



No. DGMSZ24U25SD001

*Experts on International Rules&Regulations for Training, Packing, Storage&Transport of Hazardous Goods*

*Dangerous Goods Management (China) Ltd.*

## 安全技术说明书

## Safety data sheet

产品名称:  
Product name:

可充电锂离子电池 ARB-L21-6000  
Rechargeable Li-ion Battery ARB-L21-6000

委托单位:  
Applicant:

深圳市朗恒照明技术股份有限公司  
FENIXLIGHT LIMITED

中国  
石油  
集团  
北京

## 安全技术说明书

### Safety Data Sheet

## 第一部分 产品及企业标识

### Section 1 product and company identification

产品名称: 可充电锂离子电池 ARB-L21-6000  
Product name: Rechargeable Li-ion Battery ARB-L21-6000  
商标: Fenix Trademark: Fenix  
型号规格: ARB-L21-6000 3.6V 6000mAh 21.6Wh  
Model: ARB-L21-6000 3.6V 6000mAh 21.6Wh  
生产商: 深圳市优能电源技术有限公司  
Manufacturer: Shenzhen Your Power Technology Co., Ltd



|                             |  |
|-----------------------------|--|
| 企业名称:<br>Company name:      | 深圳市朗恒照明技术股份有限公司<br>FENIXLIGHT LIMITED  |
| 地址:<br>Address:             | 深圳市宝安区西乡街道凤凰岗社区水库路 111 星宏科技园 A 栋厂房<br>西侧 2 层、3 层<br>2F/3F, West of Building A, Xinghong Technology Park, 111 Shuiku Road,<br>Fenghuanggang Community, Xixiang Street, Bao'an District, Shenzhen<br>City, Guangdong Province, China |
| 电子邮件:<br>E-mail:            | zhury@fenixlight.com.cn  |
| 企业应急电话:<br>Emergency Phone: | 0755-29631163  |

## 第二部分 危险性概述

### Section 2 hazards summarizing

危险性类别: (见第十四部分)

Classification of Danger: (see section 14)

侵入途径: 眼睛、皮肤、食入

**Invasion Route:** eyes, skin contact, ingestion

**健康危害:** 正常条件下根据制造商的说明使用锂离子电池不会产生危害。使用不当的情况下, 有破裂、火灾、热、内部成分的漏出的风险, 并可能造成意外损失。使用不当的行为包括但不限于下列情况: 长时间充电、短路, 投入火灾, 硬物撞击、尖物刺破、破碎、破裂。

**Health Hazard:** the lithium ion batteries are not hazardous when used according to the instructions of manufacturer under normal conditions. In case of abuse, there's risk of rupture, fire, heat, leakage of internal components, with could cause casualty loss. Abuses include but not limited to the following cases: charged for long time, short circuited, put into fire, whacked with hard object, punctured with acute object, crushed, and broken.

**环境危害:** 未见报道

**Environmental Hazard:** Not reported

**燃爆危险:** 高温或短路条件下可能会引发火灾或爆炸

**The Danger of Burning and Exploding:** May occur fire or explosion in high temperature or short circuit.

### 第三部分 成分/组成信息

#### Section 3 composition/information on ingredients

纯品

混合物

Pure chemical

Mixture

化学组成:

Chemical ingredients:

| 成分 Chemical ingredient                   | 含量 (约) %Content (about) | CAS No.     |
|--|-------------------------|-------------|
| 镍钴锰酸锂/Cobalt lithium manganese nickelate | 41.4%                   | 182442-95-1 |
| 石墨 /Graphite                             | 15.8%                   | 7782-42-5   |
| 硅氧/Silica                                |                         | 60676-86-0  |
| 铝/Aluminum                               | 6.47%                   | 7429-90-5   |
| 铜/Copper                                 | 9.2%                    | 7440-50-8   |
| 聚乙烯/Polyethylene                         | 2.1%                    | 9002-88-4   |

|   |       |             |
|---|-------|-------------|
| 三氧化二铝/Aluminum Oxide                    |       | 1344-28-1   |
| 钢/Steel                                 | 12.2% | 12597-68-1  |
| 镍/Nickel                                | 0.6%  | 7440-02-0   |
| 六氟磷酸锂/Lithium Hexafluorophosphate       |       | 21324-40-3  |
| 二氟草酸硼酸锂/lithium Difluoro(oxalato)borate |       | 409071-16-5 |
| 碳酸乙烯酯/Ethylene Carbonate                |       | 96-49-1     |
| 碳酸甲乙酯/Ethyl Methyl Carbonate            | 11.2% | 623-53-0    |
| 碳酸二甲酯/Dimethyl Carbonate                |       | 616-38-6    |
| 碳酸亚乙烯酯/Vinylene Carbonate               |       | 872-36-6    |
| 氟代碳酸乙烯酯/Fluoroethylene Carbonate        |       | 11435-02-8  |
| 聚对苯二甲酸乙二酯/Polyethylene Terephthalate    | 1.03% | 25038-59-9  |

#### 第四部分 急救措施

#### Section 4 first-aid measures

正常环境条件下，眼睛和皮肤接触锂离子电池不会产生危害。在内部有害物质漏出的情况，如果身体部位接触到这些物质，应采取以下措施：

**The lithium ion batteries are not hazardous with eye and skin contact under normal circumstance. In case of internal hazardous substance leaking an hazardous substance, following measures should be taken if body parts contact with these substance:**

**皮肤接触：**皮肤接触后马上用肥皂和大量清水冲洗皮肤

**After Skin Contact:** In case of contact, immediately wash skin with soap and copious amounts of water.

**眼睛接触：**提起眼皮用清水冲洗 15 分钟，立即就医。

**After Eye Contact:** In case of contact, flush eyes with clean water for 15 minutes while lifting eyelids. Get prompt medical attention.

**吸入：**如有吸入,迅速脱离现场至空气新鲜处。如果停止呼吸,进行人工呼吸。如果呼吸困难，供给氧气。

**After Inhalation:** If inhaled, remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen.

**食入:** 如有知觉用水冲洗口腔。就医。

**After Ingestion:** If swallowed, wash out mouth with water provided person is conscious. Call a physician.

## 第五部分 消防措施

### Section 5 fire-fighting measures

**危险特性:** 在火灾时可释放有害浓烟、气体或者蒸汽。

**Characteristics of Hazard:** Toxic fumes; gases or vapors may evolve on burning.

**有害燃烧产物:** 一氧化碳和二氧化碳、HF、氟磷化物

**Hazardous Combustion Products:** CO,CO<sub>2</sub>, HF, phosphorus fluoride.

**灭火方法及灭火剂:** 对锂电池，大量冷水是一个有效的灭火剂。不要使用温或热水。不要使用哈龙类灭火材料。可使用干粉、沙、土。

**Fire-extinguishing Methods and Extinguishing Media:** Copious amounts of cold water are an effective extinguishing medium for lithium batteries. Don't use warm or hot water. Don't use Halon type extinguishing material. May use dry powder, sand, earth.

**灭火注意事项:** 消防人员须佩戴防毒面具、穿全身消防服

**Attention in Fire-extinguishing:** The Firemen should put on antigas masks and full fire-fighting suits.

## 第六部分 泄露应急处理

### Section 6 accidental release measures

当电池发生泄漏，液体可以用砂，土，或其他惰性物质吸收，受污染的区域应同时通风。

When leakage of batteries happens, liquid could be absorbed with sands, earth, or other inert substance, and the contaminated area should be ventilated meantime.

未放热或燃烧的破损电池，应装入密封的塑料袋或容器。

Damaged batteries that are not hot or burning should be placed in a sealed plastic bag or container.

## 第七部分 操作处置与储存

### Section 7 handling and storage

**操作注意事项:** 不要以让接头短路的方式对电池进行操作

**Handling:** don't handling the batteries in manner that allows terminals to short circuit

**储存注意事项:** 储存和使用时, 要远离热、火花、明火或其他点火源热, 并处于室温下 (<30°C) 通风和除湿环境。

**Storage:** Store and used far away from heat, sparks, open flame, or other heat ignition sources, and under room temperature (<30°C) in ventilating and dehumidifying environments

## 第八部分 接触控制/个体防护

### Section 8 exposure controls/personal protection

**最高容许浓度:** 没有适用标准

**Maximum Allowable Concentration:** No Standard available

**工程控制:** 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。

**Engineering Controls:** 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.

## 第九部分 理化特性

### Section 9 Physical and Chemical Properties

**额定电容量:** 6000mAh

**额定瓦特小时:** 21.6Wh

**Rated Capacity:** 6000mAh

**Watt-hour rating:** 21.6Wh

**尺寸:**  $\phi 21.7 \times 76.76\text{mm}$  **外观与性状:** 橙黑杂色近长方体

**Size:**  $\phi 21.7 \times 76.76\text{mm}$  **Appearance Characters:** Approximate Orange and black Cuboid

## 第十部分 稳定性和反应活性

### Section 10 stability and reactivity

**稳定性:** 常温常压下稳定

**Stability:** Stable under normal temperatures and pressures.

**禁配物:** 氧化剂

**Incompatibility:** oxidizing agents

**避免接触的条件:** 热和明火、短路和水

**Conditions to Avoid:** Heat and open flame, short circuit, and water

**聚合危害:** 不会发生

**Hazardous polymerization:** Will not occur

**分解产物:** 一氧化碳、二氧化碳、HF、氟磷化物

**Decomposition Products:** CO,CO<sub>2</sub>,HF,phosphorus fluoride

## 第十一部分 毒理学资料

### Section 11 toxicological information

在日常操作和使用中本产品不会引起毒理学性能

This product does not elicit toxicological properties during routine handling and use.

## 第十二部分 生态学资料

### Section 12 ecological information

**生态毒性:** 无

**Ecological Toxicity:** N/A

**生物降解性:** 无

**Biodegradability:** N/A

**非生物降解性:** 无

**Non-biodegradability:** N/A

**其它有害作用:** 该物质对环境有无明显危害。

**Other Hazardous:** Will not effect environmental evidently

## 第十三部分 废弃处置

### Section 13 disposal

**废弃处置方法:** 建议遵照国家和地方法规处置或再利用

**Waste Treatment:** Recycle or dispose of in accordance with government , state & local regulations.

**废弃注意事项:** 废电池不能被当作普通垃圾。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。

**Attention for Waste Treatment:** 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.

## 第十四部分 运输信息

### Section 14 transport information

**UN 编号:** UN3480, UN3481  
**UN NO.** UN3480, UN3481  
**运输专有名称:** UN3480 Lithium ion batteries  
UN3481 Lithium ion batteries contained in equipment  
UN3481 Lithium ion batteries packed with equipment

**Proper Shipping Name:** UN3480 Lithium ion batteries  
UN3481 Lithium ion batteries contained in equipment  
UN3481 Lithium ion batteries packed with equipment

**包装标志:** 第 9 类

**Labels for Package:** Class 9

|               |  |                        |
|---------------|--|------------------------|
| ICAO/<br>IATA | 可根据国际民用航空组织 (ICAO), TI 或国际航空协会 (IATA),<br>DGR 65 <sup>th</sup> 包装说明 (PI) PI966 和 PI967 第 II 部分相关规定进行空运<br>Can be shipped by air in accordance with international Civil Aviation<br>Organization(ICAO), TI or International Air Transport Association<br>(IATA), DGR Packing Instructions PI966 and PI967 Section II<br>appropriate of IATA DGR 65 <sup>th</sup> Edition for transportation | DGR 65 <sup>th</sup>   |
| IMDG<br>CODE  | 《国际海运危险货物规则》(IMDG CODE) 根据特殊规定 188<br>International Maritime Dangerous Goods Code under Special Provision<br>188   | IMDG CODE (Amdt 41-22) |
| ADR           | 《国际危险货物道路运输欧洲协定》(ADR) 根据特殊规定 188<br>European Agreement concerning the International Carriage of Dangerous<br>Goods by Road under Special Provision 188   | ADR 2023               |
| RID           | 《国际危险货物铁路运输欧洲协定》(RID) 根据特殊规定 188<br>Regulations concerning the International Carriage of Dangerous Goods by<br>Rail under Special Provision 188  | RID 2023               |

当符合上述规定时, 可不被申报为第 9 类危险品运输

May be shipped without being declared as Class 9 dangerous goods, when meet to the requirements above.



危险品规例规定，运输前，每一个电池设计须通过联合国试验和标准手册 38.3 节所载的测试。报告编号：DGMSZ24T20LD001。

The dangerous goods regulations require that each battery design be subject to tests contained in Section 38.3 of the UN Manual of Tests and Criteria prior to being offered for transport. Report NO.: DGMSZ24T20LD001.

## 第十五部分 法规信息

### Section 15 regulatory information

**法规信息：**联合国《关于危险货物运输的建议书规章范本》（23 版）、国际航空运输协会《危险品规则》（65 版）、《国际海运危险货物规则》（IMDG CODE）（41-22 版）、《国际危险货物道路运输欧洲协定》（ADR）（2023 版）、《国际危险货物铁路运输欧洲协定》（RID）（2023 版）

**Regulatory information:** Recommendations on the transport of dangerous goods-model Regulations 23<sup>rd</sup>, IATA dangerous goods regulations 65<sup>th</sup>, International Maritime Dangerous Goods Code (41-22), European Agreement concerning the International Carriage of Dangerous Goods by Road (2023), Regulations concerning the International Carriage of Dangerous Goods by Rail (2023)

## 第十六部分 其他信息

### Section 16 other information

**参考文献：**中华人民共和国国家标准（GB/T 16483-2008）化学品安全技术说明书内容和项目顺序、中华人民共和国国家标准（GB/T 17519-2013）化学品安全技术说明书编写指南

**Reference:** National standard of People's Republic of China. (GB/T 16483-2008) Safety data sheet for chemical products-Content and order of sections, National standard of People's Republic of China. (GB/T 17519-2013) Guidance on the compilation of safety data sheet for chemical products

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