# MSDS Report

**Prepared For:**
SHENZHEN PKCELL BATTERY CO., LTD.
深圳市比苛电池有限公司
2nd Floor, 4th Building, Meitai Technology Park, No.1231,
Guanguang Road, Osmanthus Community, Guanlan Town,
Longhua New Area, Shenzhen
深圳市龙华新区观澜街道桂花社区观光路 1231 号关泰科技园
肆号厂房贰楼

**Product Name:**
锂离子电池

**Model:**
LP552530

**Nominal Voltage:**
3.7V

**Typical Capacity:**
350mAh, 1.295Wh

**Weight:**
7.5g

**Dimension:**
Max: 32.5mm X 25.5mm X 5.7mm (L×W×T)

**Prepared By:**
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B 栋第 1 层、C 栋 2 层 2A

**Report No.:**
NCT210461053XM1-1

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**Written by:**
Vera Li

**Approved by:**
Helry Wang

**Inspected by:**

**Date:**
2022. 01. 01
Material Safety Data Sheet

Section 1- Chemical Product & Company Identification

Product Name: Li-ion Battery

Manufacture: SHENZHEN PKCELL BATTERY CO., LTD.

Address: 2nd Floor, 4th Building, Meitai Technology Park, No.1231, Guanguang Road, Osmanthus Community, Guanlan Town, Longhua New Area, Shenzhen

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Item Code 项目号: NCT210461053XM1-1

Section 2- Hazards Identification

Hazard Description 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害的。

Primary Route(s) 吸入、食入、皮肤接触、眼睛接触。
## Potential Health Effects

**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喉、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

### Chemical Name

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Concentration or concentration ranges (%)</th>
<th>CAS Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lithium Cobalt Oxide 钴酸锂</td>
<td>35-38</td>
<td>12190-79-3</td>
</tr>
<tr>
<td>Graphite 石墨</td>
<td>20-22</td>
<td>7782-42-5</td>
</tr>
<tr>
<td>Copper 铜</td>
<td>9-10</td>
<td>7440-50-8</td>
</tr>
<tr>
<td>Aluminum 铝</td>
<td>5-6</td>
<td>7429-90-5</td>
</tr>
<tr>
<td>Ethylene carbonate 碳酸乙烯酯</td>
<td>14-18</td>
<td>96-49-1</td>
</tr>
<tr>
<td>Polypropylene 聚丙烯</td>
<td>5-6</td>
<td>9003-07-0</td>
</tr>
<tr>
<td>Carbonate, methyl ethyl 碳酸甲乙酯</td>
<td>4-5</td>
<td>623-53-0</td>
</tr>
<tr>
<td>Phosphate(1-), hexafluoro- 六氟磷酸锂</td>
<td>5-6</td>
<td>21324-40-3</td>
</tr>
</tbody>
</table>

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 Measures

<table>
<thead>
<tr>
<th>Inhalation</th>
<th>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。</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ingestion</td>
<td>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，就医。</td>
</tr>
<tr>
<td>Skin contact</td>
<td>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，就医。</td>
</tr>
<tr>
<td>Eye contact</td>
<td>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。</td>
</tr>
</tbody>
</table>

### Section 5 - Fire Fighting Measures

<table>
<thead>
<tr>
<th>Characteristics of Hazard</th>
<th>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。</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hazardous Combustion Products</td>
<td>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。</td>
</tr>
<tr>
<td>Fire-extinguishing Methods and Extinguishing Media</td>
<td>Please use water, dry sand and other proper fire extinguishing media. 请使用水，干燥沙等合适的灭火介质。</td>
</tr>
<tr>
<td>Attention in Fire-extinguishing</td>
<td>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。</td>
</tr>
</tbody>
</table>
Section 6- Accidental Release Measures

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 6.
限制区域，直到完成清理工作。请勿触碰溢漏的材料。穿戴适当的个人防护设备，如第 6 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，可以用干砂或沙土来遏制液体泄漏，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（干砂或沙土）吸收溢出的材料。收集所有受污染的吸收剂和根据第 13 部分的指令处置。用洗涤剂和水清洗污染区域，收集所有受污染的洗涤水进行适当处置。

Section 7- Handling and Storage

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: -10℃～35℃, 60±25% R.H
长期存储：-10℃～35℃，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。
Section 8 - Exposure Controls/Personal Protection

第八部分 接触控制和个人防护

**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

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.

呼吸防护：当电池排气阀打开时，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小空间内。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。

Protective Gloves: Not necessary under conditions of normal use.

防护手套：正常使用条件下不必考虑。

Other Protective Clothing or Equipment: Not necessary under conditions of normal use.

其他防护服装或设备：正常使用条件下不必考虑。

Personal Protection is recommended for venting battery: Respiratory Protection, Protective Gloves, Protective Clothing and safety glass with side shields.

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。

Section 9 - Physical and Chemical Properties

第九部分 理化特性

**Physical State**
物理状态

<table>
<thead>
<tr>
<th>Physical State</th>
<th>Form: Solid</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>形态：固体</td>
</tr>
<tr>
<td>Color: Silver</td>
<td>颜色：银色</td>
</tr>
<tr>
<td>Odour: Odorless</td>
<td>气味：无气味</td>
</tr>
<tr>
<td>Property</td>
<td>Value</td>
</tr>
<tr>
<td>----------------------------------------------</td>
<td>------------------------</td>
</tr>
<tr>
<td><strong>Change in condition</strong></td>
<td></td>
</tr>
<tr>
<td><strong>pH, with indication of the concentration</strong></td>
<td>No data is available</td>
</tr>
<tr>
<td><strong>pH, 有浓度指示</strong></td>
<td>无数据可提供</td>
</tr>
<tr>
<td><strong>Melting point/freezing point</strong></td>
<td>No data is available</td>
</tr>
<tr>
<td>熔点/凝固点</td>
<td>无数据可提供</td>
</tr>
<tr>
<td><strong>Boiling Point, initial boiling point</strong></td>
<td>No data is available</td>
</tr>
<tr>
<td>沸点，初沸点</td>
<td>无数据可提供</td>
</tr>
<tr>
<td><strong>Flash Point</strong></td>
<td>No data is available</td>
</tr>
<tr>
<td>闪点</td>
<td>无数据可提供</td>
</tr>
<tr>
<td><strong>Upper/lower flammability or explosive limits</strong></td>
<td>No data is available</td>
</tr>
<tr>
<td>上/下燃烧或爆炸限值</td>
<td>无数据可提供</td>
</tr>
<tr>
<td><strong>Vapor Pressure</strong></td>
<td>No data is available</td>
</tr>
<tr>
<td>蒸汽压</td>
<td>无数据可提供</td>
</tr>
<tr>
<td><strong>Vapor Density: (Air = 1)</strong></td>
<td>No data is available</td>
</tr>
<tr>
<td>蒸汽密度：(空气=1)</td>
<td>无数据可提供</td>
</tr>
<tr>
<td><strong>Density/relative density</strong></td>
<td>No data is available</td>
</tr>
<tr>
<td>密度/相对密度</td>
<td>无数据可提供</td>
</tr>
<tr>
<td><strong>Solubility in Water</strong></td>
<td>Insoluble</td>
</tr>
<tr>
<td>水溶性</td>
<td>不能溶解</td>
</tr>
<tr>
<td><strong>n-octanol/water partition coefficient</strong></td>
<td>No data is available</td>
</tr>
<tr>
<td>正辛醇/水分配系数</td>
<td>无数据可提供</td>
</tr>
<tr>
<td><strong>Auto-ignition temperature</strong></td>
<td>No data is available</td>
</tr>
<tr>
<td>自燃温度</td>
<td>无数据可提供</td>
</tr>
<tr>
<td><strong>Decomposition temperature</strong></td>
<td>No data is available</td>
</tr>
<tr>
<td>分解温度</td>
<td>无数据可提供</td>
</tr>
<tr>
<td><strong>Odout threshold</strong></td>
<td>No data is available</td>
</tr>
<tr>
<td>汆阈</td>
<td>无数据可提供</td>
</tr>
<tr>
<td><strong>Evaporation rate</strong></td>
<td>No data is available</td>
</tr>
<tr>
<td>蒸发速率</td>
<td>无数据可提供</td>
</tr>
<tr>
<td><strong>Flammability (soil, gas)</strong></td>
<td>No data is available</td>
</tr>
</tbody>
</table>
## Section 10 – Stability and Reactivity

### Stability
**稳定**
Stable under normal temperatures and pressures. 常温常压下稳定。

### 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

### 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**
No data is available. 无数据可提供

### Reproductive Toxicity
**再生毒性**
No data is available. 无数据可提供

### Toxicologically Synergistic Materials
**协同材料毒理学**
No data is available. 无数据可提供
Section 12 - Ecological Information

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.
不允许未经稀释或大量产品到达地下水、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/可能的环境影响及生态毒性
No data is available
无数据可提供

Mobility in soil
土壤中移动性
No data is available
无数据可提供

Persistence and Degradability
持久性和降解性
No data is available
无数据可提供

Section 13 – Disposal Considerations

Waste Treatment
废弃物处置方法
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。

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.
废弃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。

Section 14 – Transport Information

This report applies to by sea, by air and by land;
本报告适用于海运，空运和陆运；
The Li-ion Battery (model: LP552530) tested according to the requirements of the UNITED NATIONS "Recommendations on the Transport of Dangerous Goods, Manual of Tests and Criteria" Part III, subsection 38.3;

该锂离子电池（型号：LP552530）经过测试符合联合国《关于危险货物运输的建议书 实验和标准手册》第三部，第38.3 章节的要求。

The Li-ion Battery was 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;

该锂离子电池做了防短路保护。包括防止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，如果包装破损，存在易燃危险。

The Li-ion Battery can be shipped by air in accordance with Section IB of PACKING INSTRUCTION 965, or Section II of PACKING INSTRUCTION 966~967 of the 2022 IATA Dangerous Goods Regulations 63rd Edition.

该锂离子电池可以依据 2022 年 IATA 危险物品规则第 63 版包装指令 965 第 IB 部分或包装指令 966～967 第 II 部分运输。

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。
- UN number of lithium battery: UN3480 or UN3481.
- 锂电池的 UN 编号：UN3480 或 UN3481；
- UN Proper shipping name/Description (technical name): Lithium ion batteries or Lithium ion batteries contained in equipment or Lithium ion batteries packed with equipment;
- UN 合适的运输名称/描述（技术名称）：锂离子电池，锂离子电池内置于设备中或锂离子电池与设备包装在一起；
- 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）或不适用（包装指令 966~967 第 II 部分）
- The International Maritime Dangerous Goods (IMDG) Code.
- 国际海运危险货物（IMDG）规则。
- UN number of lithium battery: UN3480 or UN3481;
- 锂电池的 UN 编号：UN3480 或 UN3481；
- UN Proper shipping name/Description (technical name): Lithium ion batteries or Lithium ion batteries contained in equipment or Lithium ion batteries packed with equipment;
- UN 合适的运输名称/描述（技术名称）：锂离子电池，锂离子电池内置于设备中或锂离子电池与设备包装在一起；
- UN Classification (Transport hazard class): N/A
- UN 分类（运输危险类别）：不适用
- Marine pollutant(Y/N): N
- 海洋污染物（Y/N）：N
Section 15 – Regulatory Information

第十五部分 法规信息

《Dangerous Goods Regulations》
《危险物品规则》
《Recommendations on the Transport of Dangerous Goods Model Regulations》
《危险货物运输的建议模型规定》
《International Maritime Dangerous Goods》
《国际海上危险货物运输》
《Technical Instructions for the Safe Transport of Dangerous Goods》
《危险货物安全运输技术指南》
《Classification and code of dangerous goods》
《危险货物分类与代码》
《Occupational Safety and Health Act》(OSHA)
《职业安全与健康法案》(OSHA)
《Toxic Substance Control Act》(TSCA)
《有毒物质控制法》(TSCA)
《Consumer Product Safety Act》(CPSA)
《消费者产品安全法案》(CPSA)
《Federal Environmental Pollution Control Act》(FEPCA)
《联邦环境污染控制法》(FEPCA)
《The Oil Pollution Act》(OPA)
《石油污染法》(OPA)
《Superfund Amendments and Reauthorization Act TitleIII(302/311/312/313)》(SARA)
《超级基金修正案和再授权法案 TitleIII(302/311/312/313)》(SARA)
《Resource Conservation and Recovery Act》(RCRA)
《资源保护和恢复法案》(RCRA)
《Safety Drinking Water Act》(CWA)
《安全饮用水法》(CWA)
《California Proposition 65》
《加州 65 号提案》
Section 16 – Additional Information

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. Although reasonable precautions have been taken in the preparation of the data contained herein, it is offered solely for your information, consideration and investigation. This material safety data sheet provides guidelines for the safe handling and use of this product; it does not and cannot advise on all possible situations, therefore, your specific use of this product should be evaluated to determine if additional precautions are required.

The data/information contained herein has been reviewed and approved for general release on the basis that this document contains no export controlled information.

In the future, we will provide more detailed information for the product. In this version, we have included some general information for your reference. Please contact us for more detailed information.

*****End of report 报告结束*****