

Safety Data Sheet

Date of Issue: Feb. 21, 2023

File No.: GG20221229WERC01

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product Identifier

Name of Product: Rechargeable Li-ion Polymer Cell

1.2 Other means of identification

Product Models: 08170

Nominal Voltage: 3.85V

Nominal capacity: 58mAh

Nominal Power: 0.22Wh

Weight: 1.211g

1.3 Recommended use of the chemical and restriction on use

Recommended Use: Rechargeable Li-ion Battery

Restriction on Use: No information available

1.4 Information Of Supplier:

Company Name: Apower Electronics Co., Ltd.

Address: No.8, Jinghu Road of Xinya Street, Huadu District, Guangzhou City, Guangdong Province, P.R.China

Zip code: 510800

Contact person: Mo

Tel: 86-20-2860 9370

E-mail: testing@aecbattery.com

1.5 Emergency Telephone

86-20-2860 9029

2. Hazard(s) Identification

2.1 Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 1
Carcinogenicity	Category 2
Specific target organ toxicity (repeated exposure)	Category 1

2.2 Label elements

2.2.1 Signal WordDanger

2.2.2 Hazard Statements

Causes skin irritation

Causes serious eye damage

Suspected of causing cancer

Causes damage to organs through prolonged or repeated exposure

2.2.3 Symbol



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This product is an article which contains a chemical substance. Safety information is given for exposure to the article as solid. Intended use of the product should not result in exposure to the chemical substance, this is a battery. In case of rupture: the above hazards exist.

2.3 Precautionary Statements

2.3.1 Precautionary Statements – Prevention

Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Use personal protective equipment as required.
Wash face, hands and any exposed skin thoroughly after handling.
Contaminated work clothing should not be allowed out of the workplace.
Keep away from flames and hot surface –no smoking.
Do not breathe dust/fume/gas/mist/vapors/spray.
Do not eat, drink or smoke when using this product.

2.3.2 Precautionary Statements – Response

If exposed or connected: Get medical advice/attention.
Specific treatment (see supplemental first aid/instruction on this label).

Skin

If ON SKIN: wash with plenty of soap and water.
Take off contaminated clothing and water before reuse.
If skin irritation or rash occurs: get medical advice/attention if feel unwell.

Eye

If IN EYES: Rinse cautiously with water for several minutes, remove contact lenses, if present and easy to do, Continue rinsing. Call a POISON CENTER or doctor/physician.

Inhalation

If inhalation: if breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. If experiencing respiratory symptoms: Call a poison center or doctor/physician.

Ingestion

If swallowed: rinse mouth, do not induce vomiting, Call a poison center or doctor/physician if feel unwell.

2.3.3 Precautionary Statements – Storage

Store locked up

2.3.4 Precautionary Statements – Disposal

Dispose of contents/container to an approved waste disposal plant.

2.4 Hazards not otherwise classified (HNOC)

Not applicable

2.5 Unknown Toxicity

39% of the mixture consists of ingredient(s) of unknown toxicity.

2.6 Other information

Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

2.7 Interactions with other chemicals

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Use of alcoholic beverages may enhance toxic effect.

3. Composition/ Information on Ingredients

Chemical Name	CAS No.	Weigh%
Aluminum(Al)	7429-90-5	10.39
Polypropylene	9003-07-0	2.28
LiCoO ₂	12190-79-3	39.10
Nickel(Ni)	7440-02-0	0.74
Graphite	7782-42-5	18.63
Carbon black	1333-86-4	0.19
Cu	7440-50-8	7.38
PE	9002-88-4	3.34
O-Ny	24937-16-4	1.16
lithium Salt	21324-40-3	1.94
EC	96-49-1	4.86
DEC	105-58-8	7.77
PC	108-32-7	0.97
Polyimide	62929-02-6	1.25

4. First Aid Measures

4.1 General Advice

First aid is upon rupture of sealed battery.

4.1.1 Eye contact

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Remove contact lenses, if present and easy to do. Continue rinsing. Do not rub affected area. Seek immediate medical attention/advice.

4.1.2 Skin Contact

Wash off immediately with plenty of water and soap for at least 15 minutes. Remove and isolate contaminated clothing and shoes. Get medical attention if irritation develops and persists.

4.1.3 Inhalation of Vented Gas

Remove to fresh air. Get medical attention immediately if symptoms occur. If not breathing, give artificial respiration. If breathing is difficult, (trained personnel should) give oxygen.

4.1.4 Ingestion

Do NOT induce vomiting. Rinse mouth immediately and drink plenty of water. Never give

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anything by mouth to an unconscious person. Call a physician or poison control center immediately.

4.1.5 Self-protection of the first aider

Ensure that medical personnel are aware of the material(s) involved. Take precaution to protect themselves and prevent spread of contamination. Avoid contact with skin, eyes or clothing. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Use personnel protective equipment as required. Wear personnel protective clothing (see section 8).

4.2 Most important symptoms and effects, both acute and delayed

Burning sensation, Itching. Rashes. Hives, Coughing.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician

Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated. Do not give chemical antidotes. Asphyxia from glottal edema may occur. Marked decrease in blood pressure may occur with moist rales, frothy sputum, and high pulse pressure. May cause sensitization of susceptible persons. Treat symptomatically.

5. Fire – Fighting Measures

5.1 Suitable Extinguishing Media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Dry chemical, CO₂, water spray or regular foam. Move containers from fire area if you can do it without risk.

5.2 Unsuitable Extinguishing Media

CAUTION: Use of water spray when fighting fire may be inefficient.

5.3 Specific Hazards Arising from the chemical

Thermal decomposition can lead to release of irritating gases and vapors. In the event of fire and/or explosion do not breathe fumes. May cause sensitization by inhalation and skin contact. Product is or contains a sensitizer.

Hazardous Combustion products

Carbon oxides

5.4 Explosion Data

Sensitivity to Mechanical Impact: None.

Sensitivity to Static Discharge: None.

5.5 Protective equipment and precautions for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/IOSH (approved or equivalent) and full protective gear. Move containers from fire area if you can do it without risk.

6. Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures

Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Use personal protective equipment as required. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

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6.2 Environmental Precautions

Refer to protective measures listed in Sections 7 and 8. Prevent further leakage or spillage if safe to do so. Should not be released into the environment. Do not allow to enter into soil/subsoil. Prevent product from entering drains.

6.3 Methods for containment

Prevent further leakage or spillage if safe to do so. Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal.

6.4 Methods for cleaning up

Pick up and transfer to properly labeled containers.

7. Handling and Storage

7.1 Precaution for safe handling

In case of rupture, use personal protection equipment. Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Do not breathe dust/fume/gas/mist/vapors/spray.

7.2 Conditions for safe storage, including any incompatibilities

Storage

Keep containers tightly closed in a dry, cool and well-ventilated place. Store locked up. Keep out of the reach of children.

Incompatible products

Strong acids. Strong oxidizing agent. Strong bases.

8. Exposure Controls/Personal Protection

8.1 Exposure Guidelines

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Graphite 7782-42-5	TWA: 2 mg/m ³ respirable particulate matter all forms except graphite fibers	TWA: 15 mg/m ³ total dust synthetic TWA: 5 mg/m ³ respirable fraction synthetic (vacated) TWA: 2.5 mg/m ³ respirable dust natural (vacated) TWA: 10 mg/m ³ total dust synthetic (vacated) TWA: 5 mg/m ³ respirable fraction synthetic TWA: 15 mppcf natural	IDLH: 1250 mg/m ³ TWA: 2.5 mg/m ³ respirable dust

ACGIH TLV: American Conference of Governmental Industrial Hygienists-Threshold Limit Value

OSHA PEL: Occupational Safety and Health Administration-Permissible Exposure Limits

NIOSH IDLH Immediately Dangerous to Life or Health.

Other Exposure Guidelines:

Vacated limits revoked by the court of Appeals decision in AFL-CIO v. OSHA, 965F, 2d

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962(11th Cir., 1992) See section 15 for national exposure control parameters.

8.2 Appropriate engineering controls

Engineering Measures:

Showers, Eyewash stations, Ventilation systems

8.3 Individual protection measures, such as personal protective equipment

Respiratory protection :No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

Eye /face protection:if splashes are likely to occur: Wear safety glasses with side shields(or goggles). None required for consumer use.

Skin protection: Wear protective gloves and protective clothing. Long sleeved clothing. Imperious gloves.

Hygiene Measure: Handle in accordance with good industrial hygiene and safety practice. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash before reuse. Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Wash hands before breaks and immediately after handling the product. For environmental protection, remove and wash all contaminated protective equipment before re-use. No information available.

9. Physical and Chemical Properties

Physical State: Solid

Color: Black

Odor: Odorless

Odor Threshold: No information available

pH: No data available

Melting/freezing point: No data available

Boiling point/boiling range: No data available

Flash Point: No data available

Evaporation Rate: No data available

Flammability(Solid, gas): No data available

Flammability Limit in Air: No data available

Upper flammability limit: No data available

Lower flammability limit: No data available

Vapor pressure: No data available

Vapor density: No data available

Specific Gravity: No data available

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Solubility: Insoluble in water

Partition coefficient: n-octanol/water: No data available

Autoignition temperature: No data available

Decomposition temperature: No data available

Kinematic viscosity: No data available

Dynamic viscosity: No data available

10. Stability and Reactivity

Reactivity:

No data available

Chemical stability:

Stable under recommended storage conditions.

Possibility of Hazardous Reactions:

None under normal processing.

Hazardous Polymerization:

Hazardous polymerization does not occur.

Conditions to avoid:

Do not subject battery to mechanical shock. Keep away from open flames, high temperature.

Incompatible materials:

Strong acids, Strong oxidizing agents. Strong bases.

Hazardous decomposition products:

Carbon oxides

11. Toxicological Information

11.1 Information on likely routes of exposure

Product information:

Product does not present an acute toxicity hazard based on known or supplied information. In case of rupture:

Inhalation:

Specific test data for the substance or mixture is not available. Corrosive by inhalation (based on components). Inhalation of corrosion fumes/gases may cause coughing, choking, headache, dizziness and weakness for several hours. Pulmonary edema may occur with tightness in the chest, shortness of breath, bluish skin, decreased blood pressure and increased heart rate. Inhaled corrosion substances can lead to a toxic edema of the lungs. Pulmonary edema can be fatal. May cause irritation of respiratory tract.

Eye Contact:

Specific test data for the substance or mixture is not available. Cause burns. (based on components). Corrosion to the eyes and may cause severe damage including blindness. Cause serious eye damage. May cause irreversible damage to eyes.

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Skin Contact:

Specific test data for the substance or mixture is not available. Corrosion (based on components). Cause burns. Toxic in contact with skin. May be absorbed through the skin in harmful amounts.

Ingestion:

Specific test data for the substance or mixture is not available. Cause burns. (based on components). Ingestion cause burns of the upper digestive and respiratory tracts. May cause severe burning pain in the mouth and stomach with vomiting and diarrhea of dark blood. Blood pressure may decrease. Brownish or yellowish stains may be seen around the mouth. Swelling of the throat may cause shortness of breath and choking. May cause lung damage if swallowed. May be fatal if swallowed and enters airways. Ingestion may cause irritation to mucous membranes. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. May be harmful if swallowed.

Component Information

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Graphite 7782-42-5	> 10000mg/kg (Rat)	-	-

11.2 Information on toxicological effects

Symptoms:

Erythema (skin redness). May cause redness and tearing of eyes. Itching. Rashes. Hives. Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain, or flushing. Coughing and/or wheezing.

11.3 Delayed and immediate effects as well as chronic effects from short and long-term exposure

Sensitization: May cause sensitization of susceptible person, May cause sensitization by skin contact. May cause sensitization by inhalation.

Mutagenic Effects: No information available.

Carcinogenicity: the table below whether each agency has listed any ingredient as a carcinogen.

Chemical Name	ACGIH	IARC	NTP	OSHA
X	X	X	X	X

ACGIH (American Conference of Governmental Industrial Hygienists)

A3- Animal Carcinogen

IARC (International Agency for research on Cancer)

Group 2B- Possibly Carcinogenic to humans

NTP (National Toxicology Program) Reasonably Anticipated- reasonably anticipated to be a human Carcinogenic.

OSHA (Occupational safety and Health Administration of the US Department of Labor)

X-Present

Reproductive Toxicity: No information available.

STOT- single exposure: No information available.

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STOT- repeated exposure: Cause damage to organs through prolonged or repeated exposure. Based on classification criteria from the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200), this product has been determined to cause systemic target organ toxicity from chronic or repeated exposure. (STOT RE)

Chronic Toxicity: Prolonged exposure may cause chronic effects. Repeated contact may cause allergic reactions in very susceptible persons. Contain a known or suspected carcinogen. Avoid repeated exposure. May cause adverse effects on the bone marrow and blood-forming system. May cause adverse liver effects.

Target Organ Effects: Respiratory system. Eyes. Skin. Gastrointestinal tract(GI). Blood. Central Nervous System(CNS). Kidney. Liver. Lungs. Nasal cavities.

Aspiration Hazard: No information available.

11.4 Numerical measures of toxicity product information

The following values are calculated based on chapter 3.1 of the GHS document.

ATE mix(oral): 6513mg/kg

ATE mix(dermal): 5141mg/kg (ATE)

12. Ecological Information

Ecotoxicity:

Chemical name	Toxicity to Aglae	Toxicity to Fish	Toxicity to Microorganisms	Daphnia Magna (Water Flea)
-	-	-	-	-

Persistence and Degradability: No information available

Bioaccumulation: No information available

Other adverse effects: No information available

13. Disposal Considerations

13.1 Waste treatment methods

Disposal methods:

This material, as supplied, is not a hazardous waste according to Federal regulations (40 CFR 261). This material could become a hazardous waste if it is mixed with or otherwise comes in contact with a hazardous waste, if chemical additions are made to this material, or if the material is processed or otherwise altered. Consult 40 CFR 261 to determine whether the altered material is a hazardous waste. Consult the appropriate state, regional, or local regulations for additional requirements. Should not be released into the environment.

Contaminated Packaging:

Dispose of in accordance with federal, state and local regulations.

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California Hazardous Waste Codes 141

This product contains one or more substances that are listed with the State of California as a hazardous waste.

Chemical Name	California Hazardous Waste
X	X

14. Transportation Information

The transportation of primary lithium cells and batteries is regulated by the International Civil Aviation Organization, International Air Transport Association, International Maritime Dangerous Goods Code and the US Department of Transportation. The batteries must meet the following criteria for shipment: 1. Air shipments must meet the requirements listed in Special Provision A45 of the International Air Transport Association Dangerous Goods Regulations. 2. Meet the requirements for the US Department of Transportation listed in 49 CFR 173.185. 3. The transport of primary lithium batteries is prohibited aboard passenger aircraft. Refer to the Federal Register December 15, 2004 (Hazardous Materials; Prohibited on the Transportation of Primary Lithium Batteries and Cells Aboard Passenger Aircraft; Final Rule)

Lithium batteries shipped as "Lithium batteries", "Lithium batteries packed with equipment", or "Lithium batteries contained in equipment" may not be classified as "Dangerous Goods" when shipped in accordance with "PI965-967 section II of IATA-DGR" or "special provision 188 of IMO-IMDG Code"

DOT: NOT REGULATED

Proper Shipping Name: NON REGULATED

Emergency Response Guide Number: 147

Hazard Class: N/A

TDG: Not regulated

MEX: Not regulated

ICAO: Not regulated

IATA: Not regulated

Proper Shipping Name: Not regulated

Hazard Class: Not regulated

IMDG/IMO: Not regulated

Proper Shipping Name: NON REGULATED

Hazard Class: N/A

Ems No.: F-A,S-1

RID: Not regulated

ADR: Not regulated

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AND: Not regulated

15. Regulatory information

15.1 International Inventories

TSCA Complies

DSL All components are listed either on the DSL or NDSL.

TSCA – United State Toxic Substance Control Act Section 8(b) Inventory

DSL/NDSL – Canadian Domestic Substance List/Non-Domestic Substance List

15.2 US Federal Regulations

SARA 313: Section 313 of Title III of the superfund Amendments and Reauthorization Act of 1986(SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Chemical Name	CAS No.	Weight (%)	SARA313-Threshold values(%)
X	X	X	X

15.3 SARA 311/312 Hazard Categories

Acute Health Hazard	No
Chronic Health Hazard	No
Fire Hazard	No
Sudden release of pressure hazard	No
Reactive Hazard	No

15.4 CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

15.5 CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

15.6 US State Regulations

California Proposition 65

This product contains the following Proposition 65 chemicals.

Chemical Name	California Proposition 65
Nickel 7440-02-0	Carcinogen

U.S State Right-to-Know Regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania	Rhode Island	Illinois
Graphite 7782-42-5	x	x	x		
x	x	x	x	x	x

15.7 International Regulations

Mexico

National occupational exposure limits

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Chemical Name	Carcinogen Status	Exposure Limits
Graphite		Mexico: TWA= 2 mg/m ³

Canada

WHMIS Hazard Class
Non-controlled

16. Other Information

Disclaimer:

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used material used in combination with any other materials or in any process, unless specified in the test.

Prepared By: Guangzhou MCM Certification and Testing Co., Ltd.

Issuing Date: Feb. 21, 2023

Revision Date: Feb. 21, 2023

--- End of SDS ---



三帕认证

Safety Data Sheet

安全技术说明书

Product Name 产品名称: Li-ion Battery
Li-ion Polymer Battery

Model 型号: L1267

Issue Date 签发日期: 2023.01.05

Report No. 报告号: HZYW20230105SDS03

Compiler 编制: Jack Yang

Reviewer 审核: Tracy Chen

Approver 批准: Leo Chi

广州三帕认证技术服务有限公司

Guangzhou CP-UP Certification Technology Service Co., Ltd.



Tel: 86-020 3112 7037 Email: info@cp-up.com Website: www.cp-up.com

**Section 1 - Chemical and Company Identification****第一部分-化学品及企业标识**

Product Name 产品名称		Rechargeable Lithium-ion Battery 锂离子聚合物电池
Model/型号		L1267
Ratings/额定参数		3.86V, 600mAh ,2.31Wh
Applicant 申请商		EVE Energy Co., Ltd. 惠州亿纬锂能股份有限公司
Applicant address 申请商地址		NO.38, HuiFeng 7th Road, Zhongkai Hi-Tech Zone, HuiZhou, Guangdong, China 广东省惠州市仲恺高新区惠风七路 38 号
Manufacturer 制造商		EVE Energy Co., Ltd. 惠州亿纬锂能股份有限公司
Manufacturer Contact information 制造商联系信息	address 地址	NO.38, HuiFeng 7th Road, Zhongkai Hi-Tech Zone, HuiZhou, Guangdong, China 广东省惠州市仲恺高新区惠风七路 38 号
	Tel./应急电话	86-18588408301
	Email/邮箱	048723@evebattery.com

Section 2 - Hazards Identification**第二部分-危险性概述****Hazards Identification: 危险性描述**

Not dangerous with normal use. Do not dismantle, open or shred the battery ingredients contained within or their ingredients products could be harmful.

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危害的。

Primary Route (s) of Exposure: 接触途径

inhalation, ingestion, Skin contact and Eye contact.

吸入、食入、皮肤接触、眼睛接触。

Potential Health Effects: 潜在健康影响

inhalation: Vapors or mists from a ruptured battery may cause respiratory irritation.

吸入: 破裂的电池散发出来的气雾会引起呼吸道刺激。

Ingestion: The battery ingredients contained within or their ingredients products can cause serious chemical burns of mouth, esophagus, and gastrointestinal tract.

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。

Skin: Skin contact with contents of an open battery can cause severe irritation or burns to the skin.

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。

Eye: Eye contact with contents of an open battery can cause severe irritation or burns to the eye.

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。

**Section 3- Composition/Information on Ingredients****第三部分-成分/组成信息**

Chemical Name 化学名称	CAS Number CAS 号（化学文摘索引登记号）	Concentration or concentration ranges (%) 浓度或浓度范围(%)
Lithium Cobalt Oxide	12190-79-3	45
Graphite	7782-42-5	30
Polyvinylidene Fluoride	24937-79-9	2
Acetylene Black	1333-86-4	3
Electrolyte	21324-40-3	20

Note: CAS number is Chemical Abstract Service Registry Number.

注意：CAS 号是化学文摘服务注册号。

N/A=Not apply.

N/A=不适用

Section 4- First Aid Measure**第四部分-急救措施**

Inhalation 吸入	Remove source of contamination or move victim to fresh air. Obtain medical advice. 移除污染源或者将受害者移至新鲜空气处。寻求医生建议。
Ingestion 食入	Please rinse mouth thoroughly with water, induce vomiting under the guidance of professional personage. Please seek medical treatment in time. 立即用清水漱口，在专业人士的指导下催吐，速就医。
Skin contact 皮肤接触	Remove contaminated clothes and rinse skin with plenty of water or shower for 15 minutes. Get medical aid. 脱下已污染衣服，用大量的水冲洗至少 15 分钟，速就医。
Eye contact 眼睛接触	Irrigate with flowing water for 15 minutes. If irritation persists, consult a physician. 用流动水冲洗 15 分钟，如刺激持续发生，请求助于医生。

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

Characteristics of Hazard 危险特性	Toxic fumes, gases or vapors may evolve on burning. 火灾时可释放有害浓烟、气体或者蒸汽。
Hazardous Combustion Products 燃烧产生的危险物品	Carbon monoxide, carbon dioxide, lithium oxide fumes and so on. 一氧化碳，二氧化碳，锂氧化物烟气等。
Fire-extinguishing Methods and Extinguishing Media 灭火方法及灭火剂	Please use water, dry sand and other proper fire extinguishing media. 请使用水，干沙等合适的灭火介质。
Attention in Fire-extinguishing 灭火注意事项	The firemen should put on antigas masks and full fire-fighting suits. 消防人员须佩戴防毒面具、穿全身消防服。

**Section 6- Accidental Release Measure****第六部分-泄漏应急处理**

Personal Precautions, protective equipment, and emergency procedures 个人预防措施、防护装备和应急程序	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. 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。
Environmental Precautions 环境保护措施	Prevent material from contaminating soil and from entering sewers or waterways. 防止物质污染土壤和进入下水道或水道。
Methods and materials for Containment 方法和材料控制	Stop the leak if safe to do so. Contain the spilled liquid with dry sand or earth. Clean up spills immediately. 出于安全，阻止泄漏，可以用干沙或沙土来遏制液体泄露，立即清理泄漏。
Methods and materials for cleaning up 清理的方法和材料	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. 用惰性吸收剂(干沙或沙土)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。用洗涤剂和清水清洁污染区域，收集所有受污染的洗涤水进行适当处置。

Section 7- Handling and Storage**第七部分-操作处置与储存**

Handling 操作	Don't handling the batteries in manner that allows terminals to short circuit. Do not open, disassemble, crush or burn battery. 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。
Storage 储存	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. 如果电池长期存放超过 3 个月，建议定期对电池充电。 Long period storage: 25±5°C, 60±25%R.H 长期存储: 25±5°C,相对湿度 60±25% 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. 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。 Keep out of reach of children. 储存在小孩接触不到的地方。 Do not expose the battery to heat or fire. Avoid storage in direct sunlight. 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 store together with oxidizing and acidic materials. 不要与氧化和酸性物质存储在一起。

**Section 8 - Exposure Controls/Personal Protection****第八部分-接触控制和个体防护**

Engineering Controls 工程控制	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. 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。
Personal Protective Equipment 个人防护设备	<p>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.</p> <p>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。</p> <p>Protective Gloves: Not necessary under conditions of normal use.</p> <p>防护手套：正常使用条件下不必考虑。</p> <p>Other Protective Clothing or Equipment: Not necessary under conditions of normal use.</p> <p>其他防护服装或设备：正常使用条件下不必考虑。</p> <p>Personal Protection is recommended for venting battery: Respiratory Protection, Protective Gloves, Protective Clothing and safety glass with side shields.</p> <p>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。</p>

Section 9- Physical and Chemical Properties**第九部分-理化特性**

Appearance: Silvery 外观颜色：银色
Physical state: Solid 物理状态：固体
Form: Prismatic 形状：棱柱形
Melting Point °C: >300°C 熔点°C：>300°C
Odor: Odorless 气味：无气味
Solubility: Partial soluble in water 溶解度：部分溶于水

Section 10 - Stability and Reactivity**第十部分-稳定性和反应性**

Stability 稳定性	Stable under normal temperatures and pressures. 常温常压下稳定。
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Conditions to Avoid 应避免的条件	Heat above 70°C or Incinerate, Deform, Mutilate, Crush, Disassemble, Overcharge, Short circuit, Expose over a long period to humid conditions. 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。
Hazardous Decomposition Products 危害分解物	Toxic Fumes, and may form peroxides. 有毒烟雾，并可能形成过氧化物。
Possibility of Hazardous Reaction 危险反应的可能性	If leaked, forbidden to contact with strong oxidizers ,mineral acids ,strong alkalis, halogenated hydrocarbons. 如果发生泄露，避免与强氧化剂，无机酸，强碱，卤代烃接触。

Section 11 - Toxicological Information**第十一部分-毒理学信息**

Irritation 刺激	In the event of exposure to internal contents, vapor fumes may be very irritating to the eyes and skin. 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。
Sensitization 致敏	Not applicable. 不适用
Reproductive Toxicity 再生毒性	Not applicable. 不适用
Toxicologically Synergistic Materials 协同材料毒理学	Not applicable. 不适用

Section 12-Ecological Information**第十二部分-生态学信息**

General note 通用信息	Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system. 不允许未稀释或大量的产品到达地下水、水道或污水系统。
Anticipated behavior of a chemical product in environment/possible environmental impact/ ecotoxicity 化学产品在环境/可能的环境预期的行为的一种生态毒性	Not applicable. 不适用
Mobility in soil 土壤中移动性	Not applicable. 不适用
Persistence and Degradability 持久性和降解性	Not applicable. 不适用

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

Waste Treatment 废弃处置方法	Recycle or dispose of in accordance with government, state & local regulations. 建议遵照国家和地方法规处置或再利用。
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Attention for Waste Treatment 废弃注意事项	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. 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。
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Section 14 - Transport Information**第十四部分-运输信息**

The battery shall be passed the test items of the UNITED NATIONS "Recommendations on the Transport of Dangerous Goods, Manual of Tests and Criteria" section 38.3 and meet the requirements of UNITED NATIONS "Recommendations on the Transport of Dangerous Goods, model Regulations "

该电池必须通过联合国《关于危险货物运输的建议书 试验和标准手册》第 38.3 章节的测试项目和满足联合国《关于危险货物运输的建议书 规章范本》的要求。

The battery shall be 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;

该电池必须做好防短路保护。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 packaging shall be adequate to avoid mechanical damage during transport, handling and stacking.

包装应足以避免在运输，处理和堆放期间的机械损坏。

The package must be handled with care and that a flammability hazard exists if the package is damaged. 包装必须小心处理，如果包装损坏，存在易燃危险。

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

关于运输，引用和考虑了以下法规：

-The international Civil Aviation Organization (ICAO) Technical Instructions.

-国际民用航空组织(ICAO)技术细则。

-The international Air transport Association (IATA) Dangerous Goods Regulations.

-国际航空运输协会(IATA)危险物品规则。

The battery can be shipped by air in according to PACKING INSTRUCTION 965 Section IB, or PACKING INSTRUCTION 966~967 Section II of the 2022 IATA Dangerous Goods regulations 64th Edition.

该电池可以根据 2022 年 IATA 危险物品规则第 64 版包装指令 965 第 IB 部分或包装指令 966~967 第 II 部分运输。

UN number: UN3480 or UN3481;

UN 编号: UN3480 或 UN3481:

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

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

UN Classification (Transport hazard class): Class 9 (PI965 Section IB) or N/A (PI966~967 Section II)

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 Packing Group: N/A

UN 包装类别: 不适用

-The international Maritime Dangerous Goods (IMDG) Code.



-国际海运危险货物(IMDG)规则。

UN number: UN3480 or UN3481;

UN 编号: UN3480 或 UN3481;

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

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

UN Classification (Transport hazard class): N/A

UN 分类(运输危险类别): 不适用

UN Packing Group: N/A

UN 包装类别: 不适用

The battery is not restricted according to IMO IMDG Code (inc. Amendment 40-20) Special Provision 188.

海运按照国际海事组织《国际海运危险货物规则》(40-20 版)特殊规定 188 不受限制。

Section 15 - Regulatory Information

第十五部分-法规信息

International Civil Aviation Organization (ICAO) Technical Instructions

ICAO 国际民用航空组织(ICAO)技术细则:

1. Unless be exempted according to ICAO TI, the lithium ion cell/batteries (UN 3480, PI 965) and lithium metal cell/batteries (UN 3090, PI 968) are forbidden for carriage on passenger aircraft.

除非依据《技术细则》的相关要求取得豁免, 单独包装的锂离子电池(芯)(UN 3480, PI 965)和锂金属电池(芯)(UN 3090, PI 968)货物禁止使用客机运输。

2. Unless be approved according to ICAO TI, Lithium ion cells/batteries (UN 3480, PI 965) must be offered for transport at a state of charge (SoC) not exceeding 30% of their rated design capacity.

除非依据《技术细则》的相关要求取得特别批准, 按照包装说明 965 要求运输的锂离子电池(芯)货物, 交运时锂离子电池(芯)的荷电状态不得超过其额定容量的 30%。

Section 16 - Additional Information

第十六部分-附加信息

Compile unit 编制单位:

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Other Information 其他信息:

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determine if additional precautions are required.

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--End of report--

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