_3(unspec.)	24937-16-4	3.93

注意: CAS 号是化学文摘服务注册号码。N/A =不适用

Note: CAS number is Chemical Abstract Service Registry Number. N/A=Not apply

第四部分 急救措施
Section 4 First Aid Measures

总说明 General information

正常情况下，不需要特别的措施。在内部物质漏出的情况，如果身体部位接触到这些物质，应采取以下措施：

Normally, no special measures are required. In the case of internal leakage, if the body parts is exposed to them, the following measures should be taken:

吸入 After inhalation	立即将人员移至通风处，如果呼吸困难，速进行人工呼吸抢救。如症状持续，速就医。 Remove victim to fresh area. Administer artificial respiration if breathing is difficult. Seek medical attention.
皮肤接触 After skin contact	脱去污着衣物，用大量的水清洗，然后清洗双手，衣物清洗后再使用。如果症状持续，速就医。 Remove contaminated clothing and shoes. Immediately wash with water and soap and rinse thoroughly. Wash clothing and shoes before reuse. If irritation occurs, get medical attention.
眼睛接触 After eye contact	张开眼睛在流水下冲洗数分钟，如果症状仍然持续，请咨询医生。 Flush eyes with plenty of water for several minutes while holding eyelids open. Get medical attention if irritation persists.
食入 After swallowing	禁止催吐，速就医。Do not induce vomiting. Get medical attention.

第五部分 消防措施 Section 5 Fire Fighting Measures	
灭火剂 Extinguishing agent	使用适合当地情况和周围环境的灭火剂，如干粉，CO_2，冷水，沙子，土等。不要使用温水或者热水，不要使用哈龙类灭火材料。 Use extinguishing agent suitable for local conditions and the surrounding environment.Such as dry powder, CO_2, cold water, sand, earth. Don't use warm or hot water.Don' t use Halon type extinguishing material.
特别危险性 Special hazards	在起火条件下，电池可能会破裂，释放出有害的分解产物。在经受高温(>150℃(302℉))时，含有易燃电解液的电池，可能泄漏，点燃，产生火花，当损坏或滥用(如机械损伤或过度充电)时，可能燃烧迅速与耀斑燃烧效果，也可能引燃其他在电池附近衣服。 Special hazards arising from the substance or mixture: Battery may burst and release hazardous decomposition products when exposed to a fire situation. Lithium ion batteries contain flammable electrolyte that may vent, ignite and produce sparks when subjected to high temperature(>150℃(302℉)), when damaged or abused (e.g. mechanical damage or electrical overcharging); may burn rapidly with flare-burning effect; may ignite other batteries in clothes proximity.
有害燃烧产物 Hazardous Combustion Products	一氧化碳，二氧化碳，锂氧化物烟气。 Carbon monoxide, carbon dioxide, lithium oxide fumes.
防护措施 Protective measures	如起火，佩戴自主呼吸机和防护服。 Wear self-contained respirator. Wear fully protective impervious suit.

第六部分 泄露应急处理 Section 6 Accidental Release Measures	
作业人员防护措施、防护装备和应急处置程序： Homework personnel protective measures, protective equipment and emergency disposal procedures:	穿上保护装备，疏散人群，确保有足够的通风。 Wear protective equipment. Keep unprotected persons away. Ensure adequate ventilation
环境保护措施： Environmental precautions:	若无政府许可，勿将材料排入周围环境。 Do not allow material to be released to the environment without proper governmental permits.
泄漏化学品的收容、清除方法及所使用	从泄露区移除所有的火源，隔离人员。用一个不产生粉尘的方法打

的处置材料： Steps to be taken in case material is spilled or released and Waste disposal method:	扫处理泄漏物，尽可能多地收集泄漏处理物于有标签的合适的容器中。泄露处理物禁止倒入下水道，沟渠或水源。所有废弃物必须参照联合国，国家，地方性法规进行处置。 Remove ignition sources, evacuate area. Sweep up using a method that does not generate dust. Collect as much of the spilled material as possible, placed the spilled material into a suitable disposal container. Keep spilled material out of sewers, ditches and bodies of water. All waste must refer to the United Nations, the national and local regulations for disposal.
防止次生灾害的预防措施： To prevent the secondary disasters prevention measures:	有关安全处理的资料请参阅第七部分。有关个人保护装备的资料请参阅第八部分。有关弃置的资料请参阅第十三部分。 See Section 7 for information on safe handling. See Section 8 for information on personal protection equipment. See Section 13 for disposal information.

第七部分 操作处置与储存
Section 7 Handling and Storage

操作注意事项 Precautions for safe handling	不要以接头短路的方式对电池进行操作 Don't handling the batteries in manner that allows terminals to short circuit
有关火灾及防止爆炸的资料 Information about fire and explosion protection	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。 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 Conditions for safe storage, including any incompatibilities	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。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/个体防护 **Section 8 Exposure Controls, Personal Protection**	
呼吸防护 Respiratory Protection	当电池排气阀打开时，应尽量使通风设备开至最大，避免将打开排气阀的电芯局限在某一狭窄空间内。正常操作条件下，呼吸保护是不必要的。 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.
通风条件 Ventilation	正常使用条件下不必考虑。 Not necessary under conditions of normal use.
防护手套 Protective Gloves	正常使用条件下不必考虑。 Not necessary under conditions of normal use.
其他防护服装或设备 Other Protective Clothing or Equipment	正常使用条件下不必考虑。 Not necessary under conditions of normal use.
电池破损时应做好个人防护 Personal Protection is recommended for damaged battery	呼吸防护，防护手套，防护服装和有护边的安全玻璃罩都是要准备的。 Respiratory Protection, Protective Gloves, Protective Clothing and safety glass with side shields.

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

物理状态 Physical State	颜色：白色 Color: White
	外形：圆柱形 Appearance: Cylindrical
	气味：无味 Odor: Odorless
变化的条件 Change in condition	
酸碱度 pH	不适用。 Not applicable as supplied.
闪点 Flash Point	除非单个的组件暴露，否则不适用。 Not applicable unless individual components exposed.
易燃度 Flammability	除非单个的组件暴露，否则不适用。 Not applicable unless individual components exposed.
相对密度 Relative density	除非单个的组件暴露，否则不适用。 Not applicable unless individual components exposed.
溶解性（水溶性） Solubility (water)	除非单个的组件暴露，否则不适用。 Not applicable unless individual components exposed.
溶解性（其他） Solubility (other)	除非单个的组件暴露，否则不适用。 Not applicable unless individual components exposed.

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

稳定性 Chemical stability	正常情况下稳定。 Stable in normal circumstances.
禁配物 Incompatibilities	氧化剂，酸，碱。 Oxidant, acid, alkali
应避免条件 Conditions to Avoid	加热 70 摄氏度以上或焚烧、变形、毁坏、粉碎、拆卸、过充电、短路，长时间暴露在潮湿的条件下。 Heat above 70°C or incinerate. Deform. Mutilate. Crush. Disassemble. Overcharge. Short circuit. Expose over a long period to humid conditions.
危险反应 Possibility of hazardous reactions	无资料 Data not available.

危险的分解产物 Hazardous Combustible Products	一氧化碳，二氧化碳，锂氧化物烟气 Carbon monoxide, carbon dioxide, lithium oxide fumes

第十一部分 毒理学信息
Section 11 Toxicological Information

在日常操作和使用中本产品不会引起毒理学性能。
This product does not elicit toxicological properties during routine handling and use.

第十二部分 生态学信息
Section 12 Ecological Information

通用信息 General note	若无政府许可，勿将材料排入周围环境。 Do not allow material to be released to the environment without proper governmental permits
化学产品在环境/可能的环境预期的行为的一种生态毒性 Anticipated behavior of a chemical product in environment/possible environmental impact/ ecotoxicity	Not Available. 不适用。

第十三部分 废弃处置
Section 13 Disposal Considerations

废弃处置方法建议 Waste treatment methods and Recommendation	请参考国家和地方的相关法规正确进行处理。 Consult state, local or national regulations to ensure proper disposal.
废弃注意事项 Attention for waste treatment	废电池不能当作普通垃圾。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。 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**	
联合国危险货物编号 UN Number	UN3480 UN3481
包装标志 Labels for package	第 9 类 Class 9
运输专用名称 Shipping Name	锂离子电池（荷电状态不得超过其额定容量的 30%）或； Lithium ion batteries (Suggested limited to a maximum of 30% SoC or; 与设备一起包装的锂离子电池（包括锂离子聚合物电池）（荷电状态建议不超过其额定容量的 30%）或； Lithium ion batteries packed with equipment (including lithium ion polymer batteries) (Suggested limited to a maximum of 30% SoC) or; 包含在设备中的锂离子电池（包括锂离子聚合物电池）（荷电状态建议不超过其额定容量的 30%）。 Lithium ion batteries contained in equipments (including lithium ion polymer batteries) (Suggested limited to a maximum of 30% SoC).
国际民间航空组织/国际航空运输协会 ICAO / IATA	货物可根据国际民用航空组织（ICAO），TI 或国际航空协会（IATA）DGR 66th (2025 年版)包装说明 PI965 第 IB 部分，PI966 和 PI967 第 II 部分相关规定。 Can be shipped by air in accordance with International Civil Aviation Organization (ICAO), TI or International Air Transport Association (IATA), DGR Packing Instructions PI 965 Section IB, PI 966 and PI 967 Section II appropriate of IATA DGR 66th (2025 Edition).
国际海运危险货物规则 IMDG CODE	根据特殊规定 188，该电池不受 IMDG Code 2024 版(Amdt 42-24)限制。 The batteries are not restricted to IMDG Code 2024 Edition (Amdt 42-24) according to special provision 188.
运输方式 Transport Fashion	空运，海运，铁路，公路。 By air, by sea, by railway, by road.
此外，每个锂电芯和电池类型都必须通过联合国《关于危险货物运输的建议书 试验和标准手册》第 38.3 节规定的适用测试。电池应做好防短路措施。 In addition, to be permitted in transport each lithium cell and battery types must have passed the applicable tests set out in Subsection 38.3 of the UN Manual of Tests and Criteria. The batteries should be well protected against short circuits.	

第十五部分 法规信息
Section 15 Regulatory Information

联合国《关于危险货物运输的建议书规章范本》

Recommendations on the transport of dangerous goods-model Regulations

国际航空运输协会《危险品规则》

IATA dangerous goods regulations

《国际海运危险货物规则》（IMDG Code）

International maritime dangerous goods code

《欧洲道路危险货物国际运输协议》

European Agreement concerning the International Carriage of Dangerous Goods by Road

《危险品安全运输技术指令》

Technical Instructions for the Safe Transport of Dangerous Goods

《危险货物分类和品名编号》

Classification and code of dangerous goods

《职业安全卫生法》

Occupational Safety and Health Act (OSHA)

《有毒物质控制法》

Toxic Substance Control Act (TSCA)

《消费产品安全法》

Consumer Product Safety Act (CPSA)

《联邦环境污染控制法》

Federal Environmental Pollution Control Act (FEPCA)

《石油污染法案》

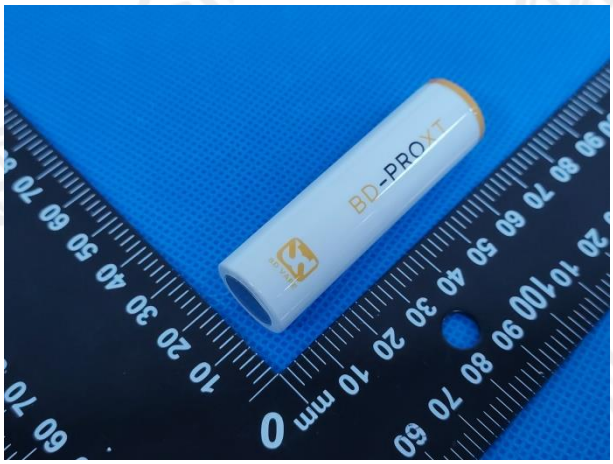
The Oil Pollution Act (OPA)

符合所有联邦、州和地方法律

In accordance with all Federal, State and local laws

第十六部分 其他信息
Section 16 Additional Information

样品照片 Sample photo

本份 MSDS 中的信息只是基于我们当前所拥有的相关材料的信息而编制的，只是为了描述本品的健康、安全与环境需求，以使各有关方面能更好地了解和信任本产品。这些信息只是提供给您，以供考虑、研究和确认。其中的一些危害预防措施描述并非是唯一的。所以本份 MSDS 不能作为使用本品实现任何特定目的的保证。各有关使用者有责任预先完成本品的安全性及其他方面的测试，以评判其是否满足您的使用目的。

To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

--报告结束--
--End of report--