

化学品安全技术说明书

MATERIAL SAFETY DATA SHEETS

锂电池储能系统（电池组）Lithium-ion Battery Energy Storage

System (Lithium-ion Battery Module)

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化学品安全技术说明书

MATERIAL SAFETY DATA SHEETS

1 - 化学品及企业标识

1 - Identification of the substance /preparation and of the company/undertaking

Product identifier

产品标识

名称 : 锂电池储能系统 (电池组)
Sample Name : Lithium-ion Battery Energy Storage System (Lithium-ion Battery Module)
型号 : GPTE-A-51.2-100
Model : GPTE-A-51.2-100
电池名称 : 储能电池
Battery name : Energy storage battery
电池型号 : GPTE-A-51.2-100
Battery Model : GPTE-A-51.2-100
电池参数 : 输入 Input: 220-230V, 30A, 50/60 Hz;
Battery parameters : 输出 Output: 230V, 27A, 6200W
唯一配方标识符 : N/A
Unique Formula Identifier(UFI) : N/A

Relevant identified uses of the substance or mixture and uses advised against

有关的确定的物质或混合物的用途和建议不适合的用途

Relevant identified uses : 储能电池使用
有关已确定用途 : Energy storage battery use
Restricted use : /
限制使用 : /

Details of the supplier of the safety data sheet

安全技术说明书提供者的详情

客户名称 : 湖南杰量新能源科技有限公司
Prepared for : Hunan GeePower Energy Technology Co., Ltd
公司地址 : 湖南省长沙高新开发区东方红街道欣盛路 669 号研发楼
Company Address : R&D Building, Riye Electric industrial Park, No. 669 Xingsheng Road, Yuelu District, Changsha City, Hunan Province, China
生产者 : 江西杰量新能源科技有限公司
Producer : Jiangxi GeePower Energy Technology Co., Ltd
地址 : 江西省九江市共青城市高新区高新制造产业园 14 号厂房
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2 - 危险性概论

2 - Hazards Identification

危险分类 : 根据欧盟关于物质和混合物分类、标签和包装 (CLP), 样本分为第 9 类。

Hazards : This chemical is not considered hazardous by the Regulation (EC) No 1272/2008

Classification (CLP), the sample is divided into class 9.

主要危害 : 短路, 过充电或极端热条件下的电池可能会泄漏液体并可能发生爆炸。

Main Hazards Batteries in short circuits, over-charging or under extreme thermal conditions may leak fluid and potentially explosive.

入侵途径 **眼睛接触** : 正常使用下无特殊危害, 电池损坏会引起严重眼睛刺激或者化学灼烧。

Nvasion route **Eye contact** : Normal use under no special hazards, battery damage can cause serious eye irritation or chemical burns.

皮肤接触 : 正常使用无特殊危害, 电池损坏会引起严重皮肤刺激或者化学灼烧。

Skin contact : Normal use without special hazards, battery damage can cause serious skin irritation or chemical burns.

吸入 : 吸入由雾引起的物质可能引起呼吸刺激。吸入烟雾可引起金属烟雾病, 其特征是流感样症状, 表现为金属味道、发烧、发冷、咳嗽、虚弱、胸痛。对上呼吸道造成严重刺激、咳嗽、灼烧、呼吸困难并可能昏迷。

Inhalation : Inhalation of the material caused by mist may cause respiratory irritation. Inhalation of smoke may cause metal smoke disease, which is characterized by flu-like symptoms, manifested as metallic taste, fever, chills, coughs, weakness, chest pain. Causing severe irritation to the upper respiratory tract, coughing, burning, breathing difficulties and possibly coma.

摄入 : 可能对消化道造成严重和永久性损害。可能导致循环衰竭。电池损坏可能会导致口腔, 食道和胃肠道严重化学灼伤。

Ingestion : May cause serious and permanent damage to the digestive

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tract. May cause circulatory failure. Battery damage may cause severe chemical burns in the mouth, esophagus and gastrointestinal tract.

其他危害**Other hazards**

: 该混合物不含 PBT/vPvB 物质。

: 该混合物不含内分泌干扰物。

The mixture does not contain PBT/vPvB substance

The mixture does not contain endocrine disruptor

3 - 成分/ 组成信息**3 - Composition / Information on Ingredients**物质 ☐混合物 ☐Substance ☐ Mixture ☐

物质 Component/ Substance	浓度 (范围) % by wt	CAS 号 CAS Number	EC 号 EC Number	危害分类 Classification	极限浓度, M 因子, 急性 毒性评估(ATE) Specific Concentration limits, M-Factors, Acute Toxicity Estimates (ATE)
磷酸铁锂 Lithium iron phosphate (LiFePO ₄)	36.8	15365-14-7	604-917-2	无 None	无 None
石墨 Graphite	17.5	7782-42-5	231-955-3	无 None	无 None
碳酸甲乙酯 Ethyl methyl carbonate	14.6	623-53-0	613-014-2	Flam. Liq. 2	无 None
铜箔 Copper Foils	8.2	7440-50-8	231-159-6	无 None	无 None
铝箔 Aluminum foil	13.6	7429-90-5	231-072-3	无 None	无 None
碳酸亚乙酯 Ethylene carbonate	7.3	96-49-1	202-510-0	Acute Tox. 4 (Oral) STOT RE 2 Eye Irrit. 2	无 None

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物质 Component/ Substance	浓度（范围） % by wt	CAS 号 CAS Number	EC 号 EC Number	危害分类 Classification	极限浓度，M 因子，急性 毒性评估(ATE) Specific Concentration limits, M-Factors, Acute Toxicity Estimates (ATE)
六氟磷酸锂 Lithium hexafluorophosphate	2.0	21324-40-3	244-334-7	Acute Tox. 3 Skin Corr. 1A STOT RE 1	无 None

注：CAS 编号表示化学文摘服务登记编号。

Note: CAS Number is Chemical Abstract Service Registry Number.

EC 编号表示欧洲现有商业化学品目录编号。

EINECS Number is EUROPEAN Inventory of Existing Commercial Chemical Substance.

N/A=不适用

N/A=Not apply.

4 - 急救措施

4 - First Aid Measures

急救措施的说明

Description of first aid measures

- ：该电池或电池的危险组件包含在密封的单元中。只有当电池或电池泄漏，暴露于高温或受到机械、电击或物理滥用/损坏时，以下措施才适用。

The battery or hazardous components of the battery are contained in a sealed unit. The following measures are only applicable when the battery or battery leaks, is exposed to high temperature, or is subjected to mechanical, electric shock or physical abuse/damage.

吸入

Inhalation

- ：如果吸入，迅速脱离现场至空气新鲜处。保持呼吸道通畅。如有必要，给予输氧。就医。

If breathed in, remove to fresh air immediately. Keep the respiratory tract smooth. Use oxygen if available. Get medical aid.

皮肤接触

Skin Contact

- ：立即脱掉受污染的衣服和鞋子。用肥皂和大量水冲洗。立即将受害者送往医院。咨询医生。首先用葡萄糖酸钙糊剂治疗。

Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician. First treatment with calcium gluconate paste.

眼睛接触

Eye Contact

- ：如果接触到眼睛，用大量清水或生理盐水冲洗15分钟以上。立刻就医。
- ：If contact with eyes, flush the eyes with plenty of water or saline water at least 15 minutes. Get medical aid at once.



食入	: 切勿给失去知觉者喂食任何东西。用水漱口。
Ingestion	: Never give anything by mouth to an unconscious person. Rinse mouth with water.
主要症状和影响, 急性和迟发效应	: 急性: 电池内的物品被评为腐蚀性物品。摄入电解质可能会导致严重的胃肠道刺激, 并伴有恶心, 呕吐和潜在的灼伤。吸入蒸气可能导致严重刺激口腔和上呼吸道, 并在鼻子和喉咙产生灼热感, 疼痛, 烧伤和发炎; 可能还会有咳嗽或呼吸困难。眼睛接触可能会导致严重的眼睛刺激, 或者在最坏的情况下会造成不可逆转的伤害并可能灼伤眼睛。皮肤接触可能会导致刺激和皮肤灼伤。
Most important symptoms and effects, both acute and delayed	慢性: 皮肤接触可能加重/加剧现有的皮肤状况, 例如皮炎。 慢性吸入可能导致与上述急性吸入相同的症状。 Acute: The items in the battery are rated as corrosive items. Ingestion of electrolytes may cause severe gastrointestinal irritation, accompanied by nausea, vomiting and potential burns. Inhalation of vapors may cause severe irritation of the mouth and upper respiratory tract, as well as burning sensation, pain, burns and inflammation in the nose and throat; there may also be coughing or difficulty breathing. Eye contact may cause severe eye irritation or, in the worst case, irreversible injury and possible burns to the eyes. Skin contact may cause irritation and skin burns. Chronic: Skin contact may aggravate/exacerbate existing skin conditions, such as dermatitis. Chronic inhalation may cause the same symptoms as the acute inhalation described above.
及时的医疗处理和所需的特殊处理的说明和指示	: 将患者转移到安全的场所。咨询医生。出示此化学品安全技术说明书给到现场的医生看。
Indication of any immediate medical attention and special treatment needed	Transfer patients to a safe place. Consult a doctor. Present this chemical safety data sheet to the doctor on site.

5 - 消防措施

5 - Fire-Fighting Measures

Extinguishing media

灭火介质

灭火方法及灭火剂 : 泡沫, 二氧化碳, 干式化学灭火器。

Suitable extinguishing media : Foam, CO₂, dry chemical extinguishers.

源于此物质或混合物的特别的危害 : 燃烧会产生锂电池的有毒烟雾, 氧化锂烟雾和二氧化碳, 一氧化碳。
: Combustion will produce toxic smoke of lithium batteries, lithium



Special hazards arising from the substance or mixture**特殊的火灾和爆炸危害****Unusual Fire and Explosion Hazards****特殊灭火程序****Special Fire-Fighting****Procedures**

oxide fumes and carbon dioxide, carbon monoxide.

- : 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。
- : Battery may burst and release hazardous decomposition products when exposed to a fire situation.
- : 在压力要求下穿戴合适的防护服、手套、眼/面保护和自备呼吸器，MSHA/NIOSH（认可或等效）和全防护装置。
- : Wear suitable protective clothing, gloves, eye/face protection and self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear.

6 - 泄露应急处理**6 - Leakage emergency treatment****作业人员防护措施、防护装备和应急处置程序****Personal precautions, protective equipment and emergency procedures**

- : 如果电池被释放，人员离开该区域直到烟雾消散。提供最大程度的通风以清除有害气体。首选的反应是离开该区域并让蒸汽消散。避免皮肤和眼睛接触或吸入蒸气。用吸收剂清除溢出的液体并焚烧。如果电池发生泄漏，液体可能会被沙子、泥土或其他惰性物质吸收，同时污染区域应通风。
- :

If the battery is released, remove personnel from area until fumes dissipate. Provide maximum ventilation to clear out hazardous gases. The preferred response is to leave the area and allow the vapors to dissipate. Avoid skin and eyes contact or inhalation of vapors. Remove spilled liquid with absorbent and incinerated. If leakage of the battery happens, liquid could be absorbed with sand, earth or other inert substance and contaminated area should be ventilated meantime.

环境保护措施**Environmental precautions**

- : 在安全的情况下，防止进一步泄漏或溢出。不要让产品进入下水道。
- : Prevent further leakage or spillage if safe to do so. Do not let product enter drains.



泄漏化学品的收容、清除方法及所使用的处置材料	:	立即疏散泄漏区域并移除火源。不要接触溢出的材料。清洁人员必须接受安全处理本产品的培训。溢出物可以被非反应性吸收剂吸收,例如蛭石。将电池芯或电池放入单独的塑料袋中,然后放入适当的容器中并盖紧以备处理。确保清理程序不会将溢出的材料暴露在任何湿气中。立即将封闭的容器运到外面。内衬钢桶适用于存放损坏的电池芯或电池,直至安排妥当处置。
Methods and materials for containment and cleaning up	:	Evacuate spill area immediately and remove sources of ignition. Do NOT touch spilled material. Cleanup personnel must be trained in the safe handling of this product. Spills may be absorbed on non-reactive absorbents such as vermiculite. Place cells or batteries into individual plastic bags and then place into appropriate containers and close tightly for disposal. Ensure that cleanup procedures do not expose spilled material to any moisture. Immediately transport closed containers outside. Lined steel drums are suitable for storage of damaged cells or batteries until proper disposal can be arranged.
参考其他部分	:	丢弃处理请参阅第13章。
Reference to other sections	:	For disposal see section 13.

7 - 操作处置与储存

7 - Handling and Storage

安全操作的注意事项	:	不能把电池曝晒或丢在火中
Precautions for safe handling	:	Do not expose to, dispose of the battery in fire.
	:	电池充电时不能把正负极性装反
	:	Do not put the battery in a charger or equipment with wrong terminals connected.
		避免短路电池
		Avoid shorting the battery
		避免过分的物理震动和冲击电池
		Avoid excessive physical shock or vibration.
		不能拆解或使电池变形
		Do not disassemble or deform the battery.
		不能将电池浸入水中
		Do not immerse in water.
		不能将其它不同厂家,类型,型号的电池混合使用
		Do not use the battery mixed with other different make, type, or model batteries.
		禁止小孩接触电池
		Keep out of the reach of children.
		充放电
		Charge and discharge
		电池必须在合适的条件下充电
		Battery must be charged in appropriate charger only.
		决不能用故障的充电器给电池充电
		Never use a modified or damaged charger.
		电池持续充电不能超过 24H。
		Do not leave battery in charger over 24 hours.

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安全储存的条件,包括任何不兼容性	: 电池应与其他材料分开,并存放在不燃、通风良好、有洒水装置保护的结构中,墙壁和电池堆之间应有足够的间隙。
Conditions for safe storage, including any incompatibilities	: Batteries should be separated from other materials and stored in a noncombustible, well ventilated, sprinkler-protected structure with sufficient clearance between walls and battery stacks.
	: 将样品置于阴凉、干燥、通风良好的地方(温度-20~30℃,湿45~85%)。不要长时间暴露在阳光直射下。远离火源和热源。不要用氧化剂和酸保存样品。 Keep the sample in the cool, dry and well-ventilated place (temperature: -20~30 °C, humidity: 45~85%). Donot exposure to direct sunlight for long periods. Keep away from fire and heating sources. Don't keep the samples with oxidizer and acid.
	: 配备相应种类和数量的灭火器材。储存场所应配备适当的掩蔽材料,以便进行泄漏处理。
	: Equip with relevant types and quantities of the extinguishment instruments. The storage place should beequipped with suitable shelter materials for divulgence handling.
	: 对于可充电电池,即使不使用电池,也应每3个月将电池充电至制造商规定的电量。
	: For rechargeable battery, charge the battery every 3 months to the amount specified by the manufacture,even if the battery is not used
其他防范措施	: 如果拆卸、压碎或暴露在火中或高温中,电池可能会爆炸或导致灼伤。请勿短路或以错误的极性安装。
Other Precautions	: Batteries may explode or cause burns, if disassembled, crushed or exposed to fire or high temperatures. Do not short or install with incorrect polarity.

8 - 接触控制和个体防护

8 - Contact control and personal protection

职业暴露限值 Occupational exposure limits	: 无数据可获得。 : No data available.
监测方法	: 工作场所空气.暴露于化学和生物制剂的大气评定程序的应用和使用指南
Monitoring Method	: EN14042:2003 Title Identifier: Workplace Air. Guidelines for Procedures for Assessing Exposure to Chemical or Biological Agents
个人防护装备	
Personal protective equipment	
眼睛/面部防护	: 在正常使用下没有必要。如果电池泄漏破裂,请戴上护目镜或带侧护罩的眼镜。
Eye/face protection	: Not necessary under normal use. Wear safety goggles or glasses with side shields if handing a leaking of rupture battery.
皮肤防护	: 正常使用时不需要。在电池发生破裂时,使用橡胶围裙和防护工作。
Skin protection	: Not necessary under normal use. Use rubber apron and protective working in case of handing of a rupture battery.



建议使用个人防护装置放空电 池 **Personal Protection is recommended for venting batteries** : 呼吸防护, 防护手套, 防护服和带侧护罩的防护眼睛。
 其他防护 **Other Protection** : Respiratory Protection, Protective Gloves, Protective Clothing and safety glasses with side shields.
 : 工作现场禁止吸烟、进食和饮水。保持良好的卫生习惯。下班后沐浴并更换衣服。
 No smoking, dining and drinking water in the workplace. Keep good habit of hygiene. Shower and change clothes after work.

9 -理化特性

9 - Physical and Chemical Properties

物质状态	: 无数据可获得。	气味	: 无数据可获得。
Physical state	: No data available.	Odor	: No data available.
颜色	: 无数据可获得。	pH 值	: 无数据可获得。
Color	: No data available.	pH	: No data available.
熔点	: 无数据可获得。	密度	: 无数据可获得。
Melting Point	: No data available.	Density	: No data available.
沸点	: 无数据可获得。	闪点	: 无数据可获得。
Boiling point	: No data available.	Flashing Point	: No data available.
爆炸上限	: 无数据可获得。	爆炸下限	: 无数据可获得。
Explosion Upper Limits	: No data available.	Explosion Lower Limits	: No data available.
运动粘度	: 无数据可获得。	粒子特性	: 无数据可获得。
Kinematic viscosity (mm²/s)	: No data available.	Particle characteristics	: No data available.
着火点	: 无数据可获得。	分解温度	: 无数据可获得。
Ignition temperature	: No data available.	Decomposition temperature	: No data available.
溶解度	: 无数据可获得。		
Solubility	: No data available.		

10 - 稳定性和反应性

10 - Stability and Reactivity

反应活性 **Reactivity** : 在推荐的存储条件下保持稳定。
 : Stable under recommended storage conditions.
 化学稳定性 **Chemical stability** : 正常情况下稳定
 : Stable under recommended storage conditions.

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应避免的条件	: 火源、热源、拆卸、外部短路、压碎、变形、100°C 以上高温、阳光直射、
Conditions to avoid	: 高湿度、浸水或过充。 Fire source, heating source, disassemble, external short circuit, crushes, deformation, high temperature above 100°C, direct sunlight and high humidity, immerse in water or overcharge.
禁配物	: 导电材料, 水, 强氧化剂和强酸。
Incompatible materials	: Conductive materials, water, strong oxidizers and strong acids.
危险聚合	: 无数据可获得。
Hazardous	: No data available.
Polymerization	
危险的分解产物	: 遇火会分解产生有害物质。 - 碳氧化物、其他刺激性和有毒气体。
Hazardous decomposition products	: In case of fire, it will decompose to produce harmful substances. - Carbon oxides, other irritating and toxic gases.

11 - 毒理学信息**11 - Toxicological Information****急性毒性:** /**Acute Toxicity:** /

致突变性	: 无数据可获得。	致敏性	: 无数据可获得。
Mutagenicity	: No data available.	Allergenicity	: No data available.
致癌性	: 无数据可获得。	生殖毒性	: 无数据可获得。
Carcinogenicity	: No data available.	Reproductive Toxicity	: No data available.

关于其他危险的资料 : 这种混合物不含内分泌干扰物。**内分泌干扰物** : The mixture does not contain endocrine disruptor.**Information on other hazards****Endocrine disrupting properties**

其他信息 : 电池打开时, 可吸入、皮肤接触和眼睛接触。暴露在内部物质中, 腐蚀性烟雾

Additional information : 会对皮肤, 眼睛和粘膜造成很大的刺激。过度暴露可引起非纤维化肺损伤和膜刺激的症状。

Inhalation, skin contact and eye contact are possible when the battery is opened. Exposure to internal contents, the corrosive fumes will be very irritation to skin, eyes and mucous membranes. Overexposure can cause symptoms of non-fibrotic lung injury and membrane irritation.



12 - 生态学信息**12 - Ecological Information**

生态毒性	: 无数据可获得。
Ecotoxicity	: No data available.
持久性和降解性	: 无数据可获得。
Persistence And Degradability	: No data available.
潜在的生物累积性	: 无数据可获得。
Bioaccumulative Potential	: No data available.
土壤中的迁移性	: 无数据可获得。
MobilityIn Soil	: No data available.
其他有害作用	: 废电池对环境有害。
Other Harmful Effects	: Waste batteries can be harmful to the environment.

13 - 废弃处置**13 - Disposal Considerations****废弃物处置方法****Waste Disposal Methods**

产品	: 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。
Product	: 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.
受污染的容器和包装	: 按未用产品处置。
Contaminated packaging	: Dispose of as unused product.
废弃物注意事项	: 不同国家法规的不同，处理时根据当地的法规。
Attention Abandoned	: Regulations vary for different countries. Dispose of in accordance with local regulations.

14 - 运输信息**14 - Transport Information****运输注意事项:****Transport Attentions:**

本报告适用于海运、空运和陆运；

锂电池按照联合国测试和标准手册第三部分第 38.3 小节进行测试并通过。

锂电池应符合包装规范 965 第二部分/第一部分的要求，或符合 2025 IATA 危险品规则第 66 版包装规范，

Test results are only responsible for delivered samples. This test report is issued by the company and is intended for your exclusive use. This test report includes all of the testes requested by you and the results thereof based upon the information that you provided. You have 30 days from data of issuance of this test report to notify us of any error or omission caused by our negligence. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents.



966~967 第二部分的要求。以及适用于锂电池安全运输的美国 DOT 法规提供运输的电池和电池组必须装在完全封闭电池或电池组的内包装中；为了保护电池免受损坏或压缩，内包装必须放在坚固的硬质外包装中；包装应足以避免运输、搬运和堆放过程中的机械损坏。材料和包装设计的选择应能防止意外导电、端子腐蚀和湿气进入。

包装必须小心处理，如果包装损坏，存在易燃危险；每个包装都必须贴上锂电池搬运标签或第 9 类危险标签。根据 IMDG 法典(Amdt)第 188 条特别规定,(42-24)，货物不受本法规及其他法规的约束。

关于运输，引用并考虑了下列法规。

- 国际民用航空组织(民航组织)技术指令。
- 国际航空运输协会(空运协会)危险货物条例。

This report is applicable to sea, air and land transportation;

The lithium battery was tested and passed in accordance with Section 38.3 of Part III of the United Nations Manual of Tests and Standards.

Lithium batteries shall meet the requirements of Part II/Part I of Packaging Specification 965, or meet the requirements of Packaging Specification 66th Edition of 2025 IATA Dangerous Goods Rules and subsequent updates, Part II of 966~967. As well as the US DOT regulations applicable to the safe transportation of lithium batteries, the transported batteries and battery packs must be packed in the inner packaging of completely closed batteries or battery packs; In order to protect the battery from damage or compression, the inner packaging must be placed in a solid and hard outer packaging;

Packaging should be sufficient to avoid mechanical damage during transportation, handling and stacking. Materials and packaging design should be selected to prevent accidental conduction, terminal corrosion and moisture ingress.

The packaging must be handled with care. If the packaging is damaged, there is a flammable danger. Each package must be labeled with a lithium battery handling label or a Class 9 hazard label.

According to Article 188 of IMDG Code (Amdt), (42-24), the goods are not bound by this law and other laws and regulations.

With regard to transportation, the following laws and regulations were cited and considered.

- Technical instructions of the International Civil Aviation Organization (ICAO).
- International Air Transport Association (IATA) Dangerous Goods Regulations.

危险类别 : 划分为第 9 类
IMDG Code : Assigned to the miscellaneous class 9.
UN 编号 : UN3480 or UN3481
UN-Number

Label



包装组别 : 根据包装导则 P903 办理。
Packing group : Handle according to packaging guidelines P903.
运输名称 : 锂离子电池组或与设备一起包装的锂离子电池组或设备中包含的锂离子电
Proper shipping name : 池组(包括锂离子聚合物电池组)

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Lithium ion batteries or Lithium ion batteries packed with equipment or Lithium ion batteries contained in equipment (including lithium ion polymer batteries)

运输部条例

DOT regulations

危险类别

: 划分为第 9 类

Hazard class

Assigned to the miscellaneous class 9.

UN 编号

: UN3480 or UN3481

UN-Number

Label



包装组别

: 根据包装导则 P903 办理。

Packing group

: Handle according to packaging guidelines P903.

: 锂离子电池组或与设备一起包装的锂离子电池组或设备中包含的锂离子电池组(包括锂离子聚合物电池组)

运输名称

Proper shipping name

Lithium ion batteries or Lithium ion batteries packed with equipment or Lithium ion batteries contained in equipment(including lithium ion polymer batteries)

航空运输 国际民航组织和国际航空运输协会危险货物规则

Air transport ICAO-TI and IATA-DGR

ICAO-TI-II class

: Assigned to the miscellaneous class 9.

危害等级

: 划分为第 9 类

UN-Number

: UN3480 or UN3481

UN 编号

Label



包装组别

: 根据包装导则 P903 办理。

Packing group

: Handle according to packaging guidelines P903.

: 锂离子电池组或与设备一起包装的锂离子电池组或设备中包含的锂离子电池组(包括锂离子聚合物电池组)

运输名称

Proper shipping name

Lithium ion batteries or Lithium ion batteries packed with equipment or Lithium ion batteries contained in equipment(including lithium ion polymer batteries)

海洋污染物

: No

Marine pollutant

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15 - 法规信息

15 - Regulatory Information

Globally Harmonized System of Classification and Labelling of Chemicals (GHS).

全球化学品统一分类和标签制度 (GHS)。

Regulation (EC) No 1272/2008 Classification, Labelling and Packaging of Substances and Mixtures.

Regulation (EC) No 1272/2008 物质及混合物分类、标签和包装法规

《Dangerous Goods Regulations》

《危险品条例》

《Recommendation on the Transport of Dangerous Goods Model Regulations》

《关于危险货物运输示范条例的建议》

《International Maritime Dangerous Goods》

《国际海运危险品》

《Technical Instructions for the Safe Transport of Dangerous Goods》

《危险货物安全运输技术指导书》

《Classification and code of dangerous Goods》

《危险品分类及代码》

For other detail regulation you should be contacted the appropriate agency in your country, or refer to domestic, EU/international regulations.

有关其他详细法规，应与您所在国家/地区的适当机构联系，或参考国内，欧盟/国际法规。

16 - 其他信息

16 - Other Information

日期	: 2026 年 01 月 29 日
Date	: Jan. 29, 2026
数据审核单位	: 苏州市信测标准技术服务有限公司
Data Audit Units	: EMTEK (SUZHOU) CO., LTD
缩写	: EC: European Inventory of Existing Commercial chemical Substances
Abbreviation	: CAS : Chemical Abstracts Service (division of the American Chemical Society) RTECS: Registry of Toxic Effects of Chemical Substances
ACGIH	: American Conference of Governmental Industrial 美国政府工业学家会议
ADR	: European Agreement concerning the International Carriage of Dangerous Goods by Road 欧洲关于危险国际货物公路运输的协议
CAS	: Chemical Abstracts Service 化学文摘社

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CLP	: Classification Packaging and Labelling 分类、包装、标签
EC	: European Commission 欧洲委员会
ECHA	: European Chemicals Agency 欧洲化学品中心
EINECS	: The European Inventory of Existing Commercial Chemical Substances 欧洲现有商业化学物质的目录
GHS	: Globally Harmonised System of Classification and Labelling of Chemicals 全球化学品分类和标签制度
IARC	: International Agency for Research on Cancer 国际癌症研究机构
IATA	: International Air Transport Association 国际航空运输协会
IBC Code	: International code for the construction and equipment of ships carrying dangerous chemical in bulk 散装危险化学品船舶载运的建设和设备的国际代码
ICAO	: International Civil Aviation Organization 国际民航组织
IMDG	: International Maritime Dangerous Goods 国际海运危险货物规则
IC50	: Inhibitory Concentration fifty 半数抑制浓度
LC50	: Lethal Concentration fifty 半数致死浓度
LD50	: Lethal Dose fifty per cent. 半数致死剂量
MARPOL	: International Convention for the Prevention of Pollution From Ships 防止船舶造成污染国际公约
REACH	: Registration Evaluation And Authorisation Of Chemicals 化学品的注册，评估和授权
RID	: Regulations Relating to International Carriage of Dangerous Goods by Rail 国际危险货物铁路运输规则
RTECS	: Registry of Toxic Effects of Chemical Substances 化学品毒性危害注册
STEL	: Short term exposure limit 短时间暴露限值
TWA	: Time-Weighted Average 时间加权平均值

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OSHA	: Occupational Safety and Health Administration 职业安全与健康管理局
NIOSH	: National Institute for Occupational Safety and Health 国家职业安全与健康研究所
TLV-TWA	: Threshold Limit Value-Time Weighted Average 容许最高浓度-时间加权平均值
TLV-STEL	: Threshold Limit Value-Short Term Exposure Limit 容许最高浓度-短时间暴露限值
PEL	: Permissible Exposure Limit 容许暴露限值
其他信息	: 以上信息基于数据准确的基础上, 因为此信息可能在我们无法控制
Other Information	: 的情况下被应用, 或者被修改, 对此我们不负担任何责任。此信息 在收件人决定对材料的专有目的的情况下而配置。

The above information based on accurate data, because this information may be applied under conditions beyond our control, or is modified, and we do not bear any responsibility. This information determines the purpose of the case of proprietary materials and configurations in the recipient.

声明: 报告 ESZ2507310288C00101R 作废, 由报告 ESZ2507310288C00101RM1 所取代。

Declaration: Report ESZ2507310288C00101R was repealed and replaced by report ESZ2507310288C00101RM1.

*** MSDS 结束***

The End of MSDS



声明 Statementement

1. 本检测报告首页所列信息中除样品来源、接样日期、检测日期、检测结果和检测结论外，均由委托方提供，委托方对样品的代表性和资料的真实性负责，本实验室不承担任何相关责任。

The information as listed on the first page of this test report was all provided by the client except the sample from, date received, test period, test results and test conclusion. The client shall be responsible for the representativeness of sample and authenticity of materials, for which EMTEK shall bear no responsibilities.

2. 本检测报告以实测值进行符合性判定，未考虑不确定度所带来的风险，特别约定、标准或规范中有明确规定的除外。此种判定方式所带来的风险由客户自行承担，本实验室不承担任何相关责任。

The judgment method of determining the conformity in this test report is according to the measured value without considering the risk caused by uncertainty, unless otherwise clearly stipulated in special agreement, standard or specification. The client shall assume the risk caused by the judgment method, and EMTEK shall not bear related responsibilities.

3. 检测报告无批准人签字及“检验检测专用章”无效，未经本实验室书面同意，不得整体或部分复制本报告。

The test report is effective only with both signature and specialized stamp. Without written approval of EMTEK, this report can't be reproduced in full or in part.

4. 本检测报告的检测结果仅对送测样品负责，未加盖资质认定标志的检测报告不对社会具有公证证明作用，对于检测数据、结果的使用，所产生的直接或间接损失及一切法律后果，本实验室不承担任何经济和法律责任。

This test data is only responsible for the tested sample. The data and results provided by the report without CMA accreditation are not to prove to the society, and EMTEK is not responsible for any economic and legal responsibility for the use of the test data, the direct or indirect losses resulting from the use of the test and all legal consequences.

5. 本检测报告中检测项目标注有下划线则该项目不在本实验室资质认定能力范围内，该项目检测结果仅作为客户委托、科研、教学或内部质量控制等目的使用。

The underlined test item in the report is out of the scope of CMA accreditation. The test result only used for client's requirement, scientific researching, teaching or internal quality control.

6. 其它声明请查阅报告页脚及书面报告背页。

For other statements, please refer to the footer of the report.



签发测试报告条款 Conditions of Issuance of Test Reports

1. 苏州市信测标准技术服务有限公司（以下简称[本公司]）为提供符合下述条款的测试和报告，而接受有关样品和货品。本公司基于下述条款提供服务，下述条款为本公司与申请服务的个人、企业或公司（以下简称[客户]）的协议。
All samples and goods are accepted by the EMTEK(Suzhou) Co., Ltd. (the "Company") solely for testing and reporting in accordance with the following terms and conditions. The company provides its services on the basis that such terms and conditions constitute express agreement between the Company and any person, firm or company requesting its services (the "Clients").
2. 由此测试申请所发出的任何报告（以下简称[报告]），本公司会严格为客户保密。未经本公司的书面同意，报告的整体或部分不得复制，也不得用于广告或授权的其他用途。然而，客户可以将本公司印制的报告或认可的副本，向其客户、供货商或直接相关的其他人出示或提交。除非相关政府部门、法律或法规要求，否则未经客户同意，本公司不得将报告内容向任何第三方讨论或披露。
Any report issued by Company as a result of this application for testing services (the "Report") shall be issued in confidence to the Clients and the Report will be strictly treated as such by the Company. It may not be reproduced either in its entirety or in part and it may not be used for advertising or other unauthorized purposes without the written consent of the Company. The Clients to whom the Report is issued may, however, show or send it, or a certified copy thereof prepared by the Company to its customer, supplier or other persons directly concerned. The Company will not, without the consent of the Clients, enter into any discussion or correspondence with any third party concerning the contents of the Report, unless required by the relevant governmental authorities, laws or court orders.
3. 除非相关政府部门、法律或法院要求，否则未经公司预先书面同意，本公司毋需，也并无义务到法院对有关报告作证。
The Company shall not be called or be liable to be called to give evidence or testimony on the Report in a court of law without its prior written consent, unless required by the relevant governmental authorities, laws or court orders.
4. 如果本公司确定报告被不当地使用，本公司保留撤回报告的权利，并有权要求其它适当的额外赔偿。
In the event of the improper use of the report as determined by the Company, the Company reserves the right to withdraw it, and to adopt any other additional remedies which may be appropriate.
5. 本公司接受样品进行测试的前提是，该测试报告不能作为针对本公司法律行动的依据。
Samples submitted for testing are accepted on the understanding that the Report issued cannot form the basis of, or be the instrument for, any legal action against the Company.
6. 如因使用本公司中心任何报告内的资料，或任何传播信息所描述与之有关的测试或研究导致的任何损失或损害，本公司概不负责。
The Company will not be liable for or accept responsibility for any loss or damage however arising from the use of information contained in any of its Reports or in any communication whatsoever about its said tests or investigations.
7. 若需要在法院审理程序或者仲裁过程中使用测试报告，客户必须在提交测试样品前将该意图告知本公司。
Clients wishing to use the Report in court proceedings or arbitration shall inform the Company to that effect prior to submitting the sample for testing.
8. 该测试报告的支持数据和信息本公司保存 10 年。个别评审机构有特别要求的，检测数据和报告的保存期可依情况变动。一旦超过上述提交的保存期限，数据和信息将被处理掉。任何情况下，本公司不必提供任何被处理的过期数据或信息。即使本公司事先被告知可能会发生相关的损害，本公司在任何情况下也不必承担任何损害，包括（但不限于）补偿性赔偿、利润损失、数据遗失、或任何形式的特殊损害、附带损害、间接损害、从属损害或任何违反约定、违反承诺、侵权（包括疏忽）、产品责任或其他原因的惩罚性损害。
Subject to the variable length of retention time for test data and report stored hereinto as otherwise specifically required by individual accreditation authorities, the Company will only keep the supporting test data and information of the test report for a period of ten years. The data and information will be disposed of after the aforementioned retention period has elapsed. Under no circumstances shall we provide any data and information which has been disposed of after retention period. Under no circumstances shall we be liable for damage of any kind, including (but not limited to) compensatory damages, lost profits, lost data, or any form of special, incidental, indirect, consequential or punitive damages of any kind, whether based on breach of contract of warranty, tort (including negligence), product liability or otherwise, even if we are informed in advance of the possibility of such damages.

