

Report No.: BPI-2017R05-03

MSDS REPORT

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Material Safety Data Sheet

材料安全数据表

SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION	
第-部份:化学品名及公司信息	
Name of Sample/产品名称: Cylindrical Li-ion Battery /圆柱型锂离子电池	Type/型号: BPI 18650 7.4V 2S1P 2200mAh
Company Name/公司名称: Shenzhen BetterPower Battery CO.,LTD 深圳市倍特力电池有限公司	Address/地址: 11 & 26, Tongyu Village Industrial Park, Dalang, Longhua, Shenzhen 深圳市龙华新区大浪街道石凹同富村工业园第 11 和 26 栋
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SECTION 2 - HAZARDS IDENTIFICATION
第二部份-危险性概述
<p>Fatalness grade/危险等级: In accordance with Regulation (EC) No 1272/2008, the sample is divided into dangerous article. 按照 (EC) No 1272/2008 规则, 这种产品属于危险物质。</p>
<p>Invasion route/摄入途径: Skin contact: Contact with battery electrolyte may cause burns and skin irritation. 皮肤接触: 皮肤接触到电池的电解液可能引起烧伤和腐蚀。 Eyes contact: Contact with battery electrolyte may cause burns. Eye damage is possible. 眼睛接触: 眼睛接触到电池的电解液可能引起烧伤和损伤。 Inhalation: Inhalation of vapors or fumes released due to heat or a large number of leaking batteries may cause respiratory and eye irritation. 吸入: 吸入电池泄漏或着火产生的蒸汽或烟雾可能引起呼吸道的损伤和眼睛过敏。 Ingestion: Ingestion of battery contents may cause mouth, throat and intestinal burns and damage. 摄食: 摄食电池物质可能引起口腔、喉咙和肠道的烧伤和伤害。</p>
<p>Health hazards/健康危害: The chemical are contained in a sealed can. Risk of exposure occurs only if the battery is mechanically or electrically abused. 化学品装在密封的容器内, 仅在电池被机械或电性能误用时才有暴露的风险。</p>
<p>Environment hazards/环境危害: Don't abandon the battery into environment, may cause water or soil pollution. 丢弃电池, 可能会引起水和土壤的污染。</p>
<p>Burn & burst danger/着火&燃烧危险: Do not dispose of battery in fire may explode. Do not short circuit battery may cause burns. 将电池扔进火中可能引起爆炸。短路电池可能引起着火。</p>

SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENT			
第三部份 - 成份/组成信息			
Chemical Name 化学名	Molecular formula 分子式	CAS No. CAS 号	Weight (%) 重量百分比
Cobalt lithium manganese nickel oxide 镍钴锰酸锂	LiNixCoyMnzO2	182442-95-1	40.65%
carbon 石墨	C	7782-42-5	22.86%
Organic Electrolyte 电解液	N/A	623-53-0/21324-40-3	14.39%
Polypropylene 隔离膜	N/A	N/A	3.52%
Copper 铜箔	Cu	7440-50-8	9.42%
Aluminum 铝箔	Al	7429-90-5	4.72%

Abbreviation: CAS No. is Chemical Abstract Service Registry Number, N/ A= Not apply.
备注: CAS No. 是化学物质的登记号. N/A=不适用。

SECTION 4 - FIRST AID MEASURES	
第四部份-急救措施	
<p>Eye/眼睛: If the battery is leaking and the contained material contact the eyes, flush the eyes with plenty of water or saline water at least 15 minutes, got medical aid at once. 如果电池液泄漏和电池材料接触眼睛, 用大量的水或盐水冲洗眼睛至少 15 分钟, 如有不适立刻就医。</p>	
<p>Skin/皮肤: If the battery is leaking and the contained material contact the skin, Remove contaminated clothes quickly and rinse the skin with plenty of water at least 15minutes, if irritation or pain persist ,get medical aid at once. 如果电池液泄漏和电池材料接触皮肤, 脱掉被污染的衣裤, 用大量的水冲洗至少 15 分钟, 如果刺激或疼痛持续, 立刻就医。</p>	
<p>Inhalation/吸入: If the battery is leaking, remove to fresh air immediately, Keep the respiratory tract smooth. Use oxygen if available .Get medical aid. 如果吸入电池泄漏的气体, 立刻转移到空气流通的地方, 保持呼吸道畅通。如有可能使用氧气。立即就医。</p>	
<p>Ingestion/摄食: If the battery is leaking and the contained material is ingest, rinse mouth and surrounding area with clear water at once .Get medical aid at once. 如果摄食电池泄漏物或电池材料, 用清水漱口并立即就医。</p>	
SECTION 5 - FIRE FIGHTING MEASURES	
第五部份 - 消防措施	
<p>Danger characteristic/危险特性: Exposure to excessive heat can cause venting of the liquid electrolyte. Battery may burst and release hazardous decomposition products when exposed to a fire situation.</p>	

电池暴露在过热的条件下可能引起电池排气，将电池扔进火中可能引起电池爆炸和释放有害气体。

Hazardous combustion products/有危害的燃烧产物:

CO, CO₂, metal oxides, irritating fumes /一氧化碳, 二氧化碳,金属氧化物, 刺激的烟尘。

Fire-Fighting method& media/灭火方法和媒介

The stuff must equip with filter mask (full mask) or isolated breathing apparatus. The stuff must wear the clothes which can defense the fire in the upwind direction. Remove the container to the open space as soon as possible .Spray water on the containers in the fireplace to keep them cool until finish extinguishment Media: hazy water, foam power, co₂, sandy clay.

消防人员必须带防毒面罩或独立的呼吸装置，必须穿防火衣，站在火的上风方向灭火，立刻将容器移到开阔地方，向容器喷洒大量的水冷却容器，灭火媒介：干粉、二氧化碳、消防沙。

SECTION 6 - ACCIDENTAL RELEASE MEASURES

第六部份- 泄露应急处理

Emergency treatment/紧急处理:

If the battery material is released, remove personnel from area until fumes dissipate. Provide maximum ventilation to clear out hazardous gases. The preferred response is to leave the area and allow the batteries to cool and vapors to dissipate. Provide maximum ventilation. Avoid skin and eye contact or inhalation of vapors. Remove spilled liquid with absorbent and incinerate waste.

如果电池材料释放，转移人员到安全的地方，使用抽风将有害气体排出，更好的处理是封闭该区域，让电池冷却并待气体散尽，避免眼睛和皮肤接触电池释放物质及吸入气体，用吸收材料将电解液吸走并焚化处理。

SECTION 7 - HANDLING AND STORAGE

第七部份 - 操作处置与储存

Handling/操作处理:

1. Do not allow battery terminates to contact each other, or contact with other metals.
不允许电池的电极之间相互接触，或和其它金属接触。
2. Pack batteries in separate plastic bags so that the single batteries are not mixed together.
用塑料袋分开包装电池，避免电池混装在一起。
3. Do not expose the battery to excessive physical shock or vibration.
不要使电池置于极端的振动或冲击的条件下。
- 4 Do not immerse, throw, and wet a battery in water.
不要将电池浸泡、抛弃在水中和淋湿电池。
- 5 Short-circuiting should be avoided. Short circuit will reduces the life of the battery and can lead to ignition of surrounding materials. Physical contact with to short- circuited battery can cause skin burn.
避免短路，短路会降低电池寿命和导致周围的材料着火，接触短路的电池可能烧伤皮肤。
6. The batteries should not be opened, destroyed or incinerate, since they may leak or rupture and release to the environment the ingredients that they contain in the hermetically sealed container.
不要拆开、损坏或焚烧电池，因为这样可能引起电池容器内的电池材料释放。
7. Place the cell beyond the child packing and container.
不要将电池/电芯放在小孩容易拿到的地方。
8. Never apply battery into airtight compartment or sealed container.
不要将电池放在一个密闭的容器内。
9. Be sure to use the specified charger for battery, and follow the charging instructions correctly.
确保使用规定的充电器和正确的充电指示对电池充电。
10. Do not mix old and new batteries together, neither with Ni-Cd, dry batteries or another manufacturer batteries or product.

不要将新、旧电池一起使用，也不要与其它类型的电池一起使用。

Storage/储存:

1. Batteries should be separated from other materials and stored in a noncombustible, well ventilated, sprinkler-protected structure with sufficient clearance between walls and battery stacks.
电池应和其它物质分开存放，有良好的排气，电池和墙壁有足够的距离以防止雨水淋湿。
2. Keep the sample in the cool, dry and well-ventilated place. Do not exposure to direct sunlight for long periods. Keep away from fire and heating sources. Don't keep the samples with oxidizer and acid.
电池应放在阴凉、干燥及通风的地方，不要长期爆晒，远离火源和热源，不要和氧化剂及酸放在一起。
3. Keep batteries in original package until use and do not jumble them.
将电池放在原装的包装中直到使用，不要混乱存放。
4. Equip with relevant types and quantities of the extinguishment instruments. The storage place should be equipped with suitable shelter materials for divulgence handling.

在存放位置装配足够的适用的灭火器，存放的地方应有合适的层架。

SECTION 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION

第八部份 - 接触控制和个人防护

Maximum admissible concentration/容许浓度:

No standard yet /没有相关标准

Monitoring Method/监测方法:

/

Engineering Control/工程控制:

Keep away from heat and open flame. Supply with sufficient partial air exhaust. Store in a cool, dry place.

远离热源和明火，提供有效的排气，储存在阴凉干燥的地方。

Respiratory Protection/呼吸保护:

Not necessary under conditions of normal use. Wear self-contained breathing filter mask if the density exceed in the air. Wear breathing apparatus under the condition of emergency rescue or evacuation.

在正常使用时不需要，电解液释放的气体在空气的密度超过一定范围后需要带防护面罩，在紧急处理时需要带呼吸仪器。

Eyes Protection/眼睛保护:

Not necessary under conditions of normal use. Wear protective glasses if handling a leaking or ruptured battery.

在正常使用时不需要，电池泄漏或破裂时，处理电池需要带防护眼镜。

Body Protection/身体防护:

Not necessary under conditions of normal use. Wear fireproofing, gas defense clothes in case of handling a leaking or ruptured battery.

在正常使用时不需要.电池泄漏或破裂时，处理电池需要穿防火衣裤。

Hands Protection/手保护:

Not necessary under conditions of normal use. Wear chemical resistant rubber.

在正常使用时不需要。电池泄漏或破裂时，处理电池需带耐腐蚀手套。

Other Protections/其它防护:

No smoking, dining and drinking water in the workplace. Keep good habit of hygiene.

在电池存放的地方、不要进餐、吸烟及饮水，保持好的卫生习惯。

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

第九部份 - 物理和化学性能

Appearance/外观: Physical shape and color as supplied/外形和颜色按制造商规定.
Odor/气味: Odorless /无气味
Flash Point/闪点: N/A/不适用
Boiling Point/沸点: N/A/不适用
Melting Point/熔点: N/A/不适用
Proportion/成份比例: N/A/不适用
Acid Value/酸度值: N/A/不适用
PH Value/PH 值: N/A/不适用
Density/密度: N/A/不适用.
Permission of solvent inhalation/可溶解的溶剂: No specific data/没有相关数据.
Ignition temperature/着火点: No specific data/没有相关数据.
Solubility/溶解性: Insoluble in water /不溶于水.

SECTION 10 - STABILITY AND REACTIVITY

第十部份-稳定性和反应性

Stable under normal temperature and pressure/普通条件和压力下是稳定的.

Stability/稳定性:

Distribution of Ban/禁止:

strong oxidizer, strong acid and corrosives .

强氧化剂、强酸和腐蚀性介质

Conditions to Avoid/避免条件:

Fire source, heating source, disassemble, short circuit, immerse in water or overcharge.

火源、热源、解体、短路、浸泡在水里或过充.

Hazardous Polymerization/聚合危害:

No specific data/没有专业数据.

Hazardous Decomposition Products/分解产品危害:

The battery may release irritative gas once the electrolyte leakage/电解液泄漏时可能释放刺激气体.

SECTION 11 - TOXICOLOGICAL INFORMATION

第十一部份 - 毒理学信息

Acute Toxicity/急性毒性: No information is available/没有相关信息.

Sub-acute and Chronic Toxicity/慢性毒性: No information is available/没有相关信息.

Irritation 刺激/: The liquid in the battery may irritate eyes and skin with any contact./ 电池中的液体可能刺激眼睛和皮肤.

Sensitization/过敏: The liquid in the battery may cause sensitization to some person/电池中的液体对某些人可能引起过敏.

Mutagenicity /诱变性: No information is available/没有相关信息.

Carcinogenicity/致癌性: No information is available/没有相关信息.

Others/其它: Since the materials in this battery are sealed in the can, the potential for exposure to the components of the battery is negligible, when the battery is used as directed. However technical or electrical abuse of the battery may result in the release of battery contents.

电池中的物质被密封,电池暴露部分的危险性是可以忽略的,当电池指定使用时,尽管技术或电气方面的误用可以产生电池液的释放。

SECTION 12 - ECOLOGICAL INFORMATION

第十二部份 - 生态学信息

Eco-toxicity/毒性: No information is available/没有相关信息.

Biodegradable/可生物降解: No information is available/没有相关信息.

Non-biodegradable/不可生物降解: No information is available/没有相关信息.

Bioconcentration or biological accumulation/生物累积: No information is available/没有相关信息.

Other harmful effects/其它伤害影响:

Don't abandon the battery into environment, may cause water or soil pollution.

不要乱扔废电池,可能引起水和土壤的污染。

SECTION 13 - DISPOSAL CONSIDERATIONS

第十三部份 - 废弃处理

Waste disposal methods/废弃处理方法:

Refer to National or Local regulations before handling. Disposal of the battery should be performed by permitted, professional disposal firms knowledgeable in National or Local regulations of hazardous waste treatment and hazardous waste transportation.

处理前请参照国家和地方法规,电池的处理应由有资格的公司按国家和地方法规处理及运输。

Attention abandoned/抛弃注意:

The battery should be completely discharged prior to disposal in order to prevent short circuit. The battery contains recyclable materials. It is suggested recycle.

为防止电池短路,电池在处理之前,应该被完全放电。电池含有可回收材料,建议回收。

SECTION 14 - TRANSPORT INFORMATION

第十四部份 - 运输信息

Number of dangerous goods/危险性类别:/

UN Number/UN 编号: 3480/3481

Packaging Mark/包装标识:/

Packaging Method/包装方法:/

Transport Attentions/运输注意事项:

According to PACKING INSTRUCTION 965 ~ 967 of IATA DGR 58th Edition for transportation, the special provision 188 of IMDG (inc Amdt36-12). The batteries should be securely packed and protected against

short-circuits. Examine whether the package of the containers are integrate and tighten closed before transport. Take in a cargo of them without falling, dropping, and breakage. Prevent collapse of cargo piles and wet by rain. The transport vehicle and ship must be cleaned and sterilized otherwise it is not allowed to assemble articles. During transport, the vehicle should prevent exposure, rain and high temperature. For stopovers, the vehicle should be away from fire and heat sources. When transported by sea, the assemble place should keep away from bedroom and kitchen, and isolated from the engine room, power and fire source. Under the condition of Road Transportation, the driver should drive in accordance with regulated route, don't stop over in the residential area and congested area.

按照 IATA DGA 58 版的包装指示 965-967 和 IMDG(inc Amdt 36-12)对于运输要求。电池应该牢固地包装且防止短路，运输之前检查包装容器是完整和封闭的。拿货物时不要跌落。预防货物堆压及被水淋湿。汽车和船运输电池后应进行清洁或消毒后转载其它货物，在运输途中，汽车应预防暴晒、淋雨和高温，对于运输中的分装应远离火源和热源，海运时，电池的装载处应远离厨房和卧室，有一个独立的远离火源和机房的房间，路运时，司机应按规定的路线行驶，不要在居民区和人群拥挤的地方停车。

SECTION 15 - REGULATORY INFORMATIO

第十五部份- 法规信息

Law Information/法规信息:

ISO 11014-2009: Safety data sheet for chemical products - Content and order of sections.

ISO 11014-2009: 化学品安全数据表 - 目录和部份顺序.

Regulation (EC) No 1272/2008: Classification, Labeling and Packaging of Substances and Mixtures.

No 1272/2008 规则 (EC) : 混合物质的分类, 标签 和包装.

International Air Transport Association (IATA) Dangerous Goods Regulations, 58th Edition.

国际航空运输协会(IATA) : 危险货物规则: 58 版.

The International Maritime Dangerous Goods (IMDG) Code (inc Amdt36-12).

国际海运危险货物规则(IMDG) Code (inc Amdt 36-12).

SECTION 16 - ADDITIONAL INFORMATION

第十六部份 - 其它信息

To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier, nor any its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the

information contained herein. Final determination of suitability of any material is the sole responsibility of the user.

All materials may present unknown hazards and should be used with caution. Although certain hazards are

described herein, we cannot guarantee that these are the only hazards that exist.

据我们掌握的信息，这里包含的信息是准确的。然而，无论是上述命名的供应商，还是任何其它的公司不承担任何责任，无论所载资料的准确性或完整性。用户是最后确定材料适宜性的唯一责任人。所有材料可能会出现未知的危险，应该谨慎使用。虽然对某些危害进行描述，我们不能保证这些是唯一存在的危险因素。