

MATERIAL SAFETY DATA SHEET

化学品安全技术说明书

1. Chemical Product and company Identification

第一部分 化学品及企业标识

Product Name: Ni-MH Battery

产品名称: 镍氢蓄电池

Sample Model/Ratings : MH-AAA650mAh-3S2P

样品型号/额定参数: MH-AAA650mAh-3S2P

Manufacturer: ZHUHAI GREAT POWER ENERGY CO.,LTD.

生产企业名称: 珠海鹏辉能源有限公司

Address: NO.2 XINQING FIFTH ROAD,JING'AN TOWN,DOUMEN DISTRICT,ZHUHAI CITY, GUANGDONG PROVINCE,P.R.C.

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2. Hazards identification

第二部分 危害识别

Hazards Identification: 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危害的。

Primary Route (s) of Exposure: 接触途径

inhalation, ingestion, Skin contact and Eye contact.

吸入、食入、皮肤接触、眼睛接触。

Potential Health Effects: 潜在健康影响

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嘴, 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.

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眼睛：眼睛接触到电池的內部化学材料可能会导致严重的刺激或烧伤眼睛。

3. Composition/information on ingredients

第三部分 成分/组成信息

成份 Ingredient		Concentration	CAS NO.
氢氧化镍	Nickel Hydroxide	29.1%	12054-48-7
氧化钴	Cobalt Oxide	2.1%	1307-96-6
镍	Nickel	37.0%	7440-02-0
锰	Manganese	0.8%	7439-96-5
镧	Lanthanum	3.1%	7439-91-0
铈	Cerium	0.4%	7440-45-1
钕	Neodymium	0.6%	7440-00-8
铝	Aluminium (metal)	0.7%	7429-90-5
氢氧化钾	Potassium Hydroxide	0.7%	1310-58-3
氢氧化锂	Lithium Hydroxide	0.1%	1310-65-2
泡沫镍	Foamed Nickel	11.6%	7440-02-0
聚丙烯	Polypropylene	7.1%	9003-07-0
钢	Steel	6.7%	7439-89-6

4. First aid measures

第四部分 急救措施

After skin contact:

In case of skin contact with contents of battery, flush immediately with water. If irritation persists, get medical help.

皮肤接触后：万一皮肤接触到电池，请立即用水冲洗。如果刺激持续存在，请寻求医疗帮助。

After eye contact:

For eye contact, flush with copious amounts of water for 15 minutes. Do not inhale leaked material. If irritation persists, get medical help.

眼睛接触后：对于眼睛接触，请用大量清水冲洗15分钟。不要吸入泄漏的物质。如果刺激持续存在，请寻求医疗帮助。

Inhalation:

If potential for exposure to fumes or dusts occurs, remove immediately to fresh air and seek medical attention.

吸入：如果可能会冒烟或扬尘，请立即移至新鲜空气处并寻求医疗救护。

Ingestion:

Please rinse mouth thoroughly with water, induce vomiting under the guidance of

professional personage. Please seek medical treatment in time.

食入：立即用清水漱口，在专业人士的指导下催吐，速就医。

5. Fire-fighting measures

第五部分 消防措施

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

危险特性：火灾时可释放有害浓烟、气体或者蒸汽。

Hazardous Combustion Products: Carbon monoxide, carbon dioxide, lithium oxide fumes and so on.

燃烧产生的危险物品：一氧化碳，二氧化碳，锂氧化物烟气等。

Fire-extinguishing Methods and Extinguishing Media: Please use water, dry sand and other proper fire extinguishing media.

灭火方法及灭火剂：请使用水，干沙等合适的灭火介质。

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

灭火注意事项：消防人员须佩戴防毒面具、穿全身消防服。

6. Accidental release measures

第六部分 泄漏应急处理

The preferred response is to leave the area and allow the batteries to cool and the vapors to dissipate. Avoid skin and eye contact or inhalation of vapors. Remove spilled liquid with absorbent and incinerate. 首选的响应方法是离开该区域并让电池冷却，并散发蒸汽。避免皮肤和眼睛接触或吸入蒸气。用吸收剂清除溢出的液体并焚化。

7. Handling and storage

第七部分 操作处置与存储

Storage: Store in a cool, well ventilated area. Elevated temperatures can result in shortened battery life.

储存：存放在阴凉，通风良好的地方。温度升高会导致电池寿命缩短。

Mechanical Containment: Never seal or encapsulate nickel and metal hydride batteries.

机械密封：切勿密封或封装镍氢电池和金属氢化物电池。

Do not obstruct safety release vents on batteries. Encapsulation (potting) of batteries will not allow cell venting and can cause high pressure rupture.

请勿阻塞电池上的安全释放孔。电池的封装（灌封）将不允许电池排空，并可能导致高压破裂。

Handling: Accidental short circuit for a few seconds will not seriously affect the battery. However, this battery is capable of delivering very high short circuit currents. Prolonged short circuits will cause high cell temperatures which can cause skin burns. Sources of short circuits include jumbled batteries in bulk containers, metal jewelry, and metal covered tables or metal belts used for assembly of batteries into devices.

处理：意外短路几秒钟不会严重影响电池。但是，这种电池能够提供很高的短路电流。长时间的短路会导致电池温度升高，从而导致皮肤灼伤。短路的来源包括散装容器中混乱的电池，金属首饰，金属覆盖的桌子或用于将电池组装到设备中的金属皮带。

If soldering or welding to the battery is required, use of tabbed batteries is recommended. If this cannot be done, consult your ZHUHAI GREAT POWER ENERGY CO.,LTD. representative for proper precautions to prevent seal damage or short circuit.



如果需要对电池进行焊接或焊接，建议使用带标签的电池。 如果无法做到这一点，请咨询您的珠海鹏辉能源有限公司。 代表采取适当的预防措施以防止密封件损坏或短路。

Do not open battery. The negative electrode material may be pyrophoric. Should an individual cell from a battery become disassembled, spontaneous combustion of the negative electrode is possible. This is much more likely to happen if the electrode is removed from its metal container. Here can be a delay between exposure to air and spontaneous combustion.

请勿打开电池。 负电极材料可以是发火的。 如果要拆卸电池中的单个电池，则负极可能会自燃。 如果将电极从其金属容器中取出，则更有可能发生这种情况。 在暴露于空气和自燃之间可能会有延迟。

Charging: This battery is made to be charged many times. Because it gradually loses its charge over a few months, it is good practice to charge battery before use. Use recommended charger. Improper charging can cause heat damage or even high pressure rupture. Observe proper charging polarity.
充电：该电池已被充电多次。 由于它会在几个月内逐渐失去电荷，因此最好在使用前给电池充电。 使用推荐的充电器。 充电不当会导致热损坏，甚至高压破裂。 注意正确的充电极性。

Labeling: If the Great Power label or package warnings are not visible, it is important to provide a package and/or device label stating:

WARNING: CHARGE ONLY WITH SPECIFIED CHARGERS ACCORDING TO DEVICE MANUFACTURER'S INSTRUCTIONS. DO NOT OPEN BATTERY, DISPOSE OF IN FIRE OR SHORT CIRCUIT - MAY IGNITE, EXPLODE, LEAK OR GET HOT CAUSING PERSONAL INJURY.

Where accidental ingestion of small batteries is possible, the label should state:

WARNING: (1) KEEP AWAY FROM SMALL CHILDREN. IF SWALLOWED, PROMPTLY SEE DOCTOR; (2) CHARGE ONLY WITH SPECIFIED CHARGERS ACCORDING TO DEVICE MANUFACTURER'S INSTRUCTIONS. DO NOT OPEN BATTERY, DISPOSE OF IN FIRE OR SHORT CIRCUIT - MAY IGNITE, EXPLODE, LEAK OR GET HOT CAUSING PERSONAL INJURY.

标签：如果看不到“大功率”标签或包装警告，则提供包装和/或设备标签说明以下几点很重要：
警告：仅根据设备制造商的说明使用指定的充电器进行充电。 请勿打开电池，将其置于火中或短路或将其置于火中或短路-可能引起起火，爆炸，渗漏或引起人身伤害。

如果可能误吞小电池，标签上应注明：

警告：（1）远离小孩子。 如果误吞，请立即看医生； （2）仅根据设备制造商的说明使用指定的充电器进行充电。 请勿打开电池，将其置于火中或短路或将其置于火中或短路-可能引起起火，爆炸，渗漏或引起人身伤害。

Disposal: Dispose in accordance with all applicable federal, state, and local regulations.

处置：根据所有适用的联邦，州和地方法规进行处置。

8. Exposure controls/personal protection

第八部分 接触控制/个体防护

Specific control parameter:

具体控制参数：

Personal protective equipment :

个人防护设备：

Respiratory protection (Specify Type): Not necessary under conditions of normal use.

呼吸系统防护（指定类型）：在正常使用条件下不需要。

Ventilation:Not necessary under conditions of normal use.

通风：在正常使用条件下不需要。

Protective Gloves:Not necessary under conditions of normal use. Use neoprene or natural rubber gloves if handling an open or leaking battery.

防护手套：在正常使用条件下不需要。如果处理打开或泄漏的电池，请使用氯丁橡胶或天然橡胶手套。

Eye protection:Not necessary under conditions of normal use. Wear safety glasses with side shields if handling an open or leaking battery.

眼睛防护：在正常使用条件下不需要。如果处理打开或泄漏的电池，请戴上带侧罩的安全眼镜。

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

其他防护（服装或设备）：在正常使用条件下不需要。

Open Battery Storage:Battery should not be opened. Should a cell become disassembled, the electrode should be stored in a fireproof cabinet, away from combustibles.

打开电池存储空间：请勿打开电池。如果要拆卸电池，则应将电极存放在远离可燃物的防火柜中。

9. Physical and chemical properties

第九部分 理化特性

Physical State 物理状态	Form: cylindrical 形状：圆柱形
	Odour: Odourless 气味：无
	Odor Threshold: No information available 气味阈值：无可利用信息
Change in condition 条件变化：	
pH, with indication of the concentration pH 值，指示浓度	Not determined. 未确定
Melting point/freezing point 熔点/冰点	Not determined. 未确定
Initial boiling point and Boiling range: 初始沸点和沸腾范围：	Not determined. 未确定
Flash Point 闪点	Not determined. 未确定
Flammability (solid, gas) 可燃性（固体、气体）	Not determined. 未确定
Upper/lower flammability or explosive limits 可燃性或爆炸性上限/下限	Not determined. 未确定
Auto-ignition temperature 自燃温度	Product is not self-igniting. 产品非自燃物质。
Decomposition temperature 分解温度	Not determined. 未确定

Other Information

其他信息

No further relevant information available.

没有进一步的相关信息.

10. Stability and reactivity**第十部分 稳定性和反应活性**

Stability: Stable

稳定性: 稳定

Conditions to Avoid: Do not heat or disassemble.

应避免的条件: 请勿加热或拆卸。

Hazardous Decomposition or By-products: N/A

危险的分解或副产物: N / A

Hazardous polymerization will not occur.

不会发生危险的聚合反应。

11. Toxicological information**第十一部分 毒理学资料**

Under normal conditions of use, the battery is hermetically sealed.

在正常使用条件下, 电池是密封的。

Ingestion:Swallowing a battery can be harmful.

Contents of an open battery can cause serious chemical burns of mouth, esophagus, and gastrointestinal tract.

食入: 吞下电池可能有害。

敞开的电池中的物品会引起口腔, 食道和胃肠道的严重化学灼伤。

Inhalation:Contents of an open battery can cause respiratory irritation. Hypersensitivity to nickel can cause allergic pulmonary asthma.

吸入: 打开电池的内含物可能引起呼吸道刺激。对镍过敏会引起过敏性哮喘。

Skin Contact: Contents of an open battery can cause skin irritation and/or chemical burns. Nickel, nickel compounds, cobalt, and cobalt compounds can cause skin sensitization and an allergic contact dermatitis.

皮肤接触: 敞开的电池中的物品可能引起皮肤刺激和/或化学灼伤。镍, 镍化合物, 钴和钴化合物可引起皮肤过敏和过敏性接触性皮炎。

Eye Contact:Contents of an open battery can cause severe irritation and chemical burns.

眼睛接触: 敞开的电池内的物品可能会引起严重的刺激和化学灼伤。

Endocrine disrupting properties:None of the ingredients is listed

内分泌干扰特性:不适用

Note: Nickel, nickel compounds, cobalt, and cobalt compounds are listed as possible carcinogens by International Agency for Research on Cancer (IARC) or National Toxicology Program (NTP).

注意: 国际癌症研究机构 (IARC) 或国家毒理学计划 (NTP) 将镍, 镍化合物, 钴和钴化合物列为可能的致癌物。

12. Ecological information**第十二部分 生态学资料**

Ecotoxic effects: N/A

生态毒性: N / A

Further ecological data: N/A

进一步生态数据: N / A

13. Disposal considerations

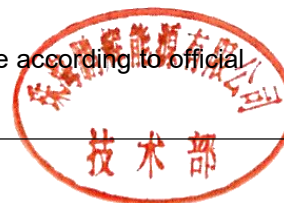
第十三部分 废弃处置

废弃处置方法 Disposal methods

建议 Recommendation:请参考国家和地方的相关法规正确进行处理 Consult state,local or national regulations to ensure proper disposal.

受污染的容器和包装 Uncleaned packaging

建议 Recommendation:必须根据官方的规章来丢弃 Disposal must be made according to official regulations.



14. Transport information

第十四部分 运输信息

运输标签: 不适用

Label for conveyance: Not Applicable.

UN 编号: UN3496

UN Number: UN3496

海洋污染物: 无

Marine pollutant: No

本报告所述样品包装中需具有适当的防短路和意外启动的措施。

The samples are properly protected so as to prevent short circuits and accidental activation in the package.

根据国际航空运输协会《危险品运输规则》第 67 版特殊规定 A199 条款,本报告所述样品可按照普通货物运输,在空运单中的货物描述中必须包含非受限制和特殊规定编号。根据国际海运危险货物运输规则 2024 版特殊规定 963 条款,安装或包含在设备中的镍氢纽扣电池会镍氢蓄电池或蓄电池,以及单个货物运输组件中的电池总重量不超过 100kg,不适用于该规则中的任何其他规定。

According to the IATA Dangerous Goods Regulations 67th Edition special provisions A199, the sample list in this report can be transport as normal goods, the words "Not Restricted" and the Special Provision number must be included in the description of the substance on the AirWaybill. According to IMDG CODE (Amdt. 42-24) Edition special provisions 963, the Ni-MH button cell Ni-MH cells or batteries install in(or packed with) equipments, and the battery in the carriage of goods by a single component does not exceed the total weight of 100 kg, does not apply to any other provisions of this rule of IMDG

15. Regulatory information

第十五部分 法规信息

The transportation of dry cell batteries manufactured or sold by Zhuhai Great Power Energy Co.,Ltd. is not regulated by the China Department of Transportation or the major international regulatory bodies. 珠海鹏辉能源有限公司生产或销售的干电池运输 不受中国交通运输部或主要国际监管机构的监管。

16. Other information

第十六部分 其他信息

ZHUHAI GREAT POWER ENERGY CO.,LTD.

珠海鹏辉能源有限公司

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Make people: 填写人	Professional post: Product Certification Engineer 职位: 产品认证工程师	Name(sign): molichun 姓名: 莫利纯
Make unit: 部门:	Name: R&D Department 研发部	Phone: 0086-756-6333555

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