杭州海关技术中心
国家危险化学品检测重点实验室（杭州）

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正本/ORIGIN

编号：TCH25040777
No：TCH25040777
日期：2026-01-20
Date：2026-01-20

ZAIQ-RF(HH)-01-19

Safety Data Sheet

扫描查看在线报告

Applicant name: FOXESS CO., LTD.

Product name: Rechargeable Li-ion Battery System EP6 Plus/ 192V 30Ah 5.76kWh

Date of issue: 2026-01-20

Edit institution: Technology Center of Hangzhou Customs District

Approver：

Note：1. Unless other wise stated, this test report is only responsible for the sample(s).
2. This test report can not be reproduced,except in full,without prior written permission of the lab.

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If there is any dissidence to the test data, the entrusting party shall apply for retesting within 15 days upon receiving this report (Some special item can not be retested).The former tested samples will be used as the retested ones. If the retest results are the same as the former ones, the retest fee will be paid by the entrusting party.

4.本报告各页均为报告不可分割部分，使用者部分使用检测报告而导致误解或由此造成后果，本机构不承担任何责任。

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1. Identification of substance

Product Name	Rechargeable Li-ion Battery System EP6 Plus/ 192V 30Ah 5.76kWh
Other Name	None
Chemical Name	None
Recommended Use	Storage Energy
Manufacturer	FOXESS CO., LTD.
Address	No.939, Jinhai Third Road, New Airport Industry Area, Longwan District, Wenzhou, Zhejiang, China
Supplier	FOXESS CO., LTD.
Address	No.939, Jinhai Third Road, New Airport Industry Area, Longwan District, Wenzhou, Zhejiang, China
Phone Number	+86-0510-6809 2998
Fax Number	None
WEB or E-mail	foxrd@fox-ess.com
Emergency Phone Number	+86-173 0611 5257 or Call your nearest poison control centre

2. Hazards identification

GHS classification	The product meets the definition of "article". In the Globally Harmonized system of Classification and Labeling of Chemicals (GHS), the "articles" defined by the US Occupational Safety and Health Administration "Hazard Communication Standard" (29 CFR 1910.1200) or similar definitions do not fall within the scope of this system. [Rev. 11 (2025) Part 1.3.2.1.1]. According to GHS system (11th revised edition), not classified as a hazardous chemical.
GHS Pictograms	—
Signal words	—
Hazard statements	—
Precautionary Statement Prevention	—
Precautionary Statement Response	—
Precautionary Statement Storage	—
Precautionary Statement Disposal	—
Other hazards which do not result in classification	Not available.

3. Composition/information on ingredients

☐**Substances**
√**Mixtures**
Component Information

Component	**CAS number**	**EINECS number**	**Mass(%wt)**

Lithium iron Phosphate	15365-14-7	604-917-2	37.16
Graphite	7782-42-5	231-955-3	19.23
Aluminum	7429-90-5	231-072-3	11.2
Copper	7440-50-8	231-159-6	7.5
Dimethyl carbonate	616-38-6	210-478--4	7.45
Ethylene carbonate	96-49-1	202-510-0	4.43
Ethyl methyl carbonate	623-53-0	433-480-9	4.41
Lithium hexafluorophosphate	21324-40-3	244-334-7	2.48
Others	—	—	6.14

Note:1. Unless a component presents a severe hazard, it does not need to be considered in the SDS if the concentration is less than 1%.

4.First-aid measures

NOTE TO PHYSICIAN	In case of shortness of breath, give oxygen. Keep victim warm. Keep victim under observation.
After inhalation	Move to fresh air. Oxygen or artificial respiration if needed. Get immediate medical attention.
After skin contact	In case of contact with substances in the battery, immediately flush skin thoroughly with soap and plenty of water. Remove and isolate contaminated clothing and shoes. If irritation persists, get medical attention immediately. For minor skin contact, avoid spreading material on unaffected skin. Wash clothing separately before reuse.
After eye contact	In case of contact with substances in the battery, immediately flush eyes with plenty of running water or normal saline for a few minutes. Assure adequate flushing of the eyes by separating the eyelids with fingers. Get medical attention immediately.
After ingestion	Rinse mouth. Do not induce vomiting without medical advice. If vomiting occurs naturally, have victim lean forward to reduce risk of aspiration. Loosen tight clothing such as a collar, tie, belt or waistband. Do not use mouth-to-mouth method if victim ingested the substance. Seek immediate medical attention.
Most important symptoms / effects, acute and delayed	The battery's electrolyte can irritate skin, eyes, and mucosal tissues.

5. Fire-fighting measures

Suitable extinguishing agents	Water (cooling), use a HFC (hydrofluorocarbon) clean-agent fire extinguisher or alcohol resistant foam fire extinguishers. Heptafluoropropane and perfluorohexanone have better extinguishing effects.

Special hazards caused by the material, its products of combustion or flue gases	Cell may vent when subjected to excessive heat-exposing battery contents. Can be released in case of fire: carbon monoxide, carbon dioxide, nitrogen oxides, hydrogen fluoride, hydrogen cyanide, benzene, toluene, methane, lithium oxide fumes, phosphorus oxides, irritating and toxic fumes and gases.
Protective equipment for fire-fighters	Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask, insulating gloves, insulating boots, etc.

6. Accidental release measures

Person-related safety precautions	If the battery material is released, remove personnel from area until fumes dissipate. Provide maximum ventilation to clear out hazardous gases. Avoid skin and eye contact or inhalation of vapors.
Measures for environmental protection	Prevent further leakage or spillage if safe to do so. Do not allow material to be released to the environment without proper governmental permits.
Measures for cleaning/collecting	If batteries show signs of leaking, avoid skin or eye contact with the material leaking from the battery. Use chemical resistant rubber gloves and non-flammable absorbent materials for clean up. Mix with inert material (e.g. dry sand, vermiculite) and transfer to sealed container for disposal.
Additional information	See Section 7 for information on safe handling See section 8 for information on personal protection equipment. See Section 13 for information on disposal.

7. Handling and storage

Handling

Information for safe handling	Operators should be trained and strictly abide by the operating procedures. It is recommended that operators wear general protective clothing and safety gloves. Keep away from fire, heat source and direct sunlight. Smoking is strictly prohibited in the workplace. Provide ventilation systems and equipment in the workplace. 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. 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. Store separately from strong oxidizing agents, corrosives.

Information about protection against explosions and fires	Avoid mechanical and electrical abuse. Do not short circuit or install incorrectly. Batteries may explode or cause burns if disassembled, crushed, recharged or exposed to high temperatures. Install batteries in accordance with equipment instructions.

STORAGE

Requirements to be met by storerooms and containers	Storage temperature, 0~35℃.Avoid mechanical or electrical abuse. Storage preferably in cool, dry and ventilated area, which is subject to little temperature change. Storage at high temperatures should be avoided. Do not place the battery near heating equipment, nor expose to direct sunlight for long periods.
Information about storage in one common storage facility	Store in a cool, dry and well-ventilated area. Keep away from fire, heat source and direct sunlight. 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, flammables, explosive material, corrosives, harmful substances.
Further information about storage conditions	The storage area shall be equipped with corresponding types and quantities of fire-fighting equipment, leakage emergency treatment equipment and appropriate materials.

8. Exposure controls/personal protection

Limit Values for Exposure

Component	**CAS number**	**ACGIH TLV-TWA mg/m³**	**ACGIH TLV-STEL mg/m³**	**NIOSH REL-TWA mg/m³**	**NIOSH REL-STEL mg/m³**
Lithium iron Phosphate	15365-14-7	N.E.	N.E.	N.E.	N.E.
Graphite	7782-42-5	2	N.E.	2.5	N.E.
Aluminum	7429-90-5	1	N.E.	10 (total) 5 (resp)	N.E.
Copper	7440-50-8	0.2	N.E.	1	N.E.
Dimethyl carbonate	616-38-6	N.E.	N.E.	N.E.	N.E.
Ethylene carbonate	96-49-1	N.E.	N.E.	N.E.	N.E.
Ethyl methyl carbonate	623-53-0	N.E.	N.E.	N.E.	N.E.
Lithium hexafluorophosphate	21324-40-3	N.E.	N.E.	N.E.	N.E.
Others	—	—	—	—	—

Appropriate engineering controls	Use ventilation system and equipment. In case of battery venting, provide as much ventilation as possible. Avoid confined areas with venting cell cores. Provide safety shower and eye wash equipment.
General protective and hygienic measures	Not necessary under conditions of normal use. Personal protection is recommended for venting battery. No smoking,

	drinking and eating at working site. Wash thoroughly after handling.
Personal protective equipment	Personal protection is recommended for venting battery: respiratory protection, protective gloves, protective clothing and safety glass with side shields.
Breathing equipment	When workers are facing high concentrations they must use appropriate certified respirators. Respiratory protection is not necessary under conditions of normal use.
Protection of hands	Not necessary under conditions of normal use.
Eye/Face protection	Not necessary under conditions of normal use. Use safety glasses with side shields or safety goggles as mechanical barrier for prolonged exposure if necessary.
Body protection	Not necessary under conditions of normal use. Full set of anti chemical reagent overalls, flame retardant antistatic protective clothing if necessary, choose body protection according to the amount and concentration of the dangerous substance at the work place.

Note: 1. N.E. means not established.

9.Physical and chemical properties

Physical state	This sample is a lithium-ion battery pack, with a white prismatic appearance. Size (L*W*H), 380*185*640 (mm) Weight, 51.578 kg
Colour	See Physical state
Odour	No pungent odour
Melting point/freezing point	No data available
Boiling point or initial boiling point and boiling range	No data available
Flammability	No data available
Lower and upper explosion limit/ flammability limit	No data available
Flash point	No data available
Auto-ignition temperature	No data available
Decomposition temperature	No data available
pH	No data available
Kinematic viscosity	No data available
Solubility	No data available
Partition coefficient: n-octanol/water (log	No data available

value)	
Vapour pressure	No data available
Density and/or relative density (water=1)	No data available
Relative vapour density (air=1)	No data available
Particle characteristics	No data available

10. Stability and reactivity

Reactivity	No data available.
Chemical stability	This is a stable product under recommended storage conditions.
Possibility of hazardous reactions	No polymerization.
Conditions to avoid (e.g. static discharge, shock or vibration)	Fire source, heating source, disassemble, external short circuit, crushes, deformation, high temperature, direct sunlight, high humidity, immerse in water or overcharge, etc.
Incompatible materials	Explosives, flammables, strong oxidants and corrosives. If leaked, forbidden to contact with strong oxidizing agents, mineral acids, strong alkalis, etc.
Hazardous decomposition products	May include metal oxides, carbon monoxide, carbon dioxide, nitrogen oxides, hydrogen fluoride, hydrogen cyanide, benzene, toluene, methane, phosphorus oxides and other toxic smoke and gas.

11.Toxicological information

Routes of Entry: Dermal contact, eye contact, inhalation, ingestion.

Acute Toxicity	
Ethylene carbonate (CAS 96-49-1)	LD50 (Oral, rat) 500.1 mg/kg (estimate) LC50 (Inhalation, rat) N/A LD50 (Dermal, rabbit) N/A
Lithium hexafluorophosphate (CAS 21324-40-3)	LD50 (Oral, rat) >50-300 mg/kg LC50 (Inhalation, rat) N/A LD50 (Dermal, rabbit) N/A
Skin corrosion/Irritation	Lithium hexafluorophosphate (CAS 21324-40-3): Causes skin corrosion.
Serious eye damage/irritation	Ethylene carbonate (CAS 96-49-1): Causes eye irritation. Lithium hexafluorophosphate (CAS 21324-40-3): Causes serious eye damage.
Respiratory or skin sensitization	Not classified
Germ cell mutagenicity	Not classified
Carcinogenicity	Not classified
Reproductive toxicity	Not classified
STOT-single exposure	Not classified
STOT-repeated exposure	Ethylene carbonate (CAS 96-49-1): May causes damage to

	organs through prolonged or repeated exposure. Lithium hexafluorophosphate (CAS 21324-40-3): Causes damage to organs through prolonged or repeated exposure.
Aspiration hazard	Not classified
Chronic Effects	Not classified
Further Information	In the event of exposure to internal contents, moderate or severe irritation, burning and dryness of the skin may occur, and may damage the nerves of the target organs. No detailed toxicological study.

12. Ecological information

Ecotoxicity

Aquatic Toxicity	Test & Species
	96 Hr LC50 fish: N/A
	48 Hr EC50 Daphnia: N/A
	72 Hr EC50 Algae: N/A

Persistence and degradability	High persistence (water/soil/air): Dimethyl carbonate, Ethylene carbonate, Ethyl methyll carbonate. Low persistence (water/soil/air): Graphite.
Bioaccumulative potential	Dimethyl carbonate: Log Kow 0.2336 (Low) Ethylene carbonate: Log Kow -0.3388 (Low) Ethyl methyll carbonate: Log Kow 0.7247 (Low)
Mobility in soil	Dimethyl carbonate: Koc 8.254 (Low) Ethylene carbonate: Koc 9.168 (Low) Ethyl methyll carbonate: Koc 15.22 (Low)
Additional Information	May cause water or soil pollution.

13. Disposal considerations

WASTE DISPOSAL INSTRUCTIONS

Contact a qualified professional waste disposal service to dispose of this material.
Dispose of in accordance with local environmental regulations or local authority requirements.

14. Transport information

The Recommendation of Transport of Dangerous Goods(TDG)

UN Number	UN 3480
Proper Shipping Name	LITHIUM ION BATTERIES
Class/Division	Class 9 Miscellaneous Dangerous Substances and Articles
Package Group	—
Subsidiary risk	—
labeling pictogram	

	Note: The sample is rechargeable Lithium-ion Battery Pack with a Watt-hour rating in excess of 100wh, which contains 60 series-connected battery cells, and passed the tests required by UN 38.3. Cells and batteries incorporate a safety venting device. Cells and batteries are properly protected to prevent short circuits, and have a high quality management programme can be transported as mentioned above. Cells or batteries shall be packed in packagings so that the cells or batteries are protected against damage that may be caused by the movement or placement of the cells or batteries within the packaging. The completed package must meet the Packing Group II performance requirements. In addition, for a cell or a battery with a gross mass of 12 kg or more employing a strong, impact resistant outer casing: (a) Strong outer packagings; (b) Protective enclosures (e.g., fully enclosed or wooden slatted crates); or (c) Pallets or other handing devices. Cells or batteries shall be secured to prevent inadvertent movement, and the terminals shall not support the weight of other superimposed elements. Packagings need not meet the requirements of TDG 4.1.1.3. Each package must be labeled with the Class 9 Lithium Battery hazard label (Model No.9A ,5.2.2.2.2 in TDG). According to 2.9.4 (g) of TDG (24th revised edition.), except for button cells installed in equipment (including circuit boards), manufacturers and subsequent distributors of cells or batteries manufactured after 30 June 2003 shall make available the test summary as specified in the Manual of Tests and Criteria, Part III, sub-section 38.3, paragraph 38.3.5.
Maritime transport IMDG	Being same with TDG Marine pollutant (Yes/No): No EmS No.: F-A, S-I Each package must be labeled with the Class 9 Lithium Battery hazard label (Model No.9A ,5.2.2.2.2 in IMDG Code). According to 2.9.4.7 of IMDG Code (2024 Edition), except for button cells installed in equipment (including circuit boards), manufacturers and subsequent distributors of cells or batteries manufactured after 30 June 2003 shall make available the test summary as specified in the Manual of Tests and Criteria, Part III, sub-section 38.3, paragraph 38.3.5.

15. Regulatory information

European/International Regulations

OSHA:	Hazardous by definition of Hazard Communication Standard (29CFR 1910.1200).
EINECS Status:	Graphite, Aluminum, Copper, Dimethyl carbonate, Ethylene carbonate, Lithium hexafluorophosphate, are included in EINECS inventory.
EPA TSCA Status:	Lithium iron Phosphate, Graphite, Aluminum, Copper, Dimethyl

	carbonate, Ethylene carbonate, Ethyl methyl carbonate, Lithium hexafluorophosphate, are included in TSCA public inventory.
Canadian DSL/NDSL (Domestic Substances List/ Non-domestic Substances List):	Lithium iron Phosphate, Graphite, Aluminum, Copper, Dimethyl carbonate, Ethylene carbonate, Ethyl methyl carbonate, Lithium hexafluorophosphate, are included in DSL/NDSL.
HMIS (Hazardous Material Identification System Ratings):	Health: 1 Flammability: 0 Physical hazard: 0 Personal protection: F (4. Severe Hazard; 3. Serious Hazard; 2. Moderate Hazard; 1. Slight Hazard; 0. Minimal Hazard)
WHMIS (Canadian Workplace Hazardous Material Identification System Ratings):	B6 (Aluminum), B4, D2B(Copper), B2(Dimethyl carbonate), D2B(Ethylene carbonate), D1A, D2B, E (Lithium hexafluorophosphate)
List of dangerous goods (GB 12268-2025)	UN Number: UN3480, Shipping Name: LITHIUM ION BATTERIES, Class or Division: 9, Packing Group: —. The recommended packaging category is PG II. Lithium cells and batteries listed in this report are of the types proven to meet the requirements of each applicable test in the UN Manual of Tests and Criteria, Part III, sub-section 38.3.

16. other information

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgement of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Material Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.

This Material Safety Data Sheet was based on the "Globally Harmonized System of Classification and Labelling of Chemicals", Recommendations on the TRANSPORT OF

DANGEROUS GOODS Model Regulations", "International Maritime Dangerous Goods Code", Dangerous Goods Regulations by the "International Air Transport Association", the National Standards and other related dangerous chemicals management laws, regulations and standards, which are periodically updated and changed. To make dangerous goods / hazardous chemicals comply with the relevant requirements of the latest management, regularly update is recommended.

This Material Safety Data Sheet has been compiled in both English and Chinese. For any discrepancies, the Chinese version shall prevail.

Abbreviations and acronyms	TDG: The Recommendation of Transport of Dangerous Goods ADR: Agreement Concerning the International Carriage of Dangerous Goods by Road

	RID: Regulation Concerning the International Carriage of Dangerous Goods by Rail IMDG: International Maritime Dangerous Goods Code IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA) ICAO-TI: Technical Instructions for the Safe Transport of Dangerous Goods by Air by the "International Civil Aviation Organization" (ICAO) EINECS: European Inventory of Existing Commercial Chemical Substances CAS: Chemical Abstracts Service LC50: Lethal concentration, 50 percent LD50: Lethal dose, 50 percent EC50: Effective concentration, 50 percent
Edit Date	20.01.2026
Update and Revise	Original edition
Edit Standard	*Globally Harmonized System of Classification and Labelling of Chemicals* Part 1.5
Revised Institution	Technology Center of Hangzhou Customs District

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扫描查看在线报告

化学品安全数据表

申请单位：麦田能源股份有限公司

产品名称：可充电锂离子电池系统 EP6 Plus/ 192V 30Ah 5.76kWh

签发日期：2026-01-20

编制机构：杭州海关技术中心

批准人：

注：1.除非特别说明，本报告仅对样品负责。
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国家危险化学品检测重点实验室（杭州）

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1. 标识

产品名称	可充电锂离子电池系统 EP6 Plus/ 192V 30Ah 5.76kWh
英文名称	Rechargeable Li-ion Battery System EP6 Plus/ 192V 30Ah 5.76kWh
其他名称	无
化学名称	无
使用建议	储能
生产商	麦田能源股份有限公司
地址	浙江省温州市龙湾区空港新区金海三道 939 号
供应商	麦田能源股份有限公司
地址	浙江省温州市龙湾区空港新区金海三道 939 号
固定电话	+86-0510-6809 2998
传真	无
网址或电子邮件地址	foxrd@fox-ess.com
应急电话	+86-173 0611 5257 或向离你最近的解毒中心求助

2. 危险标识

GHS 危险性分类	该产品符合“物品”的定义。在全球化学品统一分类和标签制度(GHS)中，美国职业安全和健康署“危险公示标准”(29 CFR 1910.1200)或类似定义界定的“物品”不属于这一制度的范围。[Rev. 11 (2025) Part 1.3.2.1.1]。根据 GHS 制度(第十一修订版)，未被归类为危险化学品。
GHS 危险标签	—
信号词	—
危险说明	—
防范说明	—
预防	
防范说明	—
反应	
防范说明	—
贮存	
防范说明	—
处置	
不导致分类的其他危险	未知

3. 成分构成/成分信息

□物质

√混合物

成分信息

成分	**CAS 号**	**EINECS 号**	**含量(%wt)**
磷酸铁锂	15365-14-7	604-917-2	37.16
石墨	7782-42-5	231-955-3	19.23
铝	7429-90-5	231-072-3	11.2
铜	7440-50-8	231-159-6	7.5
碳酸二甲酯	616-38-6	210-478-4	7.45

碳酸乙烯酯	96-49-1	202-510-0	4.43
碳酸甲乙酯	623-53-0	433-480-9	4.41
六氟磷酸锂	21324-40-3	244-334-7	2.48
其他	——	——	6.14

注：1.在化学品安全数据表中无需考虑百分含量小于 1%的成分，除非该成分呈现出严重的危害性。

4.急救措施

对医师的建议	在呼吸急促的情况下，需给受害人输氧。保持受害人温暖。 让受害人处于观察监护下。
吸入后	转移到有新鲜空气的地方。如需要，须输氧或进行人工呼吸。马上就医。
皮肤接触后	若接触到电池内的物质，立即用肥皂和大量清水彻底冲洗皮肤。脱掉被污染的衣服和鞋子。如皮肤刺激仍继续：须求医。如原是小面积的皮肤接触，防止接触面积的扩大。污染的衣服在使用前，须单独清洗。
眼睛接触后	若接触到电池内的物质，立即用大量流动清水或生理盐水冲洗眼睛数分钟。用手指分开眼睑以保证充分冲洗眼睛。马上就医。
摄入后	漱口。无医师建议的情况下不要引吐。如果受害人需呕吐，使其前倾以减少倒吸的危险。解松过紧的衣物，如领子、领带、皮带或腰带。不要使用嘴对嘴的方法实施救助。马上就医。
主要的症状和影响，包括急性和迟发效应	电池的电解质会刺激皮肤、眼睛和黏膜组织。

5. 消防措施

合适的灭火剂	大量水（降温），可用 HFC（氢氟碳化合物）清洁剂灭火器或耐醇泡沫灭火器。七氟丙烷和全氟己酮对锂电池灭火效果较好。
由物质本身或其燃烧产物、烟气产生的特殊危险	当电芯暴露于过热的环境中时，安全阀可能会打开。 在发生火灾时可能释放：一氧化碳、二氧化碳、氮氧化物、氟化氢、氰化氢、苯、甲苯、甲烷、锂氧化物烟气，磷氧化物，刺激性有毒烟雾和气体。
消防人员的特殊防护设备	穿全套防护衣物，包括头盔，自给正压式呼吸器，防护服和面罩，绝缘手套、绝缘靴等。

6. 泄漏应急处理

与人相关的安全防范措施	如果电池内部材料泄露，试验人员应立刻撤离试验区直到烟气消散。将通风设备打开吹散危险性气体。避免皮肤和眼睛接触或吸入有害气体。
环境保护措施	如能做到应防止进一步的泄露和溢出。无相关政府许可，不允许把该物质释放到环境中。
清洁/收集措施	如果电池有泄漏迹象，避免皮肤或眼睛接触电池泄漏的材料。使用耐化学腐蚀的橡胶手套和不易燃的吸收性材料进行清洁。与惰性材料（如干沙，蛭石）混合并转移到密封的容器待处理。
附加说明	关于安全操作的信息见第 7 部分 关于个人防护设备的信息见第 8 部分 关于处置的信息见第 13 部分

7. 操作和存储

操作

安全操作的信息	操作人员应经过培训，严格遵守操作规程。建议操作人员穿一般作业防护

	服，戴安全手套。远离火种、热源，避免阳光直射。工作场所严禁吸烟。工作场所应有通风系统和设备。避免随意拆卸电池和弄错正负极。须牢固在内包装中，以有效防止短路和防止可导致短路的移动。万一电池内的物质泄漏，避免眼睛、皮肤直接接触，避免吸入。应与强氧化剂、腐蚀品分开存放。
防止爆炸和火灾的信息	避免机械和电气的滥用。不要短路或安装错误。 电池如果拆卸、压碎、充电或暴露在高温下，可能会发生爆炸和燃烧。按照设备说明书安装电池。
存储	
对储藏室和容器的要求	贮存温度：0~35 ℃。禁止物理或电滥用，禁止高温储存，最好将电池储存在阴凉、干燥、通风等温度变化较小的环境中。禁止将电池接触加热设备或将电池直接暴露与阳光中。
关于储藏在普通存储设施中的信息	储存于阴凉、通风的库房内。远离火种、热源，避免阳光直射。须牢固在内包装中，以有效防止短路和防止可导致短路的移动。应与强氧化剂、易燃易爆、腐蚀品、有害物质分开存放。
关于储藏条件进一步的信息	储存区配备相应品种和数量的消防器材、泄漏应急处理设备和合适的收容材料。

8. 暴露控制/人身保护

暴露限值

成分	**CAS 号**	**ACGIH 阈限值-时间加权平均浓度 mg/m³**	**ACGIH 阈限值-短时间接触限值 mg/m³**	**NIOSH 阈限值-时间加权平均浓度 mg/m³**	**NIOSH 阈限值-短时间接触限值 mg/m³**
磷酸铁锂	15365-14-7	N.E.	N.E.	N.E.	N.E.
石墨	7782-42-5	2	N.E.	2.5	N.E.
铝	7429-90-5	1	N.E.	10 (总尘) 5 (呼尘)	N.E.
铜	7440-50-8	0.2	N.E.	1	N.E.
碳酸二甲酯	616-38-6	N.E.	N.E.	N.E.	N.E.
碳酸乙烯酯	96-49-1	N.E.	N.E.	N.E.	N.E.
碳酸甲乙酯	623-53-0	N.E.	N.E.	N.E.	N.E.
六氟磷酸锂	21324-40-3	N.E.	N.E.	N.E.	N.E.
其他	—	—	—	—	—

减少接触的工程控制方法	有通风系统和设备。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。提供安全淋浴和洗眼设备。
一般保护和卫生措施	正常使用条件下不需要。电池开阀试验时应做好个人防护。工作场所严禁吸烟、饮水和饮食。工作后，沐浴更衣。
个人防护用品	电池开阀试验时应做好个人防护，呼吸防护，防护手套，防护服和有护边的安全玻璃罩。
呼吸设备	当工人在高浓度的环境下工作时，必须使用合适的已认证的呼吸器。正常

	操作条件下，呼吸保护是不必要的。
双手保护	正常使用条件下不需要。
眼睛/面部保护	正常使用条件下不需要。必要时使用带侧罩或安全眼镜的护目镜作为工人长期暴露的机械屏蔽。
身体保护	正常使用条件下不需要。必要时穿戴全套防化学试剂工作服，阻燃防静电防护服，防护设备的类型必须根据特定工作场所中的危险物的浓度和含量来选择。

注:1. N.E. — 未建立。

9.物理和化学特性

物理状态	可充电锂离子电池组，外观为白色棱柱形 尺寸（长宽高）：380*185*640（mm） 重量：51.578 kg
颜色	见物理状态
气味	无刺鼻气味
熔点/凝固点	无数据资料
沸点或初始沸点和沸程	无数据资料
易燃性	无数据资料
上、下爆炸极限/易燃极限	无数据资料
闪点	无数据资料
自燃温度	无数据资料
分解温度	无数据资料
pH 值	无数据资料
运动粘度	无数据资料
溶解性	无数据资料
分配系数：正辛醇/水（对数值）	无数据资料
蒸汽压	无数据资料
密度和/或相对密度（水=1）	无数据资料
相对蒸气密度（空气=1）	无数据资料
颗粒特征	无数据资料

10. 稳定性和反应活性

反应性	无数据资料。
化学稳定性	在要求的贮存条件下，这是个稳定的产品。
有害反应的可能性	不聚合。
需避开的条件（如：静电放电，震动等）	火源、热源、拆卸、外部短路、压碎、变形、高温、阳光直射、高湿度、浸水或过充等。
不相容的物质	爆炸品、易燃物、强氧化剂和腐蚀剂。如果发生泄漏，避免与强氧化剂，无机酸，强碱等接触。
有害分解产物	可能包括金属氧化物，一氧化碳，二氧化碳、氮氧化物、氟化氢、氰化氢、

苯、甲苯、甲烷、磷氧化物等有毒烟雾和气体。

11.毒理学信息

进入人体内的途径：皮肤接触、眼睛接触、吸入和摄入。

急性毒性

碳酸乙烯酯	LD50（口服，大鼠）：500.1 mg/kg （估计值）
（CAS 96-49-1）	LC50（吸入，大鼠）：未知
	LD50（皮肤，兔子）：未知
六氟磷酸锂	LD50（口服，大鼠）：>50-300 mg/kg
（CAS 21324-40-3）	LC50（吸入，大鼠）：未知
	LD50（皮肤，兔子）：未知
皮肤腐蚀/刺激	六氟磷酸锂（CAS 21324-40-3）：造成皮肤腐蚀。
严重眼损伤/刺激	碳酸乙烯酯（CAS 96-49-1）：造成眼刺激。
	六氟磷酸锂（CAS 21324-40-3）：造成严重眼损伤。
呼吸或皮肤敏化作用	未分类
生殖细胞致突变性	未分类
致癌性	未分类
生殖毒性	未分类
特定目标器官毒性-单次接触	未分类
特定目标器官毒性-重复接触	碳酸乙烯酯（CAS 96-49-1）：长期或反复接触可能对器官造成伤害
	六氟磷酸锂（CAS 21324-40-3）：长期或反复接触会对器官造成伤害。
吸入危险	未分类
慢性影响	未分类
其他信息	万一发生与电池内部材料接触的事故，轻微或严重的刺激，都可能使皮肤出现干燥和灼烧的感觉，并可能损坏靶器官的神经。无详细的毒理学研究。

12. 生态学信息

生态毒性

水生毒性	测试 & 物种
	96 Hr LC50 鱼：未知
	48 Hr EC50 溞类：未知
	72 Hr EC50 藻类：未知
持久性和降解性	高持久性（水/土壤/空气）：碳酸二甲酯，碳酸乙烯酯，碳酸甲乙酯。
	低持久性（水/土壤/空气）：石墨。
潜在的生物累积性	碳酸二甲酯：Log Kow 0.2336 (低)
	碳酸乙烯酯：Log Kow -0.3388 (低)
	碳酸甲乙酯：Log Kow 0.7247 (低)
土壤中的迁移性	碳酸二甲酯：KOC 8.254 (低)
	碳酸乙烯酯：KOC 9.168 (低)
	碳酸甲乙酯：KOC 15.22 (低)
其他信息	可能造成水或土壤污染。

13. 废弃处置

废物处置说明

联系一家有资质的专业废物处置机构来处置。
按照当地的环境法规或地方当局的要求来进行处置。

14. 运输信息

联合国《关于危险货物运输的建议书 规章范本》(TDG)

UN 编号	UN 3480
正式运输名称	锂离子电池组
危险类/项别	第 9 类 杂项危险物质和物品
包装类别	—
次要危险性	—
危险性标签	

注：该样品为可充电锂离子电池组，瓦特-小时额定值大于 100Wh，内含 60 个串联电芯，并通过 UN 38.3 要求的各项试验。该样品需装有安全排气以及防止外部短路的有效装置，并有高质量的管理方案才可按上述条目运输。装在包装中的锂电池，应采取保护措施，防止锂电池因在包装中的移动或位置变化而造成损坏。包装件必须满足 II 级包装的性能要求。此外，对于总质量在 12 千克或以上、采用坚固、耐碰撞外壳的电池或电池组：（a）坚固的外包装；（b）保护外罩（如完全封闭的或木制的板条箱）；或（c）货板或其他搬运装置。电池或电池组应加以固定，防止意外移动，电极不得承受其他叠放物品的重量。包装无须符合 TDG 4.1.1.3 的要求。
每个包装件必须使用 9 类锂电池危险性标签（TDG 5.2.2.2.2 图 No.9A）。
根据 TDG (第 24 修订版)的 2.9.4 (g)，除了安装在设备（包括电路板）上的纽扣电池外，2003 年 06 月 30 日以后制造的锂电池或电池组的制造商和出厂后的销售商应提供联合国《试验和标准手册》第 III 部分第 38.3 小节第 38.3.5 段规定的 UN38.3 试验概要。

国际海运危规 IMDG	与 TDG 的分类相同 海洋污染物（是/否）：否 EmS 编号：F-A，S-I 每个包装件必须使用 9 类锂电池危险性标签（IMDG Code 5.2.2.2.2 图 No.9A）。 根据 IMDG Code (2024 版)的 2.9.4.7，除了安装在设备（包括电路板）中的纽扣电池，2003 年 06 月 30 日之后生产的锂电池或电池组的制造商和出厂后的销售商应提供联合国《试验和标准手册》第 III 部分第 38.3 小节第 38.3.5 段规定的 UN38.3 试验概要。

15. 法规信息

欧洲/国际法规	
OSHA (美国职业安全和健康管理法):	危险性根据危害通讯标准来编写 (29CFR 1910.1200).

EINECS (欧洲现有商业化学物质名录)：	石墨，铝，铜，碳酸二甲酯，碳酸乙烯酯，六氟磷酸锂已被列入 EINECS 目录中。
EPA TSCA(有毒物质控制法)：	磷酸铁锂，石墨，铝，铜，碳酸二甲酯，碳酸乙烯酯，碳酸甲乙酯，六氟磷酸锂已被列入 TSCA 公开目录中。
加拿大 DSL/NDSL(国内物质清单)/ (非国内物质清单)：	磷酸铁锂，石墨，铝，铜，碳酸二甲酯，碳酸乙烯酯，碳酸甲乙酯，六氟磷酸锂已被列入 DSL/NDSL 目录中。
HMIS (危险品识别系统)：	健康危害：1 易燃性：0 物理危害：0 个人防护：F (4. 极其严重危害; 3. 严重危害; 2. 中度危害; 1. 轻度危害; 0. 极小危害)
WHMIS (加拿大工作场所有害物质识别系统)：	B6（铝），B4，D2B（铜）， B2（碳酸二甲酯），D2B（碳酸乙烯酯）， D1A, D2B, E（六氟磷酸锂）
危险货物品名表（GB 12268-2025）	联合国编号：UN 3480，名称和说明：锂离子电池组，类别：9，包装类别：—。推荐包装类别为 PG II 本报告所述锂电池已通过联合国《试验和标准手册》第 III 部分 38.3 小节相应测试要求。

16. 其他信息

雇主只能把本化学品安全数据表的信息当作他们所获其他信息的补充信息，并能独立判断此信息的适用性，以确保正确使用并保护雇员的健康和安全。此化学品安全数据表提供的信息并不具担保作用，任何未按本化学品安全数据表使用产品、或与其他产品和操作过程同时使用本产品时产生的后果由用户自行承担。

本化学品安全数据表是根据《全球化学品统一分类和标签制度》，联合国《关于危险货物运输的建议书》，《国际海运危险货物规则》，国际航空运输协会《危险货物规则》和国家标准等相关危险化学品管理法律法规和标准进行编制，而上述法律法规和标准均会定期进行更新和变化。为使危险货物/危险化学品符合相关最新的管理要求，建议定期审核更新化学品安全数据表。

本化学品安全数据表分别以中、英文编制，在对中、英文本的理解上发生歧义时，以中文文本为准。

缩略语

TDG：联合国《关于危险货物运输的建议书 规章范本》
ADR:《国际危险货物公路运输协定》
RID:《国际危险货物铁路运输规则》
IMDG:国际海事组织《国际海运危险货物规则》
IATA-DGR：国际航空运输协会《危险货物规则》(IATA)
ICAO-TI：国际民用航空组织《危险物品安全航空运输技术细则》(ICAO)
EINECS：欧洲现有商业化学物质名录
CAS：化学文摘号
LC50：半数致死浓度

	LD50：半数致死剂量 EC50：半数效应浓度
编制日期	2026.01.20
更新和修改	第 1 版
编制标准	*全球化学品统一分类和标签制度* 第 1.5 部分
编制机构	杭州海关技术中心

附：样品照片

样品照片 **Sample Photos**
内部电芯/Inner Cell(LFR46160-30Ah / 3.2V 30Ah 96Wh)

电池/Battery (可充电锂离子电池系统/Rechargeable Li-ion Battery System EP6 Plus/ 192V 30Ah 5.76kWh)
 
铭牌/Nameplate

包装照片/Package Photos
 

报告结束