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*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

## Material safety data sheet

产品名称: 可充电锂离子电池 ARB-L18-2600  
Product name: Rechargeable Li-ion Battery ARB-L18-2600

委托单位: 深圳市朗恒电子有限公司  
Applicant: SHEN ZHEN LANG HENG ELECTRONIC CO.,LTD

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安全技术说明书  
Material 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-L18-2600

Product name: Rechargeable Li-ion Battery ARB-L18-2600

商标: FENIX 型号规格: ARB-L18-2600 3.6V 2600mAh 9.36Wh

Trademark: FENIX Model: ARB-L18-2600 3.6V 2600mAh 9.36Wh

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: Company name:	深圳市朗恒电子有限公司 SHEN ZHEN LANG HENG ELECTRONIC CO.,LTD
地 址: Address:	广东省深圳市宝安区 33 区东方明工业城二栋八楼 8/F,2nd Building, DongFangMing, Industrial Center,33rd District, Bao'an, Shenzhen
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第二部分 成分/组成信息

Section 2 composition/information on ingredients

纯品 ☐

混合物 ☒

Pure chemical ☐

Mixture ☒



化学组成:

Chemical ingredients:

成分 Chemical ingredient	分子式 Molecular formula	含量 (约) % Content (about)	CAS No.
锂钴氧化物 Lithium Cobalt Oxide	$\text{LiCoO}_2$	37	12057-24-8
碳 Carbon	C	16	1333-86-4
六氟磷酸锂 Lithium Hexafluorophosphate	$\text{LiPF}_6$	1	21340-40-3
有机碳酸酯 Organic Carbonates	EC/EMC/DEC	9	/
其它 Other	/	37	/

### 第三部分 危险性概述

#### Section 3 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。

**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.



可使用干粉、沙、土。

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℃）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℃) 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

标称电压: 3.6V

额定电容量: 2600mAh

额定瓦特小时: 9.36Wh

**Nominal Voltage:** 3.6V

**Rated Capacity:** 2600mAh

**Watt-hour rating:** 9.36Wh

外观与性状: 黑色圆柱体

**Appearance Characters:** black cylinder

## 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

包装等级: II

Packing Group: II

包装标志: 第 9 类

Labels for Package: Class 9

ICAO/IA TA	可根据国际民用航空组织 (ICAO), TI 或国际航空协会 (IATA), DGR 57 <sup>th</sup> 包装说明 (PI) PI965, PI966, 和 PI967 第 II 部分相关规定进行空运。  Can be shipped by air in accordance with international Civil Aviation Organization(ICAO), TI or International Air Transport Association (IATA), DGR Packing Instructions(PI)965, PI966 and PI967 Section II appropriate.  According to the Packing Instruction 965 section II and 966 section II of IATA DGR 57 <sup>th</sup> Edition for transportation	2016 年 1 月 1 日生效  Effective January 1, 2016
IMDG CODE	国际海事组织(IMO)根据特殊规定 188 和 230  International Maritime Organization (IMO) under Special Provision 188 and 230	2014 年 1 月 1 日生效  Effective January 1, 2014
DOT	美国运输部 ( DOT ) 有害物质规则 C 分章中的其他规定, 运输符合 49CFR 173.185 和特殊规定 188  Other requirements of the US Department of Transportation (DOT) Subchapter C, Hazardous Materials Regulations if shipped in compliance with 49CFR 173.185 and Special Provision 188	2010 年 10 月 1 日生效  Effective October 1, 2010
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。

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.

## 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 (18th 版)、IATA 《危险



品规则》、《国际海运危险货物规则》、《美国危害物质规则》

**Regulatory information:** Recommendations on the transport of dangerous goods-model regulations, IATA dangerous goods regulations, International Maritime Dangerous Goods Code, U.S. Hazardous Material Regulations

## 第十六部分 其他信息

### Section16 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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