MSDS Report

申请商： **Prepared For :**	广东博龙能源科技有限公司 GUANGDONG BERON ENERGY TECHNOLOGY CO., LTD. 广东省东莞市横沥镇横沥城乡路 190 号 1 号楼 Building 1, No. 190 ， Henglichengxiang Road,Hengli Town, Dongguan City, Guangdong
产品名称： **Product Name:**	可充电锂离子电池 Rechargeable Lithium-ion battery
型号: Model	802050-2S1P
参数: **Rating(s):**	7.4V 750mAh 5.55Wh
Weight 重量:	32.076g
尺寸: **Dimension**	L×W×T: 54.5mm×41.2mm×8.4mm
编制单位： **Prepared By :**	Shenzhen ZKT Technology Co., Ltd. 深圳市中凯检测技术有限公司 1/F, No. 101, Building B, No. 6, Tangwei Community Industrial Avenue, Fuhai Street, Bao'an District, Shenzhen, China 中国广东省深圳市宝安区福海街道塘尾社区工业大道 6 号 B 栋 1 楼 101
报告编号: **Report No.**	ZKT-250522L10156S

编写: **Written by** _____ 批准: **Approved by** _____

审核: **Inspected by** _____ 日期: **Date** **June 05, 2025**

化学品安全技术说明书
Material Safety Data Sheet

第一部分 化学品及企业标识

Section 1- Chemical Product & Company Identification

产品名称：可充电锂离子电池

Product Name: Rechargeable Lithium-ion battery

制造商：广东博龙能源科技有限公司

Manufacture: GUANGDONG BERON ENERGY TECHNOLOGY CO., LTD.

地址：广东省东莞市横沥镇横沥城乡路 190 号 1 号楼

Address: Building 1, No. 190 ， Henglichengxiang Road,Hengli Town, Dongguan City, Guangdong

联系人 ***Contact Person:*** Mr. Zhang

电话 ***Tel: 15154800136***

传真 ***Fax:*** /

应急电话 ***Emergency Tel:*** 15154800136

邮箱 ***E-mail:*** gdbl@beronenergy.com

项目号 ***Item Code:*** ZKT-250522L10156S

第二部分 危险性概述

Section 2- Hazards Identification

危险性描述 **Hazard Description**	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。 Not dangerous with normal use. Do not dismantle, open or shred the battery ingredients contained within or their ingredients products could be harmful.
接触途径 **Primary Route(s) of Exposure**	吸入、食入、皮肤接触、眼睛接触。 Inhalation, Ingestion, Skin contact and Eye contact.
潜在健康影响 **Potential Health Effects**	**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 contained within or their ingredients products can cause serious chemical burns of 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 contents of an open battery can cause severe irritation or burns 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 contents of an open battery can cause severe irritation or burns to the eye.

第三部分 成分/组成信息

Section 3- Composition/Information on Ingredients

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

注意：CAS 号是化学文摘服务注册号。

Note: CAS number is Chemical Abstract Service Registry Number.

N/A =不适用。

N/A=Not apply.

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**	脱下已污染衣服，用大量的水冲洗至少 15 分钟，速就医。 Remove contaminated clothes and rinse skin with plenty of water or shower for 15 minutes. Get medical aid.
眼睛接触 **Eye contact**	用流动水冲洗 15 分钟，如刺激持续发生，请求助于医生。 Irrigate with flowing water for 15 minutes. If irritation persists, consult a physician.

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, lithium oxide fumes and so on.
灭火方法及灭火剂 **Fire-extinguishing Methods and Extinguishing Media**	请使用水，干燥沙等合适的灭火介质。 Please 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。 The firemen should put on antigas masks and full fire-fighting suits.

第六部分 泄露应急处理

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**	限制区域，直到完成清理工作。请勿触摸泄漏的材料。穿戴适当的个人防护设备，如第 8 部分所示。 Restrict access to area until completion of clean-up. Do not touch the spilled material. Wear adequate personal protective equipment as indicated in Section 8.
环境保护措施 **Environmental Precautions**	防止物质污染土壤和进入下水道或水道。 Prevent material 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和根据第 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**	不要以让接头短路的方式对电池进行操作。不要打开，分解，挤压或燃烧电池。 Don't handing the batteries in manner that allows terminals to short circuit. Do not open, disassemble, crush or burn battery.
储存 **Storage**	如果电池长期存放超过 3 个月，建议定期对电池充电。 If the battery is subject to storage for such a long term as more than 3 months, it is recommended to recharge the battery periodically. 长期存储: -10℃～35℃，相对湿度 60±25% Long period storage: -10℃～35℃, 60±25%R.H 不要将电池随意丢在盒子或抽屉里，以免电池之间或电池与其他金属物质发生短路。 Do not storage the battery haphazardly in a box or drawer where they may short-circuit each other or be short-circuited by other metal objects. 储存在小孩接触不到的地方。 Keep out of reach of children.

	不要将电池暴露在火源和热源附近，避免在阳光直射下存储。 Do not expose the battery to heat or fire. Avoid storage in direct sunlight. 不要与氧化和酸性物质存储在一起。 Do not store together with oxidizing and acidic materials.

第八部分 接触控制和个体防护

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.
Personal Protective Equipment **个人防护设备**	呼吸保护：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。正常使用条件下不必考虑。 Respiratory Protection: 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. Not necessary under conditions of normal use. 防护手套：正常使用条件下不必考虑。 Protective Gloves: Not necessary under conditions of normal use. 其他防护服装或设备：正常使用条件下不必考虑。 Other Protective Clothing or Equipment: Not necessary under conditions of normal use. 当电池排气阀打开时，应做好个人防护：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。 Personal Protection is recommended for venting battery: 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**	形态：固体 Form: Solid
	颜色：银色 Color: Silver
	气味：无气味 Odour: Odorless
变化条件: **Change in condition**	
pH，有浓度指示 **pH, with indication of the concentration**	无数据可提供 No data is available
熔点/凝固点 **Melting point/freezing point**	无数据可提供 No data is available
沸点，初沸点 **Boiling Point, initial boiling point**	无数据可提供 No data is available
闪点 **Flash Point**	无数据可提供 No data is available
上/下燃烧或爆炸限值 **Upper/lower flammability or explosive limits**	无数据可提供 No data is available
蒸汽压 **Vapor Pressure**	无数据可提供 No data is available
蒸汽密度: (空气= 1)Vapor Density: (Air = 1)	无数据可提供 No data is available
密度/相对密度 **Density/relative density**	无数据可提供 No data is available
水溶性 **Solubility in Water**	不能溶解 Insoluble
正辛醇/水分配系数 **n-octanol/water partition coefficient**	无数据可提供 No data is available
自燃温度	无数据可提供

Auto-ignition temperature	No data is available
分解温度 **Decomposition temperature**	无数据可提供 No data is available
溴阈 **Odout threshold**	无数据可提供 No data is available
蒸发速率 **Evaporation rate**	无数据可提供 No data is available
易燃性（土壤，气体） **Flammability (soil, gas)**	无数据可提供 No data is available
粘度 **Viscosity**	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

稳定性 **Stability**	常温常压下稳定。 Stable under normal temperatures and pressures.
应避免的条件 **Conditions to Avoid**	加热 70°C 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.
危险反应的可能性 **Possibility of Hazardous Reaction**	如果发生泄露，避免与强氧化剂，无机酸，强碱，卤代烃接触。 If leaked, forbidden to contact with strong oxidizers, mineral acids, strong alkalis, halogenated hydrocarbons.

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和皮肤产生刺激性。 In the event of exposure to internal contents, vapor fumes may be very irritating to the eyes and skin.
致敏	无数据可提供

Sensitization	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
土壤中移动性 **Mobility in soil**	无数据可提供 No data is available
持久性和降解性 **Persistence and Degradability**	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.

Section 14 – Transport Information

第十四部分 运输信息

本报告适用于海运，空运和陆运

This report applies to by sea, by air and by land;

该可充电锂离子电池（型号：802050-2S1P）经过测试符合联合国《关于危险货物运输的建议书 实验和标准手册》第三部分，第 38.3 章节的要求。

The Rechargeable Lithium-ion battery (model: 802050-2S1P) tested according to the requirements of the UNITED NATIONS “Recommendations on the Transport of Dangerous Goods, Manual of Tests and Criteria” Part III, subsection 38.3;

该可充电锂离子电池做了防短路保护。包括防止与同一封装内的导电材料接触可能导致的短路。

The Rechargeable Lithium-ion battery was protected so as to prevent short circuits. This includes protection against contact with conductive materials within the same packaging that could lead to short circuit;

包装应足以避免在运输，处理和堆放期间的机械损坏。

The packaging shall be adequate to avoid mechanical damage during transport, handling and stacking.

包装必须小心处理，如果包装损坏，存在易燃危险。

The package must be handled with care and that a flammability hazard exists if the package is damaged.

该可充电锂离子电池可以根据 2025 年 IATA 危险物品规则第 66 版包装指令 965 第 IB 部分或包装指令 966～967 第 II 部分运输。

The Rechargeable Lithium-ion battery can be shipped by air in according to Section IB of PACKING INSTRUCTION 965, or Section II of PACKING INSTRUCTION 966～967 of the 2025 IATA Dangerous Goods regulations 66th Edition.

关于运输，引用和考虑了以下法规：

With regard to transport, the following regulations are cited and considered:

- 国际民用航空组织（ICAO）技术细则。
- The International Civil Aviation Organization (ICAO) Technical Instructions.
- 国际航空运输协会（IATA）危险物品规则。
- The International Air transport Association (IATA) Dangerous Goods Regulations.

锂电池的 UN 编号：UN3480 或 UN3481

UN number of lithium battery: UN3480 or UN3481;

UN 合适的运输名称/描述（技术名称）：锂离子电池，锂离子电池内置于设备中或锂离子电池与设备包装在一起;

UN Proper shipping name/Description (technical name): Lithium ion batteries or Lithium ion batteries contained in equipment or Lithium ion batteries packed with equipment;

UN 分类（运输危险类别）：9 类危险品（包装指令 965 第 IB 部分）或者 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)

- 国际海运危险货物（IMDG）规则。
- The International Maritime Dangerous Goods (IMDG) Code.

锂电池的 UN 编号：UN3480 或 UN3481

UN number of lithium battery: UN3480 or UN3481

UN 合适的运输名称/描述（技术名称）：锂离子电池，锂离子电池内置于设备中或锂离子电池与设备包装在一起;

UN Proper shipping name/Description (technical name): Lithium ion batteries or Lithium ion batteries contained in equipment or Lithium ion batteries packed with equipment;

UN 分类（运输危险类别）：不适用

UN Classification (Transport hazard class): N/A

海洋污染物（Y / N）：N

Marine pollutant(Y/N): N

海运按照 IMO IMDG Code (inc Amdt 42-24) 可按普通货物条件办理。

The battery is not restricted according to IMO IMDG Code (inc Amdt 42-24).

需要符合这些特殊条款：国际海运危险货物规则（IMDG）188, 230, 348, 384.

Need to meet the Special Provision: International maritime dangerous goods code (IMDG) 188, 230, 348, 384.

第十五部分 法规信息

Section 15 – Regulatory Information

《危险物品规则》

《Dangerous Goods Regulations》

《危险货物运输的建议模型规定》

《Recommendations on the Transport of Dangerous Goods Model Regulations》

《国际海上危险货物运输》

《International Maritime Dangerous Goods》

《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)

《消费者产品安全法案》（CPSA）

《Consumer Product Safety Act》(CPSA)

《联邦环境污染控制法》（FEPCA）

《Federal Environmental Pollution Control Act》(FEPCA)

《石油污染法》（OPA）

《The Oil Pollution Act》(OPA)

《超级基金修正案和再授权法案 TitleⅢ(302/311/312/313)》(SARA)

《Superfund Amendments and Reauthorization Act TitleⅢ(302/311/312/313)》(SARA)

《资源保护和恢复法案》（RCRA）

《Resource Conservation and Recovery Act》(RCRA)

《安全饮用水法》（CWA）

《Safety Drinking Water Act》(CWA)

《加州 65 号提案》

《California Proposition 65》

《联邦条例》(CFR)

《Code of Federal Regulations》(CFR)

欧盟电池指令(2006/66/EC, 2013/56/EU)

EU Battery Directive (2006/66/EC, 2013/56/EU)

关于化学品的注册、评估、授权和限制(EC)第 1907/2006 号规例

Regulation (EC) No. 1907/2006 on the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH)

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

在我们看来上面的信息是准确的，这是我们目前能提供的最佳的信息。但是，对于这些信息，我们不对商品的性能做任何明示的或者暗示的保证，我们也不对使用这些信息造成的后果担负任何责任。 用户应当自己调查研究后决定这些信息是否适用于他们的特定用途。尽管在该文档里提出了合理的预警，但是这仅仅只是给您做参考，考量和调查。这份化学品安全技术说明书提供了安全处理和使用该产品的指南，但是它没有，也不能对所有可能发生的情景提出建议，所以您需要根据您对该产品的特定使用情况来决定是否需要其他的预防措施。

此处所包含的数据/信息作为普通版本已经审核并批准，但是本文档不包含出口控制信息。

The information above is believed to be accurate and represents the best information currently available to us. However, we makes no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. Although reasonable precautions have been taken in the preparation of the data contained herein, it is offered solely for your information, consideration and investigation. This material safety data sheet provides guidelines for the safe handling and use of this product; it does not and cannot advise on all possible situations, therefore, your specific use of this product should be evaluated to determine if additional precautions are required.

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

******End of report 报告结束******