No.: GJW2019-0763

材料安全数据表
Material Safety Data Sheet

样 品 名 称:	碳性锌锰电池
Name of Sample:	**Carbon Zinc-Manganese Dioxide Battery**
委 托 单 位:	广东力王新能源股份有限公司
Commissioner:	**Guangdong Liwang New Energy Co., Ltd.**

威凯检测技术有限公司

Vkan Certification & Testing Co., Ltd.

材料安全数据表

Material Safety Data Sheet

1. 化学品及企业标识 Chemical product and company identification	
样品名称 Name of Sample	碳性锌锰电池 Carbon Zinc-Manganese Dioxide Battery
样品型号 Type/Mode	R03 1.5V
商标 Trade Mark	-
委托单位 Commissioned by	广东力王新能源股份有限公司 Guangdong Liwang New Energy Co., Ltd.
委托单位地址 Commissioner address	东莞市塘厦镇石马管理区力王工业园 Shima Village, Tangxia Town, Dongguan City, Guangdong Province, China
生产单位 Manufacturer	广东力王新能源股份有限公司 Guangdong Liwang New Energy Co., Ltd.
生产单位地址 Manufacturer address	东莞市塘厦镇石马管理区力王工业园 Shima Village, Tangxia Town, Dongguan City, Guangdong Province, China
鉴定依据 Inspection according to	联合国《关于危险品货物运输的建议书》21 版 UN “Recommendations on the TRANSPORT OF DANGEROUS GOODS” ST/SG/AC.10/1/Rev.21 国际航空运输协会《危险品运输规则》第 61 版 IATA Dangerous Goods Regulations 61st Edition 国际海运危险货物运输规则 2018 版 IMDG CODE（Amdt.39-18）2018 Edition
应急电话 Emergency telephone call	+86-0769-86201111-8062
-	接样日期：2019-12-26 Receiving date: 签发日期：2019.12.31 Date of issue:

Approved by: 批准: Reviewed by: 审核: Tested by: 主检:

2. 成分/组成信息
Composition information

化学成分 Chemical Composition	化学式 Chemical Formula	CAS 号 CAS No.	重量百分比 Weight (%)
二氧化锰 Manganese Dioxide	MnO_2	1313-13-9	37%
锌 Zinc Metal	Zn	7440-66-6	33%
碳黑 Carbon Black	C	1333-86-4	10%
水 Water	H_2O	7732-18-5	14.2%
氯化铵 Ammonium Chlorde	NH_4Cl	12125-02-9	0.6%
纸 Paper	（$C_6H_{10}O_5$）n	65996-61-4	0.5%
铁 Iron	Fe	7439-89-6	2%
聚丙烯 Polypropylene	$(C_3H_6)n$	9003-07-0	1.5%
氯化锌 Zinc Chloride	$ZnCl_2$	7646-85-7	1.2%

3. 危险性概述
Hazards identification

本报告所述样品碳性锌锰电池是原电池。

The sample Carbon Zinc-Manganese Dioxide Battery listed in this report is primary batteries.

根据联合国《关于危险品货物运输的建议书》21 版，国际航空运输协会《危险品规则》第 61 版，《国际海运危险货物规则 》2018 版的相关规定，该样品不属于危险货物。

According to the relevant provision of UN “Recommendations on the TRANSPORT OF DANGEROUS GOODS” ST/SG/AC.10/1/Rev.21, IATA Dangerous Goods Regulations 61st Edition and IMDG CODE（Amdt.39-18）2018 Edition, the samples doesn’t belong to Dangerous Goods.

4. 急救措施
First aid measures

眼睛：万一接触，立即用大量的清水冲洗至少 15 分钟，翻起上下眼睑，直到化学的残留物消失为止，迅速就医。

Eye: Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and

lower eyelids. Get medical aid.
皮肤：万一接触，用大量水冲洗至少 15 分钟，同时除去污染的衣物和鞋子，迅速就医。
Skin: Remove contaminated clothes and rinse skin with plenty of water or shower for 15 minutes. Get medical aid.
食入：饮用两杯牛奶或水。如果当事人仍然清晰可以采取催吐的方法，并且立即就医。
Ingestion: Give at least 2 glasses of milk or water. Induce vomiting unless patient is unconscious. Call a physician

5. 消防措施
Fire-fighting measures

燃点：不适用
Flash Point: N/A.
自燃温度：不适用
Auto-Ignition Temperature: N/A.
灭火介质：大量水（降温），二氧化碳
Extinguishing Media: Water, CO_2.
特殊灭火程序：自给式呼吸器
Special Fire-Fighting Procedures：Self-contained breathing apparatus.
异常火灾或爆炸：当电芯暴露于过热的环境中时， 电池可能会破裂。
Unusual Fire and Explosion Hazards
Cell may vent when subjected to excessive heat-exposing battery contents.
燃烧产生的危险物品：金属氧化物烟气
Hazardous Combustion Products：Metal oxide fumes.

6. 泄露应急处理
Accidental release measures

为防止电池材料泄露或释放采取的措施
如果电池内部材料泄露，试验人员应立刻撤离试验区直到烟气消散。将通风设备打开吹散危险性气体。用抹布擦净试验区，清除溢出的液体，将泄露电池放进塑料袋中，然后放进钢制容器。避免皮肤和眼睛接触或吸入有害烟雾。
Steps to be taken in case of Material is Released or Spilled
If the battery material is released, remove personnel from area until fumes dissipate. Provide maximum ventilation to clear out hazardous fumes. Wipe it up with a cloth, and dispose of it in a plastic bag and put into a steel can. The preferred response is to leave the area and allow the battery to cool and vapors to dissipate. Provide maximum ventilation. Avoid skin and eye contact or inhalation of fumes. Remove spilled liquid with absorbent and incinerate.
废弃物处置方法
建议将电池完全放电后，交给专业部门处理。
Waste Disposal Method
It is recommended to discharge the battery to the end and pass to professional department for treatment.

7. 操作处置和储存
Handling and storage

禁止打开、毁坏或焚烧电池，因为电池有可能在这些处理过程中发生爆炸、破裂或泄露等事故。禁止将电池短路、充电、强制放电或扔入火中。禁止挤压刺穿电池或将电池浸入溶液中。

The battery 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. Do not short circuit terminals, or charge the battery, forced over-discharge, throw to fire. Do not crush or puncture the battery, or immerse in liquids.

操作处置和储存中的防范措施

禁止物理或电滥用，禁止高温储存，最好将电池储存在阴凉、干燥、通风及温度变化较小的环境中。禁止将电池接触加热设备或将电池直接暴露与阳光中。

Precautions to be taken in handling and storing

Avoid mechanical or electrical abuse. Storage preferably in cool, dry and ventilated area, where is subject to little temperature change. Storage at high temperatures should be avoided. Do not place the battery near heating equipment, nor expose to direct sunlight for long periods.

其他要注意的防范措施

拆解、挤压、直接放入火中或高温条件下，电池可能发生爆炸和燃烧。禁止短接或将电池极性反接。

Other Precautions

The battery may explode or cause burns, if disassembled, crushed or exposed to fire or high temperatures. Do not short or install with incorrect polarity.

8. 接触控制/个人防护
Exposure controls/personal protection

呼吸防护：

正常操作条件下不需要做呼吸保护。

Respiratory Protection

Respiratory Protection is not necessary under conditions of normal use.

通风条件

正常使用条件下不需要。

Ventilation

Not necessary under conditions of normal use.

防护手套

正常使用条件下不需要。

Protective Gloves

Not necessary under conditions of normal use.

其他防护服装或设备

正常使用条件下不需要。

Other Protective Clothing or Equipment

Not necessary under conditions of normal use.

电池开阀试验时应做好个人防护

需要准备呼吸防护，防护手套，防护服装和有护边的安全玻璃罩。

Personal Protection is recommended for venting battery

Respiratory Protection, Protective Gloves, Protective Clothing and safety glass with side shields.

9. 物理和化学特性
Physical and chemical properties

外形：圆柱形
Appearance: Cylindrical
气味： 无。
Odour: None.
酸碱度：正常使用条件下不适用。
pH: Not applicable under conditions of normal use.
闪点：无。
Flash Point: NA.
易燃度：无。
Flammability: NA.
溶解性（水溶性）：正常使用条件下不溶于水。
Solubility (water): Insoluble in water under conditions of normal use.
溶解性（其他）：针对单个组分暴露情况，其他不适用。
Solubility (other): Not applicable unless individual components exposed.

10. 稳定性和反应活性
Stability and reactivity

稳定性：产品在第 7 节所述的条件下稳定。
Stability: Product is stable under conditions described in Section 7.
应避免的条件：加热 70°C 以上或焚烧、变形、毁坏、粉碎、拆卸、充电、短路，长时间暴露在潮湿的条件下。
Conditions to Avoid : Heat above 70°C or incinerate. Deform. Mutilate. Crush. Disassemble. Charge. Short circuit. Expose over a long period to humid conditions.
应避免的材料：氧化剂，酸，碱，水。
Materials to avoid: Oxidizing agents, acid, alkalis, water.
危险分解物：有毒烟雾，并可能形成过氧化物。
Hazardous Decomposition Products: Toxic Fumes, and may form peroxides.
聚合危害：不适用。
Hazardous Polymerization: N/A.
如果发生泄露，避免与强氧化剂，无机酸，强碱，卤代烃接触。
If leaked, forbidden to contact with strong oxidizers, mineral acids, strong alkalis, halogenated hydrocarbons.

11. 毒理学资料
Toxicological information

标志及症状：无，除非电池破裂。
Signs & symptoms: None, unless battery ruptures.
内部物质暴露的情况下，电解液对眼睛和皮肤有刺激性并产生化学灼伤。
In the event of exposure to internal contents, electrolyte will cause chemical burn and irritating to the eyes and skin.
吸入：无。
Inhalation: NA.
皮肤接触：对皮肤刺激性。
Skin contact: Skin irritant.
眼睛接触：对眼睛有刺激性。

Eye contact: Eye irritant

食入：吞下中毒。

Ingestion: Poisoning if swallowed..

下列情况下会危险人员身体健康：如果与电池内部材料直接接触，皮肤可能会出现干燥、灼烧等轻微或严重的刺激，并且损坏靶器官的神经，肝脏和肾脏。

Medical conditions generally aggravated by exposure: In the event of exposure to internal contents, moderate to server irritation, burning and dryness of the skin may occur, Target organs nerves, liver and kidneys.

12. 生态学资料
Ecological information

对哺乳动物的影响：目前未知。

Mammalian effects: None known at present.

生态毒性：目前未知。

Eco-toxicity: None known at present.

生物体内积累：缓慢生物降解。

Bioaccumulation potential: Slowly Bio-degradable.

环境危害：目前没有已知的环境危害。

Environmental fate: None known environmental hazards at present.

13. 废弃处置
Disposal consideration

禁止焚烧，或使电池温度超过 70°C，这种滥用可导致泄漏和/或电池爆炸。应按照相应的地方性法规处理。

Do not incinerate, or subject cells to temperature in excess of 70°C, Such abuse can result in loss of seal leakage, and/or cell explosion. Dispose of in accordance with appropriate local regulations.

14. 运输信息
Transport information

运输标签：不适用

Label for conveyance: Not Applicable.

UN 编号：不适用

UN Number: Not Applicable.

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《危险品规则》第 61 版特殊规定 A123 条款，本报告所述样品可作为“干电池”按照普通货物运输；根据《国际海运危险货物规则》2018 版规定，本报告所述样品可按照普通货物运输。

According to the special provisions A123 of the IATA Dangerous Goods Regulations 61st Edition, the samples list in this report can be considered as a "dry cell" and transport as ordinary

goods. According to IMDG CODE（Amdt.39-18）2018 Edition， the sample list in this report can be transport as ordinary goods.

15. 法规信息
Regulation information

法律信息
Law information
《危险物品规则》
《Dangerous Goods Regulations》
《对危险货物运输的有关规定的建议》
《Recommendations on the Transport of Dangerous Goods Model Regulations》
《国际海运危险货物规则》
《International Maritime Dangerous Goods》
《危险品安全运输技术指令》
《Technical Instructions for the Safe Transport of Dangerous Goods》
《危险货物分类和品名编号》
《Classification and code of dangerous goods》
《职业安全卫生法》
《Occupational Safety and Health Act》(OSHA)
《有毒物质控制法》
《Toxic Substance Control Act》(TSCA)
《消费产品安全法》
《Consumer Product Safety Act》(CPSA)
《联邦环境污染控制法》
《Federal Environmental Pollution Control Act》(FEPCA)
《资源保护及恢复法案》
《Resource Conservation and Recovery Act》(RCRA)
《安全饮用水法》
《Safety Drinking Water Act》(CWA)

16. 其他信息
Other information

本文件仅对由委托方广东力王新能源股份有限公司提供的，并由广东力王新能源股份有限公司生产的电池（R03）有效。该电池的成分信息由委托方提供并承诺其完整性和准确性。用户应仔细阅读此文件，并按照正确的方法使用电池，如因电池使用不当造成的损害或损失，威凯检测技术有限公司（CVC）不承担任何责任。
This file is only effective to the batteries (R03) provided by commissioner Guangdong Liwang New Energy Co., Ltd., which manufactured by Guangdong Liwang New Energy Co., Ltd. The commissioner provides the composition information of batteries, and promises its integrity and accuracy. Users should read this file carefully, and use the batteries in correct method. Vkan Certification & Testing Co., Ltd. (CVC) doesn't assume responsibility for any damage or loss because of misuse of batteries.

注 意 事 项

Important Notice

1. 本报告无检测单位印章无效。
   The test report is invalid without the official stamp of CVC.
2. 未经本试验室书面同意，不得部分地复制本报告。
   Nobody is allowed to photocopy or partly photocopy this test report without written permission of CVC.
3. 本报告无批准人、审核人及检测人签名无效。
   The test report is invalid without the signatures of Ratifier, Reviewer and Testing engineer.
4. 本报告涂改无效。
   The test report is invalid if altered.
5. 对检测报告若有异议，应于收到报告之日起十五天内向检测单位提出。
   Objections to the test report must be submitted to CVC within 15 days.
6. 本报告仅对送检样品负责。
   The test report is valid for the tested samples only.
7. 本报告仅供委托方内部质量控制使用，不对社会公开出具。
   This report is only used for internal quality controlling of the client.

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