MSDS Report

委托方 Client	广西煜信恩能源科技有限公司 GUANGXI YU XIN EN ENERGY TECHNOLOGY CO., LTD.
委托方地址 Add. of Client	广西百色市右江区四塘镇百东新区百色大道深百产业园 18 栋 Building 18, Shenbai Industrial Park, Baise Avenue, Baidong New District, Sitang Town, Youjiang District, Baise City, Guangxi province P.R. China
样品名称 Sample Name	锂离子电池 Li-ion Battery
样品型号 Sample Model	YXE 18650 5100mAh
标称电压 Nominal voltage	3.7V
额定容量 Rated capacity	5100mAh，18.87Wh
样品重量Sample Mass	92.9g
样品尺寸 Sample Size	(67.0×36.7×18.7)mm
编制单位 Prepared by	诺诚（深圳）安全科技有限公司 NRCC (Shenzhen) Safety Technology Co., Ltd. 深圳市宝安区福永街道腾丰五路2号A栋 Building A, No. 2, Tengfeng 5th Road, Fuyong, Bao'an District, Shenzhen
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报告单位（盖章）
Seal of

材料安全技术说明书 Material Safety Data Sheet

第一部分 产品及企业标识 Section 1 - Product & Company Identification	
样品名称 Sample Name	锂离子电池 Li-ion Battery
制造商 Manufacturer	广西煜信恩能源科技有限公司 GUANGXI YU XIN EN ENERGY TECHNOLOGY CO., LTD.
地址 Address	广西百色市右江区四塘镇百东新区百色大道深百产业园 18 栋 Building 18, Shenbai Industrial Park, Baise Avenue, Baidong New District, Sitang Town, Youjiang District, Baise City, Guangxi province P.R. China
工厂 Factory	广西煜信恩能源科技有限公司 GUANGXI YU XIN EN ENERGY TECHNOLOGY CO., LTD.
地址 Address	广西百色市右江区四塘镇百东新区百色大道深百产业园 18 栋 Building 18, Shenbai Industrial Park, Baise Avenue, Baidong New District, Sitang Town, Youjiang District, Baise City, Guangxi province P.R. China
电话号码 Phone number	+86-776-2841488
电子邮箱地址 Email address	690853596@qq.com

第二部分 危险性概述 Section 2 - Hazard Identification	
危险性类别 Classification of Danger	见第十四部分。 See section 14.
浸入途径 Primary Route(s) of Exposure	吸入、食入、皮肤接触、眼睛接触。 Inhalation,Ingestion, Skin contact and Eye contact.
健康危害 Health Hazard	正常使用没有危险，不能拆解、打开或分解电池，里面的材料或成分是有害的。 There is no danger in normal use, the battery cannot be disassembled, opened or decomposed, and the materials or components inside are harmful. 吸入：破裂的电池散发出来的气雾会引起呼吸道刺激。 Inhalation: Vapors or mists from a ruptured battery may cause respiratory irritation. 食入：电池的组成成分或原料可以导致嘴，食道和胃肠道的严重化学烧伤。

	Ingestion: The battery ingredients or raw materials can cause severe chemical burns to the mouth, esophagus and gastrointestinal tract. 皮肤：皮肤接触到电池的内部化学材料可能会导致严重的刺激或烧伤皮肤。 Skin: Skin contact with the battery's internal chemistry can cause severe irritation or burn to the skin. 眼睛：眼睛接触到电池的内部化学材料可能会导致严重的刺激或烧伤眼睛。 Eye: Eye contact with the battery's internal chemistry can cause severe irritation or burn to the eye.

第三部分 成分/组成的信息
Section 3 - Composition/Information on Ingredients

化学名称 Chemical Name	浓度或浓度范围(%) Concentration or concentration ranges (%)	(化学文摘索引登记号) CAS Number/CAS号
钴酸锂 Lithium Cobalt Oxide	35-38	12190-79-3
石墨 Graphite	20-22	7782-42-5
铜 Copper	9-10	7440-50-8
铝 Aluminum	5-6	7429-90-5
碳酸乙烯酯 Ethylene carbonate	14-16	96-49-1
聚丙烯 Polypropylene	5-6	9003-07-0
碳酸甲乙酯 Carbonate, methyl ethyl	4-5	623-53-0
六氟磷酸锂 Phosphate(1-), hexafluoro-, lithium	5-6	21324-40-3

第四部分 急救措施
Section 4 - First Aid Measures

吸入 Inhalation	移除污染源或者将受害者移至新鲜空气处。寻求医生建议。 Remove source of contamination or move victim to fresh air. Obtain medical advice.

食入 Ingestion	立即用清水漱口，在专业人士的指导下催吐，速就医。 Please rinse mouth thoroughly with water. Induce vomiting under the guidance of professional personage. Please seek medical treatment in time.
皮肤接触 Skin contact	脱下已污染的衣物，用大量的清水冲洗，若皮肤出现过敏及红肿情况请速就医。 Take off contaminated clothing, rinse with plenty of water, if skin allergies and redness, please seek medical treatment in time.
眼睛接触 Eye contact	用流动水冲洗15分钟，如刺激持续发生，速就医。 Irrigate with flowing water for 15 minutes. If irritation persists, please seek medical treatment in time.

第五部分 消防措施
Section 5 - Fire Fighting Measures

危险特性 Characteristics of Hazard	火灾时可释放有害浓烟、气体或者蒸汽。 Toxic fumes, gases or vapors may evolve on burning.
燃烧产生的危险物品 Hazardous Combustion Products	一氧化碳，二氧化碳，锂氧化物烟气等。 Carbon monoxide, carbon dioxide, oxide fumes and so on.
灭火方法及灭火剂 Fire-extinguishing Methods and Extinguishing Media	对于小型火险，可使用水，干燥沙等合适的灭火介质。 For small fires, can use water, dry sand and other proper fire extinguishing media.
灭火注意事项 Attention in Fire-extinguishing	消防人员须佩戴防毒面具、穿全身消防服。 Firefighting personnel shall wear gas masks and full-body firefighting suits.

第六部分 泄漏应急措施
Section 6 - Accidental Release Measures

个人预防措施、防护装备和应急程序 Personal Precautions, protective equipment, and emergency procedures	万一破裂。注意！腐蚀性物质。避免接触皮肤，眼睛或衣服。确保空气流通。根据需要使用个人防护装备。将人员撤离到安全区域。让人们远离溢出/泄漏处和处于逆风。参考第七部分和第八部分中列出的防护措施。 In case of rupture. Attention! Corrosive material. Avoid contact with skin, eyes and clothing. Ensure adequate ventilation. Use personal protective equipment as required. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Refer to protective measures listed in Sections 7 and 8.
环境保护措施 Environmental Precautions	防止产品污染土壤和进入下水道或水道。 Prevent product from contaminating soil and from entering sewers or waterways.

方法和材料控制 Methods and materials for Containment	出于安全，阻止泄漏，可以用干砂或沙土来遏制液体泄露，立即清理泄漏。 Stop the leak if safe to do so. Contain the spilled liquid with dry sand or earth. Clean up spills immediately.
清理的方法和材料 Methods and materials for cleaning up	用惰性吸收剂（干砂或沙土）吸收溢出的材料。污染物转移到可吸收废物的容器。收集所有受污染的吸收剂，根据第13部分的指令处置。用洗涤剂和水清洁污染区域，收集所有受污染的洗涤水进行适当处置。 Absorb spilled material with an inert absorbent (dry sand or earth). Scoop contaminated absorbent into an acceptable waste container. Collect all contaminated absorbent and dispose of according to directions in Section 13. Scrub the area with detergent and water; collect all contaminated wash water for proper disposal.

第七部分 操作处置与储存 Section 7 - Handling and Storage	
操作 Handling	禁止拆解、挤压或投入高温环境中，禁止短路或将电池正负极错误的安装在设备中。 Do not disassemble, squeeze, or put the battery into a high temperature environment. Do not short circuit or install with incorrect polarity.
储存 Storage	储藏于阴凉，干燥，通风处，远离接触会发生反应的材料。放在儿童无法接触的地方。 Store in a cool, dry, well-ventilated area away from incompatible substances. Keep out of the reach of children.
其他要注意的防范措施 Other Precautions	按照良好的工业卫生和安全规范进行操作。避免接触皮肤，眼睛或衣服。使用个人防护设备 Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Use personal protection equipment.。

第八部分 接触控制/个人防护 Section 8 - Exposure Controls/Personal Protection	
工程控制 Engineering Controls	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。 No engineering controls are required for handling batteries that have not been damaged. Personal protective equipments for damaged batteries should include chemical resistant gloves and safety glasses.

个人防护设备 Personal Protective Equipment	眼睛和脸部保护：正常使用条件下不必考虑。如果电解液泄露，请佩戴防护眼镜和安全面罩。 Eye and Face Protection: Not to be considered under normal use conditions. If the electrolyte leaks, wear protective glasses and a safety mask. 皮肤和身体防护：正常使用条件下不必考虑。如果电解液泄露，请穿戴防护手套和防护服。 Skin and Body Protection: Not to be considered under normal use conditions. If the electrolyte leaks, wear protective gloves and clothing. 呼吸系统防护：正常使用条件下不必考虑。如果电解液泄露或电池泄气，请佩戴防毒面罩。 Respiratory Protection: Not to be considered under normal use conditions.If the electrolyte leaks or the battery vents, wear a gas mask.

第九部分 理化特性 Section 9 - Physical and Chemical Properties	
物理状态 Physical State	形态：固体 Form: Solid
	颜色：蓝色 Color: Blue
	气味：正常情况下，无气味。 Odour: Normally, no odor.
变化条件 Change in condition	
酸碱度 pH	无数据可提供。 No data is available
闪点 Flash Point	不适用。 Not applicable.
易燃度 Flammability	无数据可提供。 No data is available
相对密度 Relative density	无数据可提供。 No data is available
溶解性（水溶性） Solubility (water)	无数据可提供。 No data is available

第十部分 稳定性和反应性 Section 10 - Stability and Reactivity	
化学稳定性 Chemical Stability	在推荐的储存条件下可以保持稳定。 Stable under recommended storage conditions.
应避免的条件 Conditions to Avoid	加热 70°C 以上或焚烧，长时间暴露在潮湿的条件下。 Heat above 70°C or incinerate,expose over a long period to humid conditions.
不相容材料 Incompatible materials	酸，氧化剂，碱。 Acids, Oxidizing agents, Bases.
危害分解物 Hazardous Decomposition Products	有毒烟雾，并可能形成过氧化物。 Toxic Fumes, and may form peroxides.

第十一部分 毒理学信息 Section 11 - Toxicological Information	
刺激 Irritation	内部物质暴露的情况下，蒸汽烟雾可能对眼睛产生刺激，泄露的电解液可能对皮肤产生刺激。 In the case of internal material exposure, the vapor fumes may cause irritation to the eyes and the leaking electrolyte may cause irritation to the skin.
致敏 Sensitization	无数据可提供。 No data is available
再生毒性 Reproductive Toxicity	无数据可提供。 No data is available
协同材料毒理学 Toxicologically Synergistic Materials	无数据可提供。 No data is available

第十二部分 生态学信息 Section 12 - Ecological Information	
通用信息 General note	不允许未稀释或大量的产品到达地下水、水道或污水系统。 Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

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	无数据可提供。 No data is available

第十三部分 废弃处置
Section 13 - Disposal Considerations

废弃处置方法 Waste Treatment	建议遵照国家和地方法规处置或再利用。 Recycle or dispose of in accordance with government, state & local regulations.
废弃注意事项 Attention for Waste Treatment	废电池不能被当做普通垃圾。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。 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

联合国货物编号（UN 编号） UN number	3480 or 3481
运输专用名称 Proper shipping name	锂离子电池（包括锂离子聚合物电池）或： Lithium ion batteries (including lithium ion polymer batteries) or; 锂离子电池与设备包装在一起（包括锂离子聚合物电池）或: Lithium ion batteries packed with equipment (including lithium ion polymer batteries) or; 锂离子电池内置于设备中（包括锂离子聚合物电池）。 Lithium ion batteries contained in equipment (including lithium ion polymer batteries).
危险品规则 DGR	可根据国际民用航空组织(ICAO)或国际航空运输协会(IATA) DGR 67版(2026)包装指令PI965 IB、PI966 II 或PI967 II适当空运。 Can be shipped by air in accordance with International Civil Aviation Organization (ICAO) or International Air Transport Association (IATA) DGR 67 Edition (2026) Packing Instructions Section IB of 965, Section II of 966 or Section II of 967 appropriately. 针对PI965 IB：荷电状态不得超过其额定容量的30%，并粘贴9类电池标签、限货机标签和电池标记。 For PI965 IB: Limited to a maximum of 30% SoC, and paste Class 9–Batteries Label, Cargo Aircraft Only Label and Battery Mark.

	针对PI966 II：超过2.7Wh，荷电状态不得超过其额定容量的30%，粘贴电池标记。 For PI966 II：More than 2.7Wh, limited to a maximum of 30% SoC. Paste Battery Mark. 针对PI967 II：粘贴电池标记。 For PI967 II: Paste Battery Mark. UN分类（运输危险类别）：9类危险品（包装指令965第IB部分）或不适用（包装指令966~967第II部分） UN Classification (Transport hazard class): Class 9 (PI965 Section IB) or N/A (PI966~967 Section II) PG包装等级: 不适用 PG Packing Group: N/A
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. 粘贴电池标记。 Paste Battery Mark. UN分类（运输危险类别）：不适用 UN Classification (Transport hazard class): N/A PG包装等级: 不适用 PG Packing Group: N/A 海洋污染物（Y / N）：N Marine pollutant (Y/N): N EmS 编号: F-A, S-I EmS No.: F-A, S-I
危险货物道路运输规则 Regulations concerning road transportation of dangerous goods	根据JT/T 617.3-2018特殊规定188，该电池不受JT/T 617.1-2018~ JT/T 617.7-2018限制。 The batteries are not restricted to JT/T 617.1-2018~JT/T 617.7-2018 according to special provision 188 of JT/T 617.3-2018. 粘贴电池标记。 Paste Battery Mark. UN分类（运输危险类别）：不适用 UN Classification (Transport hazard class): N/A PG包装等级: 不适用 PG Packing Group: N/A

危险货物国际道路运输欧洲公约 ADR	根据ADR 2025特殊规定188，该电池不受限制。 The batteries are not restricted according to ADR 2025 special provision 188. 粘贴电池标记。 Paste Battery Mark. UN分类（运输危险类别）：不适用 UN Classification (Transport hazard class): N/A PG包装等级: 不适用 PG Packing Group: N/A
国际铁路危险货物运输规则 RID	根据RID 2025特殊规定188，该电池不受限制。 The batteries are not restricted according to RID 2025 special provision 188. 粘贴电池标记。 Paste Battery Mark. UN分类（运输危险类别）：不适用 UN Classification (Transport hazard class): N/A PG包装等级: 不适用 PG Packing Group: N/A

第十五部分 法规信息
Section 15 - Regulatory Information

《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
《关于危险货物运输的建议书 试验和标准手册》
Recommendations on the Transport of Dangerous Goods-Manual of Tests and Criteria
《危险品规则》
Dangerous Goods Regulations
《国际海运危险货物规则》
International Maritime Dangerous Goods Code
《危险货物道路运输规则》
Regulations Concerning Road Transportation of Dangerous Goods
《危险货物国际道路运输欧洲公约》
Agreement Concerning the International Carriage of Dangerous Goods by Road (ADR)
《国际铁路危险货物运输规则》
Regulations concerning the International Carriage of Dangerous Goods by Rail (RID)
《危险货物安全运输技术指南》
Technical Instructions for the Safe Transport of Dangerous Goods
《危险货物分类与代码》
Classification and Code of Dangerous Goods

《职业安全与健康法案》(OSHA)
Occupational Safety and Health Act (OSHA)
《有毒物质控制法》(TSCA)
Toxic Substance Control Act (TSCA)
《联邦环境污染控制法》(FEPCA)
Federal Environmental Pollution Control Act (FEPCA)
《资源保护和恢复法案》(RCRA)
Resource Conservation and Recovery Act (RCRA)
《联邦条例》(CFR)
Code of Federal Regulations (CFR)
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 - Other Information

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.

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The data/information contained herein has been reviewed and approved for general release on the basis that this document contains no export controlled information.

********报告结束********

********End of Report********