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SHIDA BATTERY TECHNOLOGY CO., LTD.

Material Safety Data Sheet

化学品安全说明书

二零一六年一月

Section 1 – Chemical Product and Company Identification**第一项 化学品与企业标示**

Product name Lithium-ion Polymer Battery 386888EP 11.1V 1800mAh 19.98Wh

产品名称 聚合物锂离子电池 386888EP 11.1V 1800mAh 19.98Wh

Manufacturer

制造商

Address

地址

Post code

邮编

TEL

电话

Emergency telephone

紧急电话

FAX

传真

Email

电子邮件

Section 2 – Composition/Information on Ingredient**第二项 成分/组分信息**

Chemical Name 化学名称	Chemical Formula or Abbreviation 化学式或缩写	CAS No. CAS 编号	Content (wt%) 含量 (wt%)
Lithium Cobalt Oxide 钴酸锂	LiCoO ₂	12190-79-3	30-50
Carbon / Graphite 碳/石墨	C	7782-42-5	15-25
Aluminum Foil 铝箔	Al	7429-90-5	3-10
Copper Foil 铜箔	Cu	7440-50-8	7-14
PVDF (Polyvinylidene Fluoride) PVDF (聚偏二氟乙烯)	(C ₂ H ₂ F ₂) _n	24937-79-9	3-8
Electrolyte 电解液	--	21324-40-3	10-20
Al Lamination Film 铝塑膜	--	7429-90-5	<8

Section 3 - Hazards Identification

第三项 危害性说明

Primary routes of entry

主要入侵路径

Skin contact	No
皮肤接触	无报道
Skin absorption	No
皮肤吸收	无报道
Eye contact	No
眼睛接触	无报道
Inhalation	No
吸入	无报道
Ingestion	No
食入	未报道

Signs and Symptoms of Exposure

接触引发的症状与体征

Skin Contact	No effect under routine handling and use
皮肤接触	常规操作和使用时无影响
Skin absorption	No effect under routine handling and use
皮肤渗入	常规操作和使用时无影响
Eye Contact	No effect under routine handling and use
眼睛接触	常规操作和使用时无影响
Inhalation	No effect under routine handling and use
吸入	常规操作和使用时无影响
Reported as carcinogen	Not applicable
作为致癌物报导	无报道

<Caution>

Risk of exposure occurs only if the battery is mechanically or electrically abused. May explode in a fire, which could release hydrogen fluoride gas and smoke. Use extinguishing media suitable for materials burning in fire.

<敬告>

当遭到机械损伤或者滥用，电池有泄漏的危险。投入火中会导致爆炸、氟化氢气体或烟雾的释放。物料燃烧时要使用适当的灭火介质灭火。

Section 4 - First Aid Measures

第四项 急救措施

Inhalation	Not a health hazard.
吸入	不危害健康
Eye contact	Not a health hazard.

眼睛接触	不危害健康
Skin contact	Not a health hazard.
皮肤接触	不危害健康
Ingestion	If swallowed, obtain medical attention immediately
食入	如果误食，立即医疗救助

<Caution>

IF EXPOSURE TO INTERNAL MATERIALS WITHIN CELL DUE TO DAMAGED OUTER AI CASING, THE FOLLOWING ACTIONS ARE RECOMMENDED ;

<敬告>

如果因铝塑膜外壳破裂导致电池内部物质外露，建议采取以下处理措施：

Inhalation

If inhaled, remove to fresh air. If not breathing give artificial respiration, preferably mouth-to-mouth and seek medical attention.

吸入

如果吸入，立即转移到新鲜空气处。如果没有呼吸，立即实施口对口的人工呼吸并寻求医疗救助。

Eye & Skin contact

In case of contact, immediately flush eyes or skin with copious amounts of water for at least 15 minutes while removing contaminated clothing and shoes; seek medical attention.

眼睛或皮肤接触

万一接触到眼睛或皮肤，立即用大量水冲洗眼睛或皮肤，并且在15min内除去被污染的衣物，寻求医疗救助。

Ingestion

Drink milk / water and induce vomiting; seek medical attention.

食入

喝大量牛奶或水直至呕吐，并寻求医疗救助。

Section 5 - Fire Fighting Measures

第五项 消防措施

General Hazard

Cell is not flammable but internal organic material will burn if the cell is incinerated. Combustion products include, but are not limited to hydrogen fluoride, carbon monoxide and carbon dioxide.

危险概述

电池不易燃烧，但是如果电池被焚烧会引燃其内部的有机物质。燃烧产物不仅包含有HF，还会包含CO和CO₂。

Extinguishing Media

Use extinguishing media suitable for the materials that are burning.

灭火介质

使用与燃烧的物料相应的灭火介质灭火。

Special Firefighting**特殊灭火****Instructions**

If possible, remove cell(s) from fire fighting area. If heated above 130°C, Cell(s) may explode/swell or leak.

操作指南

如果可能，将电池移出燃烧区域。电池如果被加热到130°C以上，有可能会发生爆炸、鼓胀或漏液。

Firefighting Equipment

Use NISH/MSHA approved full-face self-contained breathing apparatus(SCBA) with full protective gear.

灭火设备

使用NISH/MSHA认证的全面部配套呼吸装置（SCBA）以及全身防护服。

Section 6 - Accidental Release Measures**第六项 泄露应急处理****Procedures of Personal Precautions**

Put on adequate protective equipment. Do not breathing vapour.

个人应急处理方法

装配全套的防护设备。避免呼吸进烟雾。

Environmental precautions

Keep away from drains, surface-water, ground-water and soil.

环保措施

远离雨水、地表水、地下水和土壤。

Methods for Cleaning Up

Collect as much as possible in a clean container for disposal. Disposal according to local regulations.

消除方法

使用洁净的容器尽可能多地收集泄漏物。按照当地的法令法规进行处理。

On Land

Place material into suitable containers and call local fire/police department..

位于陆地上

将物料至于适当的容器内储存或运输，并且告知当地的消防部门和警方。

In Water

If possible, remove from water and call local fire/police department.

在水里

如果可能，从水中移出，并且通知当地的消防部门和警方。

Section 7 - Handling and Storage

第七项 操作处置与储存

Handling

No special protective clothing required for handling individual cells.

操作处置

不需要特殊的防护服来处理单组电池

Storage

Store away from sources of heat or ignition. Over high temperature will make the cell inflate, melt the separator, causing short circuit.

Storage area should be cool, dry, well ventilated, out of direct sunlight, away from metal or sharp edge, such as keys, pins, or wires.

储存

远离热源和火源。过高的温度会导致电池鼓胀，隔膜融化进而引发短路。

Section 8 - Exposure Controls /Personal Protection

第八项 接触控制/个体防护

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.

呼吸防护

通风时，要尽量改善通风条件。避免在狭小的区域内为电芯通风。正常使用时不需要特殊的呼吸设备。

Eye/face protection

Not necessary under conditions of normal use.

眼睛和面部防护

正常使用时，无需特别防护。

Foot protection

Not necessary under conditions of normal use.

食入防护

正常使用时，无需特别防护。

Gloves

Not necessary under conditions of normal use.

手套

正常使用时，无需手套

Section 9 - Physical and Chemical Properties

第九项 理化性质

Nominal Voltage: 11.1V

标定电压: 11.1V

Rated Capacity: 1800mAh

额定容量: 1800mAh

Watt hour(Electric energy): 19.98Wh

电能: 19.98Wh

Appearance Silvery-white, solid battery.

外观与性状 银白色固体电池。

Odor Odorless

气味 无嗅

Vapor Pressure(mmHg) N/A

蒸汽压 无意义

Vapor Density(air=1) N/A

蒸气密度 无意义

Boiling Point N/A

沸点 无意义

Solubility in water Insoluble

水溶性 不溶于水

Specific Gravity N/A

比重 无意义

Density N/A

密度 无意义

Section 10 - Stability and Reactivity

第十项 稳定性与反应活性

Reactivity

None during normal operating or handling conditions.

反应活性

正常操作时，没有反应活性。

Hazardous decomposition

None during normal operating conditions. If Cells are leaked, hydrogen fluoride, carbon monoxide and carbon dioxide may be released.

有害的分解

正常操作下，不会发生分解。但如果电池泄漏，氟化氢，一氧化碳和二氧化碳可能会释放出来。

Incompatibilities

None during normal operation. Avoid exposure to heat, open flame and corrosives

使用禁忌

正常操作下没有特殊禁忌。避免靠近热源、明火以及强腐蚀性物质。

Conditions to avoid

Don't short terminals and immerse in water or pour.

Don't heat or throw in fire and solder.

Don't attempt to crush or drop.

Don't put it in microwave oven, oven or pressure container.

避免的事项

不可短路或投入水中。

不可加热、投入火中以及高温焊接。

不可试图冲击或者跌落。

不可放进微波炉、烤箱或者压力容器中。

Section 11 - Toxicological Information

第十一项 毒理学资料

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

此产品在正常操作和使用时不会产生毒性物质。

Sensitization No

致敏性 无资料

Teratogenicity No

致畸性 无资料

Reproductive toxicity No

生殖危害性 无资料

Acute toxicity No

急性毒性 无资料

If the cells are leaked through misuse or damage, discard immediately.

如果电池因使用不当或遭到破坏而破损，立即停止使用。

Internal components of cell are irritants and sensitizer.

电池内部物质具有刺激性和致敏性。

Section 12 - Ecological Information

第十二项 生态学资料

When promptly used or disposed the battery does not present environmental hazard.

When disposed , keep away from water, rain and snow.

正确的使用或报废电池，不会对环境造成危害。报废时，电池要远离水源和雨雪。

Section 13 - Disposal Considerations

第十三项 报废相关事项

Methods of disposal

Lithium-ion Polymer battery contains no toxic metals, only naturally occurring trace elements. It is advisable to consult with local authorities as disposal regulations may vary dependent on location.

报废方法

锂离子聚合物电池中不含有毒金属元素。由于各地的关于报废的法规各有不同，所以处理前妥当的做法是与当地主管部门进行磋商，得到合理的处理方案。

Dangers

Incinerating and disposing of the cell in fire are strictly prohibited, because it may cause rupture.

Fully charged battery or only partially discharged batteries may cause fire or explosion when disposed improperly. Fully discharged the battery before disposal.

危险做法

严禁焚烧电池，这种做法会导致电池破裂。满电态或半电态电池，如果处理不当将可能起火或爆炸。完全放完电后再报废电池。

Section 14 - Transport Information

第十四项 运输信息

UN number: UN3481

The Lithium-ion Polymer Battery(386888EP 11.1V 1800mAh 19.98Wh):

according to Packing instruction 965 section II of IATA DGR 56th Edition for transportation, or the special provision 188 of IMDG, or the 《Recommendations on the Transport of Dangerous Goods Modle Regulations》.

(1) The goods are packaged according to the Package instruction 965- II of DGR, Be applicable to transport ba air ,Be shipped by Passenger and Cargo Aircraft. Each package containing more than four cells or more than two batteries installed in equipment must be labled "Lithium battery handling lable"

(2) The goods are packaged according to the special provision 188 of IMDG,the goods are not subject to IMDG By Sea

Note: Batteries weight in the package<5Kg(excluding weight of equipment).

More information concerning shipping, testing, marking and packing can be obtained from Lable master at <http://www.labelmaster.com>

Separate Lihium-ion batteries when shipping to prevent short-circuiting. They should be packed in strong packaging for support during transport. Take in a cargo of them without falling, dropping, and breakage. Prevent collapse of cargo piles and wet by rain

Transport Fashion:By air, by sea, by railway, by road

UN编号: UN3481

这款锂聚合物电池（386888EP 11.1V 1800mAh 19.98Wh）：

根据包装说明965 II of IATA DGR 56th版,及特别规定188 《国际海运危险货物运输规则》

(1) 空运，满足965-II要求，适用于空运，客机货机均可运输。

仪器内电池数量超过4个电池或2个电池组，须贴有“锂电池操作标签”。

(2) 海运，满足IMDG特殊规定188，可按非限制性货物条件办理。

备注：每个小包装件内含电池重量小于5Kg。更多关于航运、测试、标记和包装的信息可以从<http://www.labelmaster.com>网站获得

单独的锂聚合物电池海运，需要防止电池短路，电池需要装在坚固的包装箱中运输，货物不能有倒下、跌落、损坏等，防止堆放的货物倒塌或雨淋！

运输方式：空运、海运、铁路、公路

Section 15 - Regulatory Information**第十五项 法规信息****Law Information**

《Dangerous Goods Regulation》

《Recommendations on the Transport of Dangerous Goods Model Regulations》

《International Maritime Dangerous Goods》

《Technical Instructions for the Safe Transport of Dangerous Goods》

《Classification and code of dangerous goods》

《Occupational Safety and Health Act》(OSHA)

《Toxic Substances Control Act》(TSCA)

《Consumer Product Safety Act》(CPSA)

《Federal Environmental Pollution Control Act》(FEPCA)

《The Oil Pollution Act》(OPA)

《Superfund Amendments and Reauthorization Act TittleIII(302/311/312/313)》(SARA)

《Resource Conservation and Recovery Act》(RCRA)

《Safety Drinking Water Act》(CWA)

《California Proposition 65》

《Code of Federal Regulations》(CFR)

In accordance with all Federal ,State and Local lawa

法律信息

《危险品管理规章》
《危险品货物运输规章范本》
《国际海上危险货物运输规则》
《危险物品航空安全运送技术指南》
《危险货物分类和品名编号》
《职业安全与卫生条例的危害》
《毒性物质控制法》
《消费品安全法》
《联邦环境污染控制法》
《石油污染法》
《附加基金修正复审法III(302/311/312/313)》
《资源保护和回收法》
《安全饮水法》
《加州提案65》
《美国联邦法规》

可参照联合国，国家，地方性法规

Section 16 - Additional Information

第十六项 其他信息

The above information is based on the data of which we are aware and is believed to be correct as of the data hereof. Since this information may be applied under conditions beyond our control and with which may be unfamiliar and since data made available subsequent to the data hereof may suggest modifications of the information, we do not assume any responsibility for the results of its use. This information is furnished upon condition that the person receiving it shall make his own determination of the suitability of the material for his particular purpose.

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