

Safety Data Sheets (SDSs)

安全技术说明书

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

第 1 节：产品和公司标识

Product Identifier 产品标识:

Product name: Rechargeable Li-ion Cell

产品名称: 可充锂离子电芯

Model/Type :GSP3914895F 50Ah 3.2V 160Wh

型号/规格: GSP3914895F 50Ah 3.2V 160Wh

Details of the Supplier of the safety data sheet:

安全技术说明书供应商详细信息:

Name: ZHUHAI GREAT POWER ENERGY CO., LTD.

名称: 珠海鹏辉能源有限公司

Address: (BUILDING A, WORKSHOP) NO.2 XINQING FIFTH ROAD, JING'AN TOWN, DOUMEN DISTRICT, ZHUHAI CITY, GUANGDONG PROVINCE, P.R.C.

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Postcode 邮政编码: 519100

E-mail address 电子邮箱: renzheng@greatpower.net

Emergency telephone number 紧急联系电话:

Company Emergency Phone Number: 0756-6333555

公司紧急电话号码: 0756-6333555



SECTION 2: HAZARDS IDENTIFICATION

第 2 节：危害识别

Emergency Overview紧急情况概述：

May explode in a fire, which could release irritant gas.

可能在火灾中爆炸，释放刺激性气体。

Primary routes of entry侵入途径：

Skin contact皮肤接触：

No known significant effects or critical hazards under normal use. Contact with damaged batteries may cause burns.

在正常使用下无已知的重大影响或危险。接触与损坏电池可能会引起灼伤。

Eye contact眼睛接触：

No known significant effects or critical hazards under normal use. Contact with damaged batteries may cause burns.

正常情况下无已知的重大影响或危害。接触已损坏电池可能引起灼伤。

Inhalation吸入：

Inhalation of vapors or fumes released due to heat or a large number of leaking batteries may cause respiratory and eye irritation.

电池泄漏释放蒸汽或气体，吸入可能导致刺激呼吸道及眼睛。

Ingestion摄入：

Ingestion of product contents may cause mouth, throat and intestinal burns and damage.

产品内物质摄入人体可能会引起口腔、喉咙和肠道烧伤和伤害。



SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

第 3 节：成分/成分信息

Chemical characterization: Mixtures

化学特性：混合物

Description: Chemical power supply based on nonaqueous electrolyte. Composed by positive electrode, negative electrode, diaphragm, electrolyte and shell.

描述：由正极、负极、隔膜、电解液和外壳组成的基于非水电解质的化学电源。

Hazardous ingredients危险成分：

Chemical Composition 化学名称	Chemical Formula 分子式	CAS No: CAS号:	Weight(%) 百分含量 (%)
Lithium Iron Phosphate Carbon Coated 磷酸铁锂	LiFePO ₄	15365-14-7	38.86

Graphite 石墨	C	7782-42-5	18.20
Organic Electrolyte 有机电解液	碳酸乙烯酯 (EC)	C ₃ H ₄ O ₃	96-49-1 6.86
	碳酸甲乙酯 (EMC)	C ₄ H ₈ O ₃	623-53-0 1.14
	碳酸二乙酯 (DEC)	C ₅ H ₁₀ O ₃	105-58-8 9.15
	碳酸丙烯酯 (PC)	C ₄ H ₆ O ₃	108-32-7 2.86
	六氟磷酸锂 (LiPF ₆)	F ₆ LiP	21324-40-3 2.29
Polypropylene 聚丙烯	C ₃ H ₆	9003-07-0	4.20
Copper 铜	Cu	7440-50-8	1.68
Aluminum 铝	Al	7429-90-5	14.76

Note: N/A=Not apply.

注: N/A=未检出.

SECTION 4: FIRST-AID MEASURES

第 4 节: 急救措施

First aid measures急救措施:

Eye Contact: Rinse thoroughly with plenty of water, also under the eyelids. If symptoms persist, call a physician.

眼睛接触: 用大量的水彻底冲洗, 也在眼睑下面。如果症状持续, 请就医。

Skin Contact: Remove contaminated clothing and shoes. Wash skin with soap and water. In the case of skin irritation or allergic reactions see a physician.

皮肤接触: 脱掉被污染的衣服和鞋子。用肥皂和水清洗皮肤。如果出现皮肤刺激或过敏反应, 请就医。

Inhalation: Move to fresh air. If symptoms persist, call a physician.

吸入: 移至新鲜空气处。如果症状持续, 请致电医生。

Ingestion: Do NOT induce vomiting. Drink plenty of water. If symptoms persist, call a physician.

摄食: 不要催吐。多喝水。如果症状持续, 请就医。

Swallowing: Do not induce vomiting. Get medical attention.

吞咽: 不要催吐。就医。

Most Important Symptoms/Effects最重要的症状/影响:

No information available.

无相关信息。

Indication of any immediate medical attention and special treatment needed

需要立即就医和特殊治疗的迹象:

Inform physician. Treat symptomatically.

通知医生。对症治疗。

SECTION 5: FIRE-FIGHTING MEASURES

第 5 节：消防措施

Suitable Extinguishing Media适用的灭火介质：

CO₂, dry chemical powder, wet sand, plenty of water (for cooling).

二氧化碳、干粉、湿砂、大量水（用于冷却）。

Unsuitable Extinguishing Media:No information available.

不合适的灭火介质：无可用信息。

Protective Equipment and Precautions for Firefighters消防人员的防护设备和注意事项：

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. For example: Wear self-contained respiratory protective device. Wear suitable protective clothing and eye/face protection.

在任何火灾中，穿戴自给式呼吸器压力需求，MSHA/NIOSH（经批准或等效）和全套防护装备。例如：佩戴自给式呼吸保护装置。穿戴合适的防护服和眼睛/面部保护装置。

Special hazards arising from the substance or mixture物质或混合物引起的特殊危害：

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°C), 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.

当暴露在火灾环境中时，电池可能会爆裂并释放出危险的分解产物。锂离子电池含有易燃的电解液，当受到高温（>150°C）、损坏或滥用（如机械损坏或电气过度充电）时，可能会放出、点燃并产生火花；可能会迅速燃烧，产生火焰燃烧效应；可能点燃衣服附近的其他电池。

SECTION 6: ACCIDENTAL RELEASE MEASURES

第 6 节：意外泄漏应急措施

Personal precautions, protective equipment and emergency procedures

个人预防措施、防护设备和应急程序：

Personal Precautions Avoid contact with eyes.

避免接触眼睛。

Refer to section 8 for personal protective equipment. Ensure adequate ventilation. Remove all sources of ignition.

有关个人防护设备，请参阅第 8 节。确保通风良好。清除所有火源。

Evacuate personnel to safe areas.

疏散人员到安全区域。

Environmental precautions环境预防措施:

Environmental Precautions Refer to protective measures listed in Sections 7 and 8.

环境预防措施指第 7 节和第 8 节中列出的保护措施。

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

用液体粘合剂（沙子、硅藻土、酸性粘合剂、通用粘合剂、锯末）吸收。

Dispose contaminated material as waste according to item 13.

按照第 13 项将受污染的材料作为废物处理。

Methods and material for containment and cleaning up控制和清理的方法和材料:

Methods for Containment Prevent further leakage or spillage if safe to do so.

控制的方法：在安全的情况下，防止进一步泄漏或溢出。

Methods for Cleaning up Use personal protective equipment. Dam up. Cover liquid spill with sand, earth or other Non-combustible absorbent material. Pick up and transfer to properly labeled containers. Clean contaminated surface thoroughly.

清理的方法：使用个人防护设备。用沙子、泥土或其他不燃吸收性材料拦住或覆盖液体溢出物。并转移到贴有适当标签的容器中。彻底清洁污染表面

SECTION 7: HANDLING AND STORAGE

第 7 节：搬运和储存

Precautions for safe handling安全搬运注意事项:

Keep away from ignition sources, heat and flame. Such batteries must be packed in inner packages in such a manner as to effectively prevent short circuits and to prevent movement which could lead to short circuits. Avoid mechanical or electrical abuse.

远离火源、热源和火焰。此类电池必须以有效防止短路和防止可能导致短路的移动的方式包装在内包装中。避免机械或电气滥用。

More than a momentary short circuit will generally reduce the battery service life. Avoid reversing battery polarity within the battery assembly. In case of a battery unintentionally be crushed, rubber gloves must be used to handle all battery components. Avoid contact with eyes, skin. Avoid inhalation. No smoking at working site. Materials to Avoid: Strong oxidizing agents, Corrosives.

超过瞬间短路通常会缩短蓄电池的使用寿命。避免在电池组件内颠倒电池极性。如果电池无意中被压碎，必须使用橡胶手套处理所有电池组件。避免接触眼睛、皮肤。避免吸入。工作场所禁止吸烟。避免接触的材料：强氧化剂、腐蚀剂。

Conditions for safe storage, including any incompatibilities

安全储存条件，包括任何不相容性：

Store in a cool, well-ventilated area. Keep away from ignition sources, heat and flame. Such batteries must be packed in inner packages in such a manner as to effectively prevent short circuits and to prevent movement which could lead to short-circuits.

Materials to Avoid: Strong oxidizing agents, Corrosives.

存放在阴凉、通风良好的地方。远离火源、热源和火焰。此类电池必须以有效防止短路和防止可能导致短路的移动的方式包装在内包装中。

避免接触的材料：强氧化剂、腐蚀剂。

SECTION 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

第 8 节：接触控制和个人防护

Engineering Controls 工程控制：

Use ventilation equipment if available. Safety shower and eye bath.

使用通风设备（如有），安全淋浴和洗眼器。

Personal Protective Equipment 个人防护装备：

Respiratory System: Not necessary under conditions of normal use.

Eyes: Not necessary under conditions of normal use.

Clothing: Wear appropriate protective clothing.

Hand: Safety gloves.

呼吸系统：在正常使用条件下不需要。

眼睛：在正常使用条件下不需要。

着装：穿戴适当的防护服。

手：安全手套。

Other Protect 其他保护：

No smoking, drinking and eating at working site. Wash thoroughly after handling.

工作场所禁止吸烟、饮酒、进食。操作后彻底清洗。

SECTION 9: Physical and chemical properties

第 9 节：物理和化学性质

Appearance: Prismatic 外形：棱柱形

Color: Black 颜色：黑色

Odors: If leaking, smells of medical ether.

气味：泄漏时，有醚的气味。



pH: Not applicable as supplied.

酸碱度: 不适用

Flash Point: Not applicable unless individual components exposed.

燃点: 除单个电芯暴露试验外其他不适用。

Flammability: Not applicable unless individual components exposed.

可燃性: 除单个电芯暴露试验外其他不适用。

Relative density: Not applicable unless individual components exposed.

相对密度: 除单个电芯暴露试验外其他不适用。

Solubility (water): Not applicable unless individual components exposed.

溶解性(水溶性): 除单个电芯暴露试验外其他不适用。

Solubility (other): Not applicable unless individual components exposed.

溶解性(其他): 除单个电芯暴露试验外其他不适用。

SECTION 10: STABILITY AND REACTIVITY

第 10 节: 稳定性和反应性

Reactivity: Stable under recommended storage and handling conditions (see section 7).

反应性: 在建议的储存和搬运条件下稳定(见第7节)。

Chemical stability: Stable under normal conditions of use, storage and transport.

化学稳定性: 在正常使用、储存和运输条件下稳定。

Thermal decomposition/conditions to be avoided: No decomposition if used according to specifications.

热分解/应避免的条件: 如果按照规范使用, 则不会分解。

Possibility of Hazardous Reactions: None under normal processing.

危险反应的可能性: 正常使用下无危险。

Hazardous Polymerization: Hazardous polymerization does not occur.

危险聚合: 不会发生危险聚合。

Conditions to avoid: Strong heating, fire, Incompatible materials.

避免条件: 强加热、火灾、不相容物质。

Incompatible materials: Strong oxidizing agents. Strong acids.

不相容物质: 强氧化剂。强酸。

Hazardous Decomposition Products: Carbon oxides, other irritating and toxic gases.

有害分解产物: 碳氧化物、其他刺激性和有毒气体。

SECTION 11: TOXICOLOGICAL INFORMATION

第 11 节: 毒理学信息

Acute toxicity: No data available.

急性毒性: 无可数据。

Skin corrosion/irritation: No irritant effect.

皮肤腐蚀/刺激：无刺激作用。

Serious eye damage/irritation: Cause serious eye irritation.

严重眼睛损伤/刺激：引起严重眼睛刺激。

Respiratory or skin sensitization: No sensitizing effects known.

呼吸道或皮肤致敏：无已知致敏作用。

Specific target organ system toxicity: No information available.

特定靶器官系统毒性：无可用信息。

Note: The internal battery materials may cause irritation to eyes and skin.

注意：电池内部材料可能对眼睛造成刺激。

SECTION 12: ECOLOGICAL INFORMATION

第 12 节：生态信息

Toxicity: No further relevant information available.

毒性：无进一步相关信息。

Persistence and degradability: No further relevant information available.

持久性和降解性：无进一步的相关信息。

Bioaccumulative potential: No further relevant information available.

生物累积潜力：无进一步相关信息。

Mobility in soil: No further relevant information available.

土壤流动性：无进一步相关信息。

Results of PBT and vPvB assessment PBT 和 vPvB 评估结果:

PBT: Not applicable.

PBT: 不适用。

vPvB: Not applicable.

vPvB: 不适用。

Other adverse effects: No information available.

其他不良反应：无资料。



SECTION 13: DISPOSAL CONSIDERATIONS

第 13 节：处置注意事项

Waste treatment methods 废物处理方法:

Recommendation: Lithium batteries are best disposed of as a non-hazardous waste when fully or mostly discharged. Contact a licensed professional waste disposal service to dispose of large quantities materials.

建议：锂电池在完全或大部分放电时最好作为无害废物处理。联系有执照的专业废物处理服务机构

处理大量材料。

Other disposal recommendations其他处置建议:

Recommendation: Disposal must be made according to official regulations.

建议: 必须按照政府规定方法进行处理。

SECTION 14: TRANSPORT INFORMATION

第 14 节: 运输信息

UN No.:UN3480

UN编号:UN3480

Proper Shipping Name运输专用名称 :

Lithium ion batteries (Including lithium ion polymer batteries) or;

锂离子电池 (包括锂离子聚合物电池)

Lithium ion batteries contained in equipment (Including lithium ion polymer batteries) or;

设备里内含锂离子电池 (包括锂离子聚合物电池)

Lithium ion batteries packed with equipment (Including lithium ion polymer batteries)

锂离子电池和设备包装在一起 (包括锂离子聚合物电池)

包装标志 Labels for Package :第9类 Class 9

国际民间航空组织/ 国际航空运输协 会: ICAO / IATA:	可根据民用航空组织 (ICAO), TI 或国际航空运输协会 (IATA), DGR 63rd (2022版) 包装说明(PI) 965 Section IA, (PI) 966 Section I和(PI) 967 Section I 相关规定进行空运。 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 IA, PI 966 Section I and PI 967 Section I appropriate of IATA DGR 63rd (2022 Edition) for transportation.
国际海运危险货物规 则: IMDG CODE:	《国际海运危险货物规则》 (IMDG Code 40-20)。 《International Maritime Dangerous Goods》 Code (IMDG Code 40-20).
国际危险货物道路运 输欧洲协定: ADR:	《国际危险货物道路运输欧洲协定》 (ADR 2022)。 《European Agreement concerning the International Carriage of Dangerous Goods by Road》 (ADR 2022).
国际危险货物铁路运 输欧洲协定: RID:	《国际危险货物铁路运输欧洲协定》 (ADR 2022)。 《Regulations concerning the International Carriage of Dangerous Goods by Rail》 (ADR 2022).

危险品规例规定运输前每一个电池设计须通过联合国试验和标准手册38.3节所载的测试。

The dangerous goods regulations require that each battery design be subject to tests contained in Section 38.3 of the UN Manual of Tests and Criteria prior to being offered for transport.

SECTION 15: REGULATORY INFORMATION

第 15 节: 法规信息

Law Information

法规信息

《Dangerous Goods Regulation》

《危险品规则》

《Recommendations on the Transport of Dangerous Goods Model Regulations》

《危险品货物运输规章范本》

《International Maritime Dangerous Goods》

《国际海上危险货物运输规则》

《Technical Instructions for the Safe Transport of Dangerous Goods》

《危险物品航空安全运送技术指南》

《Classification and code of dangerous goods》

《危险货物分类和品名编号》

《Occupational Safety and Health Act》 (OSHA)

《职业安全与卫生条例的危害》

《Toxic Substances Control Act 》 (TSCA)

《毒性物质控制法》

《Consumer Product Safety Act 》 (CPSA)

《消费品安全法》

《Federal Environmental Pollution Control Act 》 (FEPCA)

《联邦环境污染控制法》

《The Oil Pollution Act 》 (OPA)

《石油污染法》

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

《附加基金修正复审法III(302/311/312/313)》

《Resource Conservation and Recovery Act 》 (RCRA)

《资源保护和回收法》

《Safety Drinking Water Act 》 (CWA)

《安全饮水法》

《California Proposition 65》

《加州提案65》



《Code of Federal Regulations 》(CFR)

《美国联邦法规》

In accordance with all Federal,State and Local laws.

可参照联合国、国家、地方性法规。

SECTION 16: OTHER INFORMATION

第 16 节：其他信息

The above information is based on the data of which we are aware and is believed to be correct as of the data hereof. Since this information may be applied under conditions beyond our control and with which may be unfamiliar and since data made available subsequent to the data hereof may suggest modifications of the information, we do not assume any responsibility for the results of its use. This information is furnished upon condition that person receiving it shall make his own determination of the suitability of the material for his particular purpose.

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