

# MSDS

## 化学品安全技术说明书

**Samples Name:** Carbon zinc battery

样品名称: 碳锌电池

**Model/型号:** 4R25.R20.R14.R6.3R12.6F22.R1.R03

**Client Name :** Huizhou Winpow Electronic Co., Ltd

委托单位: 惠州市威源电子有限公司

**Address:** No.18 Huling Road, Huling Industrial, xiao Jinkou Town, Huizhou

地址: 惠州市小金口镇老虎岭工业区虎岭路 18 号

Signed for and on behalf of  
Eurones (Dongguan) Consumer Products Testing Service Co., Ltd

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## Material Safety Data Sheet 化学品安全技术说明书

### Section 1 - Chemical Product and Company Identification

#### 第一项: 化学品名称和制造商信息

**Samples Name:** Carbon zinc battery

样品名称: 碳锌电池

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**Client Name :** Huizhou Winpow Electronic Co ., Ltd

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**Manufacturer:** Huizhou Winpow Electronic Co ., Ltd

制造商: 惠州市威源电子有限公司

**Manufacturer address:** No.18 Huling Road, Huling Industrial, xiao Jinkou Town, Huizhou

制造商地址: 惠州市小金口镇老虎岭工业区虎岭路 18 号

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## Section 2 - Hazards Identification

### 第二项: 危害信息

**Fatalness grade:** Basically non-toxic for itself. But exposure to the ingredients contained or their ingredients products could be dangerous.

**危险性类别:** 本身基本上无毒。但接触到的成分或含有其成分产品可能是危险的。

**Invasion route:**

**侵入途径:**

**Skin contact:** There will be no dangerous during normal use. But contacting battery electrolyte, may cause severe irritation or burns.

**皮肤接触:** 正常使用过程没有危险。但接触电池电解液, 可能会引起严重刺激或烧伤。

**Eye contact:** There will be no dangerous during normal use. But contacting battery electrolyte, can stimulate or burn the eyes. Even possible damage to the eyes.

**眼睛接触:** 正常使用过程没有危险。但接触电池电解液, 会刺激或灼伤眼睛。甚至有可能损坏眼睛。

**Inhalation:** There will be no dangerous during normal use. But breathe in a large number of batteries, or heat released from the gas, it will stimulate the respiratory tract and eyes.

**吸入:** 正常使用过程没有危险。但吸入大量电池泄漏的蒸气或者加热释放的气体, 会刺激呼吸道和眼睛。

**Ingestion:** Ingestion of internal chemical materials may cause mouth, throat and intestinal irritation and damage. Get medical aid.

**摄入:** 内部化学物质摄入有可能对口腔、喉咙以及大肠有一定的刺激和伤害, 立即就医。

**Health hazards:** The battery pack is stored in a sealed tank. When the battery or the occurrence of mechanical collisions are likely to lead to the leakage of chemical substances in the battery. Skin and eyes should avoid contact with electrolyte or extruded battery.

**健康危害:** 电池组分被储放在密闭的罐内。当电池滥用或者发生机械性碰撞有可能引起电池内化学物质泄漏。皮肤及眼睛应避免与电解液或挤压过的电池接触。

**Environment hazards:** Ingredients contained or their ingredients products could be harmful to environment.

**环境危害:** 所含成分或含有此成分的产品可能对环境有害。

**Burn & burst danger:** If heated strongly by the surrounding fire, acrid gas and flammable gas may be emitted and may cause explode dangerous.

**燃爆危险:** 周围如果有大火强烈加热, 刺鼻的气体和易燃气体被排放, 可能会发生爆炸。

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## Section 3 - Composition/Information on Ingredient

### 第三项：组成信息

Pure ☐ Admixture ☒  
纯品 ☐ 混合物 ☒

#### Composition:

##### 化学成分:

Chemical Name 化学名称	CAS No. CAS 号	In % By Weight 成分比	EC NO. EC 号码
Manganese dioxide 二氧化锰	1313-13-9	37.03%	215-202-6
Zinc Power 锌粉	7440-66-6	28.26%	231-175-3
Carbon Black 炭黑	1333-86-4	9.43%	215-609-9
Graphite 石墨	7782-42-5	1.85%	231-955-3
Water 水	7732-18-5	14.27%	231-791-2
Ammonium Chlorideury 氯化铵	12125-02-9	9.16%	235-186-4

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## Section 4- First Aid Measures

### 第四项: 急救措施

The cell is not hazard with eye and skin contact under normal circumstance. In case of the enclosure is damaged, the cell can not be sued and touched. It is safety except that the cell is damaged by fired or rupture. The leakage of internal hazardous substance and formation of hazardous substance would occur, take the following measures if contact with the cell.

该电池在正常情况下与眼睛和皮肤接触是无害的。当外壳被破坏时, 电池不能使用和触摸。该电池除了泄露和着火在一般情况下是安全的。当内部的有害物质发生泄露可能会发生危险, 如果接触到这样的电池时, 采取以下措施:

**Skin touch:** Wash with plenty of soap and water. If the skin is irritable, get medical aid.

**皮肤接触:** 用大量肥皂和水清洗。如发生皮肤刺激, 须求医。

**Eyes touch:** Lifting the upper and lower eyelids, flush the eyes with plenty of water or saline water. Get medical aid.

**眼睛接触:** 提起眼睑, 用流动清水或生理盐水冲洗。就医。

**Inhalation:** If exposure to fumes from overheating, move to fresh air immediately. Keep the respiratory tract smooth. Use oxygen if available. Get medical aid.

**吸入:** 迅速脱离现场至空气新鲜处。保持呼吸道通畅。如呼吸困难, 给输氧。就医。

**Ingestion:** Rinse mouth out with water. Get medical aid immediately.

**摄入:** 用水漱口。立即就医。

## Section 5 - Fire Fighting Measures

### 第五项: 消防措施

**Danger characteristic:** Meet high fever, flame, there may cause explode danger.

**危险特性:** 遇到高热、火焰, 有可能引起爆炸。

**Hazardous combustion products:** Carbon monoxide, carbon dioxide, metal oxide, irritating smoke, etc..

**有害燃烧产物:** 一氧化碳、二氧化碳、金属氧化物、刺激性烟雾等。

**Fire-Fighting method & media:** The staff must equip with filtermask (full mask) or isolated breathing apparatus.

The staff must wear the clothes which can defense the fire and the toxic gas. Put out the fire in the upwind direction. Remove the container to the open space as soon as possible. Avoid using direct streams of water of foam on molten burning material as it may scatter and spread the fire. Fire extinguishing agent: dry powder, carbon dioxide, sand.

**灭火方法及灭火剂:** 消防人员必须佩戴过滤式防毒面具(全面罩)或隔离式呼吸器、穿全身防火防毒服, 在上风向灭火。尽可能将容器从火场移至空旷处。避免使用水或者泡沫直接在熔融燃烧材料上作用, 这样有可能是火势蔓延。

**灭火剂:** 干粉、二氧化碳、砂土。

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## Section 6 - Accidental Release Measures

### 第六项: 泄露应急处理

**Personal precautions:** If the cell 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 vapors to dissipate. Avoid skin and eyes contact or inhalation of vapors. Remove spilled liquid with absorbent and incinerated. If leakage of the cell happens, liquid could be absorbed with sand, earth or other inert substance and contaminated area should be ventilated meantime.

**个人防护措施:** 如果电池内部有害物质被泄露, 迅速撤离现场, 直到烟雾消散。提供最大通风, 以清除有害气体。优先的反应是离开该区域, 并允许气体消散。避免皮肤和眼睛接触或吸入有害气体。如果电池发生泄漏, 液体可以被沙土吸收, 其它受污染区域应通风。

**Environment precautions:** Make an limitation for burning and throwing into garbage. Do not flush into surface water.

**环境注意事项:** 避免排放到环境中, 尽量远离干净的水源。

## Section 7 - Handling and Storage

### 第七项: 操作和储存

**Handling:** Avoid mechanical damage or battery power abuse. Don't make the battery short. Don't hit or puncture the battery, or immerse the battery in the liquid. Don't disassemble the battery or the battery into the fire. Don't store together with the metal, or make the positive and negative pole short.

**操作注意事项:** 避免机械损坏或电池电力滥用。不要使电池短路。不要撞击或刺穿电池, 或者将电池浸没在液体中不要私自拆开电池或将电池投入火中。不要同金属存放在一起, 或将正负极短路。

**Storage:** Stored in a cool, dry, ventilated place with small change temperature. Don't store batteries in high temperature places with fire source. Don't expose the batteries directly to the sun for a long time.

**储存注意事项:** 储存于阴凉, 干燥通风处温度变化小的环境中。勿将电池存放在高温, 有火源的场所。不要长时间直接暴露于阳光下。

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## Section 8 - Exposure Controls, Personal Protection

### 第八项: 接触控制和个人防护措施

**Maximum admissible concentration:** No standard yet

最高容许浓度: 未制定标准

**Monitoring Method:** None.

监测方法: 无。

**Engineering Control:** To supply with sufficient air exhaust.

工程控制: 提供充分的排风。

**Respiratory Protection:** No necessary under normal use. In case electrolyte leakage from the cell, protect hand with chemical resistant rubber gloves. If cell is burning, leave the area immediately.

**呼吸系统防护:** 正常情况下无必要使用。万一电池外壳内的电解液泄露, 应该穿戴耐化学腐蚀的橡胶面罩处理。如果电池在燃烧, 则应立即离开该地区。

**Eyes Protection:** None required under normal conditions. Use approved chemical work safety goggles or face shield, if handling a leaking or rupture cell.

**眼睛防护:** 通常条件下无要求。若电池在搬运过程中泄露或破裂, 用经认可的化学工作护目或眼罩防护。

**Skin Protection:** No necessary under normal use. Use rubber apron and protective working in case of handling of a rupture cell.

**皮肤防护:** 在正常使用下无必要保护皮肤, 电池泄露或破裂的情况下使用橡胶围裙处理破裂的电池。

**Hands Protection:** No necessary under normal use. In case of spilling, use PVC, neoprene or nitrile gloves of 15 miles(0.015 inch) or thicker.

**手防护:** 正情况下无必要防护。电解液溢出情况下, 请使用 0.015 英寸或者更厚的 PVC 氯丁橡胶和丁晴手套用以防护。

**Other Protections:** Chemical resistance clothing is recommended along with eye wash station and safety shower should be available. Work hygienic practices: Use good chemical hygiene practice. Wash hands after use and before drinking, eating or smoking. Wash hands thoroughly after cleaning-up component spill caused by leaking cell. No eating, drinking, or smoking in cell storage area.

**其他防护:** 耐化学性服装以及洗眼站和安全淋浴建议应该使用。工作的卫生习惯: 养成良好的卫生习惯。清理漏液电池后洗手洗干净后才能吃喝。在电池储存区域, 不应该喝酒吃饭, 吸烟等。

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## Section 9 - Physical and Chemical Properties

### 第九项: 物理和化学特性

**Appearance:** No specific data.

外观: 无相关数据。

**Color:** No specific data.

颜色: 无相关数据。

**Odour:** No specific data.

气味: 无相关数据。

**Flash point:** N/A

闪点: N/A

**Ignition temperature:** N/A

燃点温度: N/A

## Section 10 - Stability and Reactivity

### 第十项: 稳定性和反应性

**Stability:** Stable under normal temperature and pressure.

稳定性: 常态下稳定

**Distribution of Ban:** Strong oxidizing agents, reducing agents, acids and bases.

禁配物: 强氧化剂, 还原剂, 酸和碱。

**Conditions to Avoid:** Fire, high temperature.

避免接触的条件: 火源、高温。

**Hazardous Polymerization:** None.

聚合危害: 无

**Hazardous Decomposition Products:** Carbon dioxide and hydrogen fluoride gas may be generated during combustion of cell.

分解产物: 电池燃烧过程中会产生二氧化碳和氟化氢其他。

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## Section 11 - Toxicological Information

### 第十一项: 毒理学信息

**Acute Toxicity:** Normal use has no known significant effects or critical hazards.

**急性毒性:** 正常使用时没有已知重大影响和危险。

**Sub-acute and Chronic Toxicity:** Normal use has no known significant effects or critical hazards.

**亚急性和慢性毒性:** 正常使用时没有已知重大影响和危险。

**Irritation:** The battery electrolyte has a certain stimulus.

**刺激性:** 电池电解液具有一定刺激性。

**Sensitization:** Normal use has no known significant effects or critical hazards.

**致敏性:** 正常使用时没有已知重大影响和危险。

**Mutagenicity:** Normal use has no known significant effects or critical hazards.

**致突变性:** 正常使用时没有已知重大影响和危险。

**Carcinogenicity:** Normal use has no known significant effects or critical hazards.

**致癌性:** 正常使用时没有已知重大影响和危险。

**Others:** The material in the battery is sealed, and when the user uses the battery according to the instructions, the possibility of the internal solution leakage is negligible. However, the battery abuse will cause the battery internal solution leakage possibly.

**其他:** 电池内的物质是密封起来的, 当使用者按照使用说明来使用时, 电池内溶液泄漏的可能性是可以被忽略的。但是电池滥用将有可能导致电池内溶液泄漏。

## Section 12 - Ecological Information

### 第十二项: 生态学信息

**Eco-toxicity:** No known significant effects or critical hazards.

**生态毒性:** 没有已知重大影响和危险。

**Biodegradable:** No specific data.

**生物降解性:** 无相关数据

**Non-biodegradable:** No specific data.

**非生物降解性:** 无相关数据

**Bioconcentration or biological accumulation:** No specific data.

**生物富集或生物积累性:** 无相关数据

**Other harmful effects:** No known significant effects or critical hazards.

**其他有害作用:** 没有已知重大影响和危险

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## Section 13 - Disposal Considerations

### 第十三项: 废弃处置

**Nature of waste:** No data.

废弃物性质: 无数据。

**Waste disposal methods:**

废弃处置方法:

- Disposal of the cell should be performed by permitted, professional disposal firms knowledgeable in federal, state or local requirements of hazardous waste treatment and hazardous waste transportation.
- 处置电池应按专业处理,找专业的处理公司或者按危险废物处理和危险废物运输的联邦,州和地方的要求来进行。
- Incineration should never be performed by cell used. The batteries contained recyclable materials. Recycling options available in your local area should be considered when disposing of this product, through licensed waste carrier.
- 焚烧不应该用被使用过的电池来进行。电池包含可回收材料。在您的本地区域提供回收选项应该在废弃产品时,可以考虑通过特许的废弃物载体加以处理。

The cell should have their terminal insulated in order to prevent short circuits during transportation to the disposal site.

电池应该有自己的终端绝缘保护板,以防止短路。

**Note:** Consult your local or region authorities, disposal maybe subject to national, state, or local laws.

注: 请咨询当地或地区政府, 处置可能受到国家, 州或地方法律。

## Section 14 - Transport Information

### 第十四项: 运输信息

**Number of dangerous goods:** No applicable.

危险货物编号: 无

**UN Number:** No specific data.

UN 编号: 无

**Packaging Mark:** No specific data.

包装标志: 无

**Packaging Method:** No specific data.

包装方法: 无

**Transport fashion:** Sea,air,Rail Highway suggestion according to IMO International Maritime Dangerous Goods IMDG CODE(Amdt 40-20) 2020 Edition,the substance is not subject to IMO IMDG Code.

Suggestion according to IATA Dangerous Goods Regulations 63rd DGR Manual of IATA (2022 edition), the substances is not subject to IATA DGR according to special provision A123.

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**运输方式:** 海运, 空运, 铁路, 公路。海运按照国际海事组织《国际海运危险货物规则》(Amdt 40-20)2020 版本办理的类项, 可按非限制性货物条件办理。空运按照国际航空运输协会《危险品规则》63 版(2022b 版本) 办理的类项, 根据特殊规定 A123,可按非限制性货物条件办理。

## Transport Attentions:

### 运输注意事项:

These cells classified as alkali-manganese of "Dry cell" and should not be transported as Class 9 hazardous material, It is classified as non-dangerous goods. "Dry cell" batteries are unregulated for purposes of transportation by the U.S. Department of Transportation (DOT), International Civil Aviation Administration (ICAO), International Air Transport Association (IATA) and the International Maritime Organization (IMO). The only requirements for shipping these cells by DOT is Special Provision 130 which states: "Batteries, dry are not subject to the requirements of this subchapter only when they are offered for transportation in a manner that prevents the dangerous evolution of heat (for example, by the effective insulation of exposed terminals)."

这些电池分为碱锰“干电池”, 不应被运为第 9 类有害物质, 碱锰干电池被列为非危险品。“干电池”的运输是不受由美国运输部(DOT), 国际民用航空总局(ICAO), 国际航空运输协会(IATA)和国际海事组织(IMO) 制定的规则限制。这些电池的唯一要求是运输部特殊规定 130 指出: “干电池不受本节的限制, 只要他们有可以防止过热的措施(例如: 终端暴露形成的有效绝缘)。

The only requirements for shipping these cells by ICAO and IATA is Special Provision A123 which states: "An electrical battery or battery powered device having the potential of dangerous evolutions of heat that is not prepared so as to prevent a short-circuit (e.g. in the case of batteries, by the effective insulation of exposed terminals; or in the case of equipment, by disconnection of the battery and protection of exposed terminals) is forbidden from transportation."

ICAO 和 IATA 运输这些电池的唯一要求是特殊规定 A123, 其中指出: “电池没有防止短路的措施而具有热危险演化的潜在危险的(例如, 电池通过暴露终端的有效绝缘; 或在设备中电池断开或者保护外露端子)禁止运输。”

The International Maritime Dangerous Goods Code (IMDG) regulate them for ocean transportation under Special Provision 304 which says: "Batteries, dry, containing corrosive electrolyte which will not flow out of the battery if the battery case is cracked are not subject to the provisions of this Code provided the batteries are securely packed and protected against short-circuits."

IMDG 海运运输特殊规定 304: “含有腐蚀性电解质的干电池是不会流出来的电池, 如果电池破裂则不满足此项规定: 电池安全的包装和保护以防止短路。”

Examples of such batteries are: alkali-manganese, zinc-carbon, nickel metal hydride and nickel-cadmium batteries.

这种电池的例子有: 碱锰, 锌 - 碳, 镍金属氢化物 and 镍镉电池

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## Section 15 - Regulatory Information

### 第十五项: 法规信息

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

法规信息: ISO 11014-2009 化学品安全资料表的内容和项目顺序。

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

法规(EC)No.1272/2008, 标签和包装的物质和混合物。

## Section 16 - Additional Information

### 第十六项: 其他信息

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.

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Remark: The test report is only for customer research, teaching, internal quality control, product development and other purposes, for reference only.

备注: 本检测报告仅用于客户科研、教学、内部质量控制、产品研发等目的, 仅供参考。

\*\*\* End of Report \*\*\*

\*\*\* 报告结束 \*\*\*

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