



中国认可
检验
INSPECTION
CNAS IB0071



NO.2625010249

安全技术说明书 (SDS)

中文名称： 锂-二氧化锰扣式一次电池 CR2032 3V 210mAh

英文名称： LiMnO_2 CR2032 3V 210mAh

生效日期： 2025年01月01日

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审核人： 刘婉卿

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上海化工院检测有限公司



安远县凯闻科技有限公司

安全技术说明书

SDS

锂-二氧化锰扣式一次电池 CR2032 3V 210mAh

第一部分 化学品及企业标识

中文名称: 锂-二氧化锰扣式一次电池 CR2032 3V 210mAh
英文名称: LiMnO₂ CR2032 3V 210mAh
企业名称: 安远县凯闻科技有限公司
地址: 江西省赣州市安远县产城新区千亿电子产业园
邮编: 342100
E-mail: CR20321625@126.com
传真号码: 86-797-3785199
应急咨询电话: 86-797-3785199
化学品的推荐用途和限制用途: /

技术说明书编码: 2625010249
生效日期: 2025年01月01日

第二部分 危险性概述

本品不在GHS体系涵盖的范围内。

主要危险性:

火灾或爆炸危险: 金属锂遇水放出可自燃的易燃气体, 电解液中可能含有易燃液体。

健康危害: 金属锂对眼睛和皮肤有腐蚀性, 接触可能发生灼伤或腐蚀。 电池内的电解液对皮肤和眼睛有刺激性。

第三部分 成分/组成信息

化学品名称: 锂-二氧化锰扣式一次电池 CR2032 3V 210mAh

成份	含量	CAS NO.	EC NO.
430不锈钢	52.15%	12597-68-1	/
电解二氧化锰	30%	1313-13-9	215-202-6
石墨	4.6%	7782-42-5	231-955-3
聚丙烯	4.4%	9003-07-0	618-352-4
碳酸丙烯酯	3%	108-32-7	203-572-1

乙二醇二甲醚	2%	110-71-4	203-794-9
金属锂	1.85%	7439-93-2	231-102-5
1,3-二氧戊环	1.3%	646-06-0	211-463-5
高氯酸锂	0.7%	7791-03-9	232-237-2

第四部分 急救措施

皮肤接触:	若接触到电池内的物质, 脱去受污染的衣物和鞋袜, 立即用流动清水冲洗20分钟以上。就医。
眼睛接触:	若接触到电池内的物质, 立即提起眼睑, 用流动清水冲洗20分钟以上。就医。
吸入:	若吸入电池内的物质, 立即脱离现场至空气新鲜处。若呼吸困难, 给氧; 若呼吸停止, 人工呼吸。就医。
食入:	若食入电池内的物质, 禁止催吐。立即就医。
最重要的急性和延迟症状/影响:	无资料。
必要时注明立即就医及所需的特殊治疗:	无资料。

第五部分 消防措施

适当的灭火剂:	可用干燥石墨粉和干砂灭火。
化学品产生的具体危险:	金属锂加热至熔融状态时能在空气中自燃。遇水或酸反应放出氢气及能量引起燃烧甚至爆炸。燃烧后即成熔融物流散, 并放出白色浓烟, 使火场全部荫蔽。
消防人员的特别防护行动:	消防员应戴自给正压式呼吸器, 穿消防防护服以防止皮肤和眼睛接触。在上风处灭火。不相关人员疏散至安全区域。尽可能将容器从火场移至空旷处。喷水保持火场容器冷却, 直至灭火结束。

第六部分 泄漏应急处理

个人防护措施、防护设备和应急程序:	使用个人防护设备。确保足够的通风。确保人群远离泄露区或处于泄露区上风向。不相关人员禁止进入。移除所有点火源。严禁用水处理。尽可能切断泄漏源。
环境防护措施:	避免泄露物进入地表、沟渠或水域。
控制和清洁的方法和材料:	如小量泄漏: 用干燥的砂土或其他不燃材料覆盖泄漏物, 然后用塑料布覆盖, 减少飞散、避免雨淋。如发生粉末泄漏: 用塑料布或帆布覆盖泄漏物, 减少飞散, 保持干燥, 在专家指导下清除

第七部分 操作处置与储存

安全操作的防护措施:	操作人员应经过培训, 严格遵守操作规程。建议操作人员穿一般作业防护服, 戴安全手套。远离火种、热源。避免高温。工作场所严禁吸烟。工作场所应有防爆型通风系统和设备。避免金属锂与水接触。避免随意拆卸电池和弄错正负极。须牢固固定在内包装中, 以有效防止短路和防止可导致短路的移动。万一电池内的物质泄漏, 避免眼睛、皮肤直接接触, 避免吸入。应与酸类、卤素、易燃物和腐蚀品分开存放。
安全储存的条件, 包括一切不相容性:	储存于阴凉、通风及干燥的库房内。远离火种、热源。避免高温。避免暴露在潮湿中。应与酸类、卤素、易燃物和腐蚀品分开存放。须牢固固定在内包装中, 以有效防止短路和防止可导致短路的移动。储存区配备相应品种和数量的消防器材、泄漏应急处理设备和合适的收容材料。

第八部分 接触控制/个体防护

控制参数:	GBZ 2.1-2019 《工作场所有害因素职业接触限值 化学有害因素》: 锰及其无机化合物(按MnO ₂ 计): PC-TWA 0.15 mg/m ³ 聚丙烯: 聚丙烯粉尘 PC-TWA 5mg/m ³ (总尘) 石墨粉尘: PC-TWA 4 mg/m ³ (总尘); PC-TWA 2 mg/m ³ (呼尘) ACGIH: 二氧化锰 TLV-TWA 0.02mg / m ³ (以锰计, 可吸入颗粒) TLV-STEL 0.1mg / m ³ (以锰计, 可吸入颗粒) 石墨: TLV-TWA 2 mg/m ³ 乙二醇二甲醚: TLV-TWA 0.5 ppm, 皮
适当的工程控制:	有通风系统和设备。提供安全淋浴和洗眼设备。
个体防护措施:	
眼/面部防护:	戴安全防护眼镜。
皮肤防护:	手防护: 戴安全手套。 身体防护: 穿一般作业防护服。
呼吸系统防护:	若需要, 戴管理部门认可的面罩。
高温危害:	无资料。
其他防护:	工作现场严禁吸烟、进食和饮水。工作后, 淋浴更衣。

第九部分 理化特性

外观:	银色钮扣状金属外壳
气味:	无臭
pH 值:	8-9
溶解性:	部分溶于水
熔点/凝固点:	>300℃
沸点、初始沸点和沸程:	无资料
闪点(闭杯):	无资料
密度/相对密度:	无资料
运动黏度:	无资料
燃烧上下极限或爆炸极限:	无资料
蒸气压:	无资料
相对蒸气密度:	无资料
n-辛醇/水分配系数(对数 值):	无资料
自燃温度:	无资料
分解温度:	无资料
颗粒特征:	无资料
易燃性(固体、气体):	无资料

第十部分 稳定性与反应活性

反应性:	无资料。
化学稳定性:	常温常压下稳定。
危险反应的可能性:	无资料。

应避免的条件:	误操作, 明火, 高温, 机械滥用, 过充电, 防止短路和防止可导致短路的移动。避免暴露在潮湿中。
不相容材料:	酸类、卤素、易燃物和腐蚀品。
危害性分解产物:	碳的氧化物、金属氧化物等。

第十一部分 毒理学资料

急性毒性:	无资料。
皮肤腐蚀/刺激:	金属锂对皮肤有腐蚀性, 接触可能发生灼伤或腐蚀。 电池内的电解液对皮肤有刺激性。
严重眼损伤/眼刺激:	金属锂对眼睛有腐蚀性, 接触可能发生灼伤或腐蚀。 电池内的电解液对眼睛有刺激性。
呼吸致敏:	无资料。
皮肤致敏:	无资料。
生殖细胞致突变性:	无资料。
致癌性:	无资料。
生殖毒性:	无资料。
特定目标器官毒性-单次接触:	无资料。
特定目标器官毒性-重复接触:	无资料。
吸入危险:	无资料。

第十二部分 生态学资料

毒性:	无资料。
持久性和降解性:	无资料。
潜在的生物累积性:	无资料。
在土壤中的流动性:	无资料。
其他有害效应:	无资料。

第十三部分 废弃处理

废弃处置方法:	废弃电池的处置应符合《中华人民共和国固体废物污染环境防治法》、《废电池污染防治技术政策》等有关法律、法规、政策和标准的要求。建议交给具有资格的化学废物处理部门处置。 对于用过的而且将被运送去销毁或回收的电池, 在运输前应对其仔细检查, 以确保每节电池都是完好无损而且适合运输的。
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第十四部分 运输信息

锂金属电池单独运输:	通过联合国《试验和标准手册》UN38.3试验, 和《规章范本》SP188的1.2m跌落测试。锂金属电池总净重<2.5 kg。锂金属净含量<1g。
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- RID/ADR(2023版):** 根据特殊规定188, 运输时不受本规则其它规定限制。
根据2.2.9.1.7(g), 锂电池或电池组的制造商和出厂后的销售商应提供联合国《试验和标准手册》第III部分第38.3小节第38.3.5段规定的UN38.3试验概要。
- IATA DGR(66版):** 危险性类别: 9
UN编号: UN3090
运输名称: 锂金属电池组
本品应满足包装说明968的基本要求和第IB部分的规定。
包装件必须能够承受IATA DGR中包装说明968-IB所要求的堆码试验。
根据3.9.2.6.1(g), 2003年06月30日之后生产的锂电池或电池组的制造商和出厂后的销售商应提供联合国《试验和标准手册》第III部分第38.3小节第38.3.5段规定的UN38.3试验概要。
- IMO IMDG CODE(2022版):** 根据特殊规定188, 运输时不受本规则其它规定限制。
根据2.9.4.7, 锂电池或电池组的制造商和出厂后的销售商应提供联合国《试验和标准手册》第III部分第38.3小节第38.3.5段规定的UN38.3试验概要。

第十五部分 法规信息

国内法规:

锂金属电池单独运输:

- 《危险货物道路运输规则》(JT/T 617-2018): 联合国编号为: 3090, 中文名称和描述: 锂金属电池组。
该型号锂电池通过联合国《试验和标准手册》UN38.3试验, 根据特殊规定188, 运输时不受限制。
- 《危险货物物品名表》(GB联合国编号为: 3090, 名称和说明: 锂金属电池组。
12268-2012): 该型号锂电池通过联合国《试验和标准手册》UN38.3试验, 根据特殊规定188, 运输时不受限制。
- 《铁路危险货物物品名表》(TB/T 30006-2022): 编号为: 91042, 品名: 锂金属电池组。
该型号锂电池通过联合国《试验和标准手册》UN38.3试验, 根据特殊规定78, 79, 运输时不受限制。

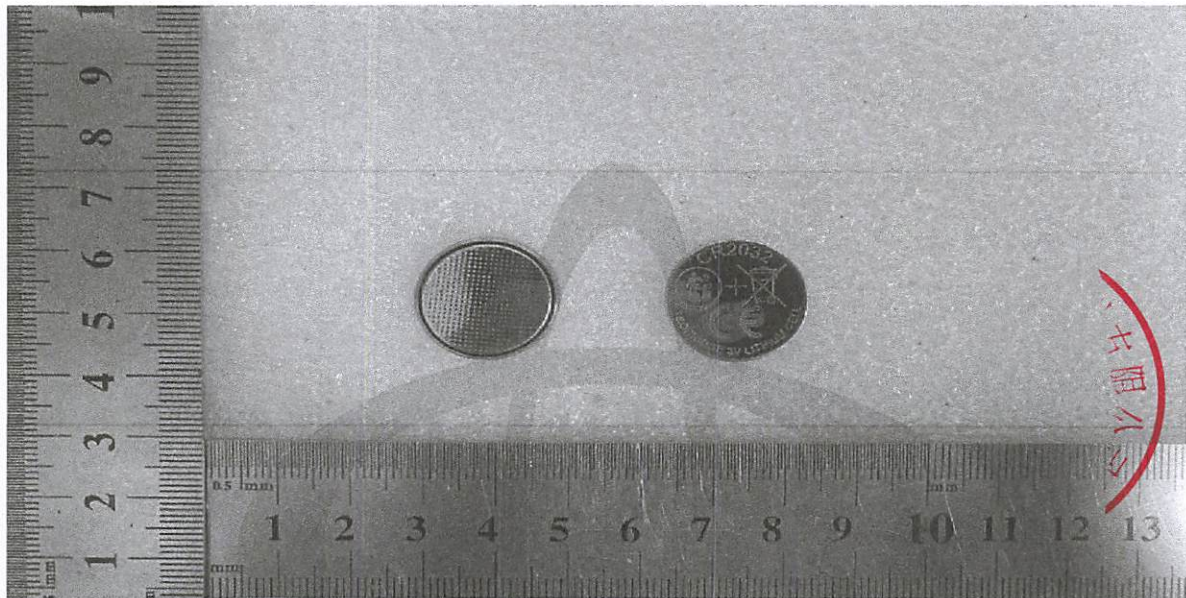
国际法规:

欧盟指令(EU)2023/1542 电池的标记, 处置, 回收等应满足欧盟指令(EU) 2023/1542及2013/56/EU中的规定。
及2013/56/EU:

- ICAO TI:**
1. 除非依据《技术细则》的相关要求取得豁免, 单独包装的锂离子电池(芯)(UN 3480, PI 965)和锂金属电池(芯)(UN 3090, PI 968)货物禁止使用客机运输。
 2. 除非依据《技术细则》的相关要求取得特别批准, 按照包装说明965要求运输的锂离子电池(芯)货物, 交运时锂离子电池(芯)的荷电状态不得超过其额定容量的30%。

第十六部分 其他信息

- 编制日期:** 2025年01月01日
- 编制部门:** 上海化工院检测有限公司
电话(传真): +86-21-52815377/31765555
- 修改信息:** 第0次修订
- 缩略语和首字母缩写:** CAS: 美国化学文摘社 EC: 欧盟委员会 ACGIH: 美国政府工业卫生学家委员会 PC-TWA: 时间加权平均容许浓度 TLV-TWA: 时间加权平均阈限值 TLV-STEL: 短时间接触阈限值 皮: 该物质通过完整的皮肤吸收引起全身效应 ADR: 关于国际公路运输危险货物的欧洲协议 RID: 国际铁路运输危险货物规则 IMO IMDG CODE: 国际海事组织 国际海运危险货物规则 IATA DGR: 国际航空运输协会 危险货物规则 EU: 欧洲联盟 ICAO TI: 国际民用航空组织 危险物品安全航空运输技术细则 PI: 包装说明
- 其他信息:** 本SDS报告仅针对电池。报告内容是根据申请单位提供的成分含量等信息和我司现有知识编写, 仅作为指导使用。如果电池被用于其它产品中的组件, 本SDS报告的信息可能不适用。本SDS的使用者必须对内容的正确性与完整性做出独立判断, 根据实际情况决定其适用性, 并对使用后果承担相关法律责任



报告结束



中国认可
检验
INSPECTION
CNAS IB0071



NO.2625010249

SAFETY DATASHEET

Product Name: LiMnO₂ CR2032 3V 210mAh

Effective Date: 2025-01-01

Compiler: Xia Bangwei

Checker: Liu Wangqing

Approver: Dongxuesheng

Shanghai Institute of Chemical Industry Testing Co., Ltd.



Anyuan Kaiwen Technology Co.,Ltd

SAFETY DATA SHEET

LiMnO₂ CR2032 3V 210mAh

SECTION1 PRODUCT AND COMPANY IDENTIFICATION

Product name: LiMnO₂ CR2032 3V 210mAh

Company: Anyuan Kaiwen Technology Co.,Ltd

Address: Qian Yi Electronics Industrial Park, Chancheng New District, Anyuan County,
Ganzhou City, Jiangxi Province, 342100, P.R.China

Email: CR20321625@126.com

Fax: 86-797-3785199

Emergency Phone: 86-797-3785199

Recommend use of the chemical and restrictions on use: /

SDS Number: 2625010249

Effective Date: 2025-01-01

SECTION2 HAZARDS IDENTIFICATION

The product is outside of the scope of GHS system.

Main Hazards:**Fire or Explosion Hazards:**

Lithium metal emits spontaneously flammable gas in contact with water, and the electrolyte may contain flammable liquid.

Health Hazards:

Lithium metal is corrosive to eyes and skin, and may cause burns or corrosion in contact. The electrolyte in the battery causes skin irritation and eye irritation.

SECTION3 INFORMATION ON INGREDIENTS

Product name: LiMnO₂ CR2032 3V 210mAh

Ingredient	Concentration	CAS No.	EC No.
430 Stainless steel	52.15%	12597-68-1	/
Electrolytic manganese dioxide	30%	1313-13-9	215-202-6
Graphite	4.6%	7782-42-5	231-955-3

Polypropylene	4.4%	9003-07-0	618-352-4
Propylene carbonate	3%	108-32-7	203-572-1
Ethylene glycol dimethyl ether	2%	110-71-4	203-794-9
Lithium metal	1.85%	7439-93-2	231-102-5
1,3-Dioxolane	1.3%	646-06-0	211-463-5
Lithium perchlorate	0.7%	7791-03-9	232-237-2

SECTION4 FIRST-AID MEASURES

Skin Exposure:

If in contact with the internal materials of battery, remove the contaminated clothing and footwear, immediately flush with plenty of water for at least 20 minutes. Call a physician.

Eye Exposure:

If in contact with the internal materials of battery, lift your eyelids immediately and rinse them with running water for more than 20 minutes. Call a physician.

Inhalation Exposure:

If the internal materials of battery are inhaled, immediately remove to fresh air. If breathing is difficult give oxygen. If not breathing, give artificial respiration. Call a physician.

Oral Exposure:

Do not induce vomiting if the internal materials of battery are swallowed. Call a physician immediately.

Most Important Symptoms/Effects, Acute and Delayed:

No data available.

Indication of Immediate Medical Attention and Special Treatment Needed, If Necessary:

No data available.

SECTION5 FIRE FIGHTING MEASURES

Suitable Extinguishing Media:

Suitable: Dry graphite powder, dry sand.

Specific Hazards Arising from the Chemical:

Lithium metal can ignite spontaneously in the air when heated to a molten state. It can release hydrogen and energy when reacting with water or acids, which causes fire or even explosion. A molten stream is generated immediately after burning and will disperse and emit thick white smoke, which will shade the fire scene.

Special Protective Action for Fire-fighters:

Protective Equipment: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes. Fire-extinguishing work is done from the windward. Uninvolved persons should evacuate to a safe place.

SECTION6 ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures:

Use personal protective equipment. Ensure adequate ventilation. Keep people away from and upwind of spill/leak. Entry to noninvolved personnel should be controlled around the leakage area by roping off. Remove all sources of ignition. Water treatment is strictly prohibited. Cut off the source of leakage as much as possible.

Environmental Precautions:

Avoid leakage getting into the earth, ditches or waters.

Methods and Materials for Containment and Cleaning Up:

In case of small leakage, use dry sand or other non-combustible materials to cover the leakage, and then cover with plastic cloth to reduce scattering and avoid rain. In case of powder leakage, cover the leakage with plastic cloth or canvas to reduce scattering. Keep it dry, and remove it under the guidance of an expert.

SECTION7 HANDLING AND STORAGE**Precautions for Safe Handling:**

Operators should be trained and strictly abide by operating procedures. Wear appropriate protective clothing and safety gloves. Keep away from ignition sources, heat and flame. No smoking at working site. Handling is performed in an explosion-proof ventilation system and equipment. Do not let the lithium metal contact with water. Avoid disassembling the battery at will and reversing battery polarity within the battery assembly. The battery must be firmly packed in inner packaging so as to effectively prevent short circuits and short circuits caused by movement. In case of leakage of the materials in the battery, avoid directly contact with eyes and skin. Avoid inhalation. Incompatibilities: Acids. Halogens, Combustible materials and Corrosive substances.

Conditions for Safe Storage, Including Any Incompatibilities:

Store in a cool, dry, and well-ventilated area. Keep away from ignition sources, heat and flame. Avoid exposure to moisture. Incompatibilities: Acids. Halogens, Combustible materials and Corrosive substances. The battery must be firmly packed in inner packaging so as to effectively prevent short circuits and short circuits caused by movement. Storage place should be equipped with appropriate varieties and quantities of fire fighting equipment and leakage emergency treatment equipment.

SECTION8 EXPOSURE CONTROL/PPE**Control Parameters:**

GBZ 2.1-2019 Occupational Exposure Limits for Hazardous Agents in the Workplace - Part 1: Chemical Hazardous Agents:

Manganese and its inorganic compounds (calculated by MnO_2): PC-TWA 0.15 mg / m³

Polypropylene: Polypropylene dust PC-TWA 5mg / m³ (total dust)

Graphite dust: PC-TWA 4 mg/m³ (Total dust) ; PC-TWA 2 mg/m³ (Respirable dust)

ACGIH:

Manganese dioxide: TLV-TWA 0.02mg/m³ (calculated by manganese, respirable particles) TLV-STEL 0.1mg/m³ (calculated by manganese, respirable particles)

Graphite: TLV-TWA 2 mg/m³

Ethylene glycol dimethyl ether: TLV-TWA 0.5 ppm, skin

Appropriate Engineering Controls:

Mechanical exhaust required. Safety shower and eye bath.

Individual Protection Measures:**Eye/Face Protection:**

Wear chemical safety glasses.

Skin Protection:

Hand Protection: Wear safety gloves.

Body Protection: Wear appropriate protective clothing.

Respiratory Protection:

Wear government approved respirator if needed.

Thermal hazards:

No data available.

Other Protect:

No smoking, drinking and eating at working site. Wash thoroughly after handling.

SECTION9 PHYSICAL/CHEMICAL PROPERTIES**Appearance:** Silvery button metal shell**Odor:** Odorless**pH Value:** 8-9**Solubility:** Partial soluble in water**Boiling Point,** No data available**Initial Boiling
Point and Boiling****Range:**
Melting >300°C**Point/Freezing****Point:****Flash Point** No data available**(Closed Cup):****Density/Relative** No data available**Density:****Kinematic** No data available**Viscosity:****Lower/Upper** No data available**Explosion****Limit/Flammabili****ty Limit:****Vapour Pressure:** No data available**Relative Vapor** No data available**Density:****Partition** No data available**Coefficient****N-Octanol/Water(****Log Value):****Autoignition** No data available**Temperature:****Decomposition** No data available**Temperature:****Particle** No data available**characteristics:****Flammability** No data available**(Solid, Gas):****SECTION10 STABILITY AND REACTIVITY****Reactivity:**

No data available.

Chemical Stability:

Stable under normal temperatures and pressures.

Possibility of Hazardous Reactions:

No data available.

Conditions to Avoid:

Avoid misoperation, exposure to heat and open flame. Avoid mechanical or electrical abuse and overcharge. Prevent short circuits. Prevent movement which could lead to short circuits. Avoid exposure to moisture.

Incompatible Materials:

Acids. Halogens, Combustible materials and Corrosive substances.

Hazardous Decomposition Products:

Carbon oxides, metal oxides, etc.

SECTION11 TOXICOLOGICAL INFORMATION

Acute Toxicity:

No data available.

Skin Corrosion/Irritation:

Lithium metal is corrosive to skin, and may cause burns or corrosion in contact. The electrolyte in the battery causes skin irritation.

Serious Eye Damage/Irritation:

Lithium metal is corrosive to eyes, and may cause burns or corrosion in contact. The electrolyte in the battery causes eye irritation.

Respiratory Sensitization:

No data available.

Skin Sensitization:

No data available.

Carcinogenicity:

No data available.

Germ Cell Mutagenicity:

No data available.

Reproductive Toxicity:

No data available.

Specific Target Organ Toxicity -Single Exposure:

No data available.

Specific Target Organ Toxicity -Repeated Exposure:

No data available.

Aspiration Hazard:

No data available.

SECTION12 ECOLOGICAL INFORMATION

Toxicity:

No data available.

Persistence and Degradability:

No data available.

Bioaccumulative Potential:

No data available.

Mobility in Soil:

No data available.

Other Adverse Effects:

No data available.

SECTION13 DISPOSAL CONSIDERATION

Disposal Methods:

The disposal of discarded battery shall comply with the requirements of relevant laws, regulations, policies and standards such as the "Law of the People's Republic of China on the Prevention and Control of Environmental Pollution by Solid Waste" and "Technical Policy for the Prevention and Control of Waste Battery Pollution". Contact a licensed professional waste disposal service to dispose of wastes. Used battery being transported for disposal or reclamation should be carefully checked prior to shipment to ensure the integrity of each battery and its suitability for transport.

SECTION14 TRANSPORT INFORMATION

Only Lithium
Metal Battery
During Transport:

The product has passed the test items of Manual of Tests and Criteria Section 38.3 and UN Model Regulations, SP188, 1.2m drop test. The net weight of the lithium batteries in the package is less than 2.5 kg. The content of Lithium is less than 1 g.

RID/ADR(2023 Edition): The product is not subject to the other provisions of RID/ADR according to special provision 188. According to 2.2.9.1.7 (g), Manufacturers and subsequent distributors of cells or batteries manufactured shall make available the test summary as specified in the Manual of Tests and Criteria, Part III, sub-section 38.3, paragraph 38.3.5.

IATA DGR (66th Edition): Hazard Class: 9
UN Number: UN3090
Proper Shipping Name: Lithium metal batteries
The product shall meet the General Requirements and section IB of Packaging Instruction 968.
The package must be capable of withstanding the stacking test required in PI 968- IB. According to 3.9.2.6.1(g), Manufacturers and subsequent distributors of cells or batteries manufactured after 30 June 2003 shall make available the test summary as specified in the Manual of Tests and Criteria, Part III, sub-section 38.3, paragraph 38.3.5.

IMO IMDG CODE(2022 Edition): The product is not subject to the other provisions of IMO IMDG Code according to special provision 188.
According to 2.9.4.7, Manufacturers and subsequent distributors of cells or batteries manufactured shall make available the test summary as specified in the Manual of Tests and Criteria, Part III, sub-section 38.3, paragraph 38.3.5.

SECTION15 REGULATORY INFORMATION

Domestic Regulations:

Only Lithium Metal Battery During Transport:

Regulations Concerning Road Transportation Of Dangerous Goods(JT/T 617-2018):

UN Number: 3090

Name and Description: Lithium metal batteries

The product has passed the test items of Manual of Tests and Criteria Section 38.3.

The product is not subject to JT/T 617-2018 according to special provision 188.

List Of Dangerous Goods(GB 12268-2012):

UN Number: 3090

Proper Shipping Name: Lithium metal batteries

The product has passed the test items of Manual of Tests and Criteria Section 38.3, The product is not subject to GB 12268-2012 according to special provision 188.

List of Dangerous Goods by Rail(TB/T 30006-2022):

Number: 91042

Name of Product: Lithium metal batteries

The product has passed the test items of Manual of Tests and Criteria Section 38.3.

The product is not subject to TB/T 30006-2022 according to special provision 78, 79.

International Regulations:

Directive (EU)2023/1542 and 2013/56/EU:

The label, disposal and recycling of the battery shall meet the requirements of EU Directive (EU)2023/1542 and 2013/56/EU.

ICAO TI:

1. Unless be exempted according to ICAO TI, the lithium ion cell/batteries (UN 3480, PI 965) and lithium metal cell/batteries (UN 3090, PI 968) are forbidden for carriage on passenger aircraft.
2. Unless be approved according to ICAO TI, Lithium ion cells/batteries (UN 3480, PI 965) must be offered for transport at a state of charge (SoC) not exceeding 30% of their rated design capacity.

SECTION16 OTHER INFORMATION

Preparation Date:

2025-01-01

Preparation Department:

Shanghai Institute of Chemical Industry Testing Co., Ltd. Tel(Fax):+86-21-52815377/31765555

Revision:

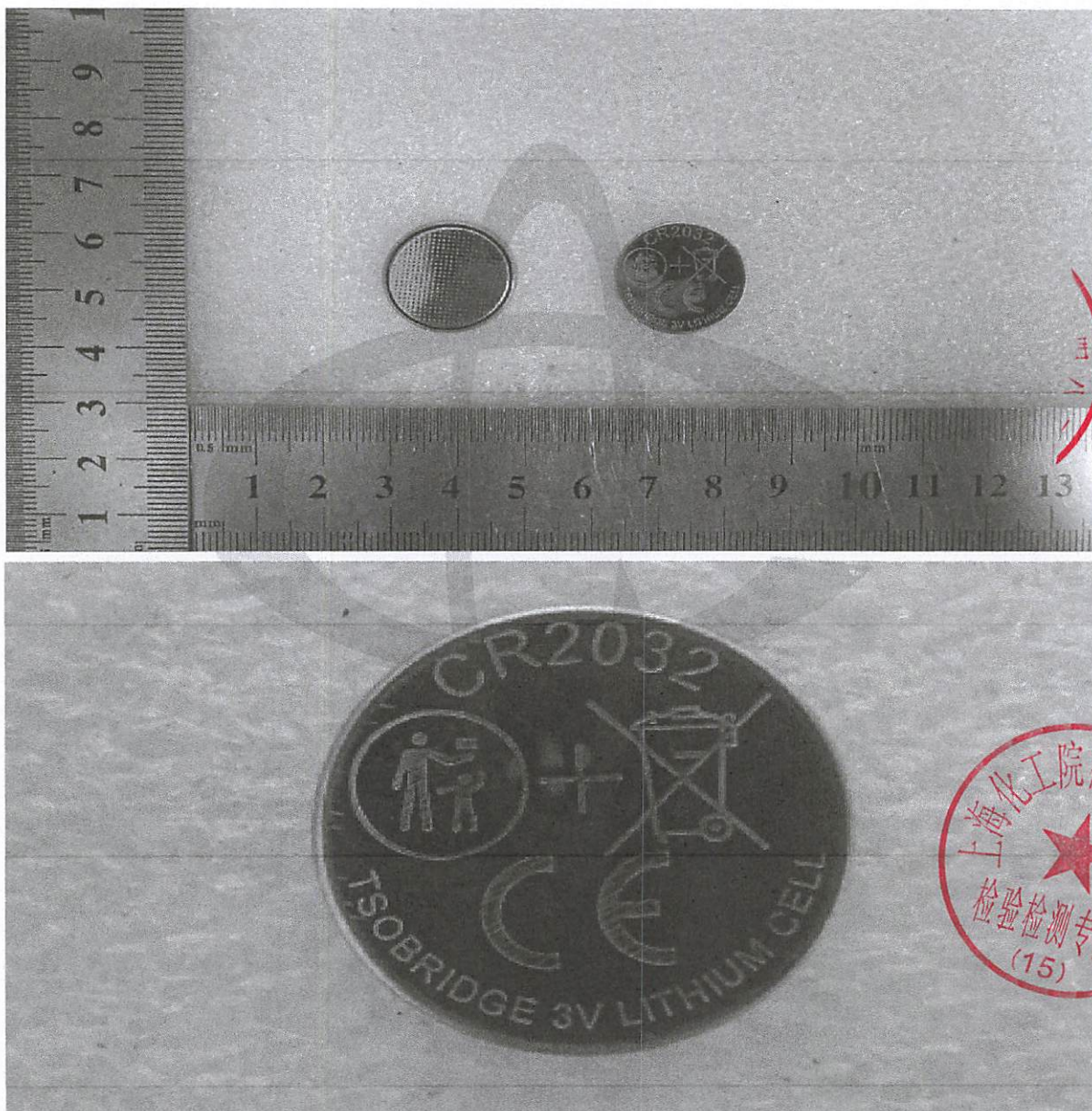
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Abbreviations and Acronyms:

CAS: Chemical Abstracts Service EC: European Commission ACGIH: American Conference of Governmental Industrial Hygienists PC-TWA: Permissible concentration-time weighted average TLV-TWA: Threshold limit value-time weighted average TLV-STEL: Threshold limit value-short term exposure limit Skin: The substance causes systemic effects through entire skin absorption ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road RID: Regulations concerning the International Carriage of Dangerous Goods by Rail IMO IMDG CODE: International Maritime Organization International Maritime Code for Dangerous Goods IATA DGR: International Air Transport Association Dangerous Goods Regulations EU: European Union ICAO TI: International Civil Aviation Organization Technical Instructions for the Safe Transport of Dangerous Goods by Air PI: Packaging Instruction

Other Information:

This SDS is only compiled for battery and based on the information such as ingredients provided by the applicant and our current knowledge. This SDS shall be used only as a guide. If the battery is used as a component in another product, the information in this SDS may not be applicable. The users of this SDS must make independent judgments on the correctness and completeness and then decide its suitability according to the actual situation. The users should take the relevant legal responsibilities for the consequences of use.



END OF REPORT



中国认可
检验
INSPECTION
CNAS IB0071



NO.2625010248

安全技术说明书 (SDS)

中文名称: 锂-二氧化锰扣式一次电池 CR2025 3V 150mAh

英文名称: LiMnO_2 CR2025 3V 150mAh

生效日期: 2025年01月01日

编制人: 夏邦玮

审核人: 刘婉卿

批准人: 董学胜

上海化工院检测有限公司



安远县凯闻科技有限公司

安全技术说明书

SDS

锂-二氧化锰扣式一次电池 CR2025 3V 150mAh

第一部分 化学品及企业标识

中文名称: 锂-二氧化锰扣式一次电池 CR2025 3V 150mAh
英文名称: LiMnO₂ CR2025 3V 150mAh
企业名称: 安远县凯闻科技有限公司
地址: 江西省赣州市安远县产城新区千亿电子产业园
邮编: 342100
E-mail: CR20321625@126.com
传真号码: 86-797-3785199
应急咨询电话: 86-797-3785199
化学品的推荐用途和限制用途: /

技术说明书编码: 2625010248
生效日期: 2025年01月01日

第二部分 危险性概述

本品不在GHS体系涵盖的范围内。

主要危险性:

火灾或爆炸危险: 金属锂遇水放出可自燃的易燃气体, 电解液中可能含有易燃液体。

健康危害: 金属锂对眼睛和皮肤有腐蚀性, 接触可能发生灼伤或腐蚀。 电池内的电解液对皮肤和眼睛有刺激性。

第三部分 成分/组成信息

化学品名称: 锂-二氧化锰扣式一次电池 CR2025 3V 150mAh

成份	含量	CAS NO.	EC NO.
430不锈钢	52.15%	12597-68-1	/
电解二氧化锰	30%	1313-13-9	215-202-6
石墨	4.6%	7782-42-5	231-955-3
聚丙烯	4.4%	9003-07-0	618-352-4
碳酸丙烯酯	3%	108-32-7	203-572-1

乙二醇二甲醚	2%	110-71-4	203-794-9
金属锂	1.85%	7439-93-2	231-102-5
1,3-二氧戊环	1.3%	646-06-0	211-463-5
高氯酸锂	0.7%	7791-03-9	232-237-2

第四部分 急救措施

皮肤接触:	若接触到电池内的物质, 脱去受污染的衣物和鞋袜, 立即用流动清水冲洗20分钟以上。就医。
眼睛接触:	若接触到电池内的物质, 立即提起眼睑, 用流动清水冲洗20分钟以上。就医。
吸入:	若吸入电池内的物质, 立即脱离现场至空气新鲜处。若呼吸困难, 给氧; 若呼吸停止, 人工呼吸。就医。
食入:	若食入电池内的物质, 禁止催吐。立即就医。
最重要的急性和延迟症状/影响:	无资料。
必要时注明立即就医及所需的特殊治疗:	无资料。

第五部分 消防措施

适当的灭火剂:	可用干燥石墨粉和干砂灭火。
化学品产生的具体危险:	金属锂加热至熔融状态时能在空气中自燃。遇水或酸反应放出氢气及能量引起燃烧甚至爆炸。燃烧后即成熔融物流散, 并放出白色浓烟, 使火场全部荫蔽。
消防人员的特别防护行动:	消防员应戴自给正压式呼吸器, 穿消防防护服以防止皮肤和眼睛接触。在上风处灭火。不相关人员疏散至安全区域。尽可能将容器从火场移至空旷处。喷水保持火场容器冷却, 直至灭火结束。

第六部分 泄漏应急处理

个人防护措施、防护设备和应急程序:	使用个人防护设备。确保足够的通风。确保人群远离泄露区或处于泄露区上风向。不相关人员禁止进入。移除所有点火源。严禁用水处理。尽可能切断泄漏源。
环境防护措施:	避免泄露物进入地表、沟渠或水域。
控制和清洁的方法和材料:	如小量泄漏: 用干燥的砂土或其他不燃材料覆盖泄漏物, 然后用塑料布覆盖, 减少飞散、避免雨淋。如发生粉末泄漏: 用塑料布或帆布覆盖泄漏物, 减少飞散, 保持干燥, 在专家指导下清除

第七部分 操作处置与储存

安全操作的防护措施:	操作人员应经过培训, 严格遵守操作规程。建议操作人员穿一般作业防护服, 戴安全手套。远离火种、热源。避免高温。工作场所严禁吸烟。工作场所应有防爆型通风系统和设备。避免金属锂与水接触。避免随意拆卸电池和弄错正负极。须牢固固定在内包装中, 以有效防止短路和防止可导致短路的移动。万一电池内的物质泄漏, 避免眼睛、皮肤直接接触, 避免吸入。应与酸类、卤素、易燃物和腐蚀品分开存放。
安全储存的条件, 包括一切不相容性:	储存于阴凉、通风及干燥的库房内。远离火种、热源。避免高温。避免暴露在潮湿中。应与酸类、卤素、易燃物和腐蚀品分开存放。须牢固固定在内包装中, 以有效防止短路和防止可导致短路的移动。储存区配备相应品种和数量的消防器材、泄漏应急处理设备和合适的收容材料。

第八部分 接触控制/个体防护

控制参数:	GBZ 2.1-2019 《工作场所有害因素职业接触限值 化学有害因素》: 锰及其无机化合物 (按MnO ₂ 计): PC-TWA 0.15 mg/m ³ 聚丙烯: 聚丙烯粉尘 PC-TWA 5mg/m ³ (总尘) 石墨粉尘: PC-TWA 4 mg/m ³ (总尘); PC-TWA 2 mg/m ³ (呼尘) ACGIH: 二氧化锰 TLV-TWA 0.02mg / m ³ (以锰计, 可吸入颗粒) TLV-STEL 0.1mg / m ³ (以锰计, 可吸入颗粒) 石墨: TLV-TWA 2 mg/m ³ 乙二醇二甲醚: TLV-TWA 0.5 ppm, 皮 有通风系统和设备。提供安全淋浴和洗眼设备。
适当的工程控制:	
个体防护措施:	
眼/面部防护:	戴安全防护眼镜。
皮肤防护:	手防护: 戴安全手套。 身体防护: 穿一般作业防护服。
呼吸系统防护:	若需要, 戴管理部门认可的面罩。
高温危害:	无资料。
其他防护:	工作现场严禁吸烟、进食和饮水。工作后, 淋浴更衣。

第九部分 理化特性

外观:	银色纽扣状金属外壳
气味:	无臭
pH 值:	8-9
溶解性:	部分溶于水
熔点/凝固点:	>300℃
沸点、初始沸点和沸程:	无资料
闪点(闭杯):	无资料
密度/相对密度:	无资料
运动黏度:	无资料
燃烧上下极限或爆炸极限:	无资料
蒸气压:	无资料
相对蒸气密度:	无资料
n-辛醇/水分配系数(对数 值):	无资料
自燃温度:	无资料
分解温度:	无资料
颗粒特征:	无资料
易燃性(固体、气体):	无资料

第十部分 稳定性与反应活性

反应性:	无资料。
化学稳定性:	常温常压下稳定。
危险反应的可能性:	无资料。

应避免的条件: 误操作, 明火, 高温, 机械滥用, 过充电, 防止短路和防止可导致短路的移动。避免暴露在潮湿中。

不相容材料: 酸类、卤素、易燃物和腐蚀品。

危害性分解产物: 碳的氧化物、金属氧化物等。

第十一部分 毒理学资料

急性毒性: 无资料。

皮肤腐蚀/刺激: 金属锂对皮肤有腐蚀性, 接触可能发生灼伤或腐蚀。 电池内的电解液对皮肤有刺激性。

严重眼损伤/眼刺激: 金属锂对眼睛有腐蚀性, 接触可能发生灼伤或腐蚀。 电池内的电解液对眼睛有刺激性。

呼吸致敏: 无资料。

皮肤致敏: 无资料。

生殖细胞致突变性: 无资料。

致癌性: 无资料。

生殖毒性: 无资料。

特定目标器官毒性-单次接触: 无资料。

特定目标器官毒性-重复接触: 无资料。

吸入危险: 无资料。

第十二部分 生态学资料

毒性: 无资料。

持久性和降解性: 无资料。

潜在的生物累积性: 无资料。

在土壤中的流动性: 无资料。

其他有害效应: 无资料。

第十三部分 废弃处理

废弃处置方法: 废弃电池的处置应符合《中华人民共和国固体废物污染环境防治法》、《废电池污染防治技术政策》等有关法律、法规、政策和标准的要求。建议交给具有资格的化学废物处理部门处置。对于用过的而且将被运送去销毁或回收的电池, 在运输前应对其仔细检查, 以确保每节电池都是完好无损而且适合运输的。

第十四部分 运输信息

锂金属电池单独运输:

通过联合国《试验和标准手册》UN38.3试验, 和《规章范本》SP188的1.2m跌落测试。锂金属电池总净重<2.5 kg。锂金属净含量<1g。

- RID/ADR(2023版):** 根据特殊规定188, 运输时不受本规则其它规定限制。
根据2.2.9.1.7(g), 锂电池或电池组的制造商和出厂后的销售商应提供联合国《试验和标准手册》第III部分第38.3小节第38.3.5段规定的UN38.3试验概要。
- IATA DGR(66版):** 危险性类别: 9
UN编号: UN3090
运输名称: 锂金属电池组
本品应满足包装说明968的基本要求和第IB部分的规定。
包装件必须能够承受IATA DGR中包装说明968-IB所要求的堆码试验。
根据3.9.2.6.1(g), 2003年06月30日之后生产的锂电池或电池组的制造商和出厂后的销售商应提供联合国《试验和标准手册》第III部分第38.3小节第38.3.5段规定的UN38.3试验概要。
- IMO IMDG CODE(2022版):** 根据特殊规定188, 运输时不受本规则其它规定限制。
根据2.9.4.7, 锂电池或电池组的制造商和出厂后的销售商应提供联合国《试验和标准手册》第III部分第38.3小节第38.3.5段规定的UN38.3试验概要。

第十五部分 法规信息

国内法规:

锂金属电池单独运输:

- 《危险货物道路运输规则》(JT/T 617-2018): 联合国编号为: 3090, 中文名称和描述: 锂金属电池组。
该型号锂电池通过联合国《试验和标准手册》UN38.3试验, 根据特殊规定188, 运输时不受限制。
- 《危险货物物品名表》(GB 12268-2012): 联合国编号为: 3090, 名称和说明: 锂金属电池组。
该型号锂电池通过联合国《试验和标准手册》UN38.3试验, 根据特殊规定188, 运输时不受限制。
- 《铁路危险货物物品名表》(TB/T 30006-2022): 编号为: 91042, 品名: 锂金属电池组。
该型号锂电池通过联合国《试验和标准手册》UN38.3试验, 根据特殊规定78, 79, 运输时不受限制。

国际法规:

欧盟指令(EU) 2023/1542 电池的标记, 处置, 回收等应满足欧盟指令(EU) 2023/1542及2013/56/EU中的规定。
及2013/56/EU:

ICAO TI:

- 除非依据《技术细则》的相关要求取得豁免, 单独包装的锂离子电池(芯)(UN 3480, PI 965)和锂金属电池(芯)(UN 3090, PI 968)货物禁止使用客机运输。
- 除非依据《技术细则》的相关要求取得特别批准, 按照包装说明965要求运输的锂离子电池(芯)货物, 交运时锂离子电池(芯)的荷电状态不得超过其额定容量的30%。

第十六部分 其他信息

编制日期:

2025年01月01日

编制部门:

上海化工院检测有限公司

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修改信息:

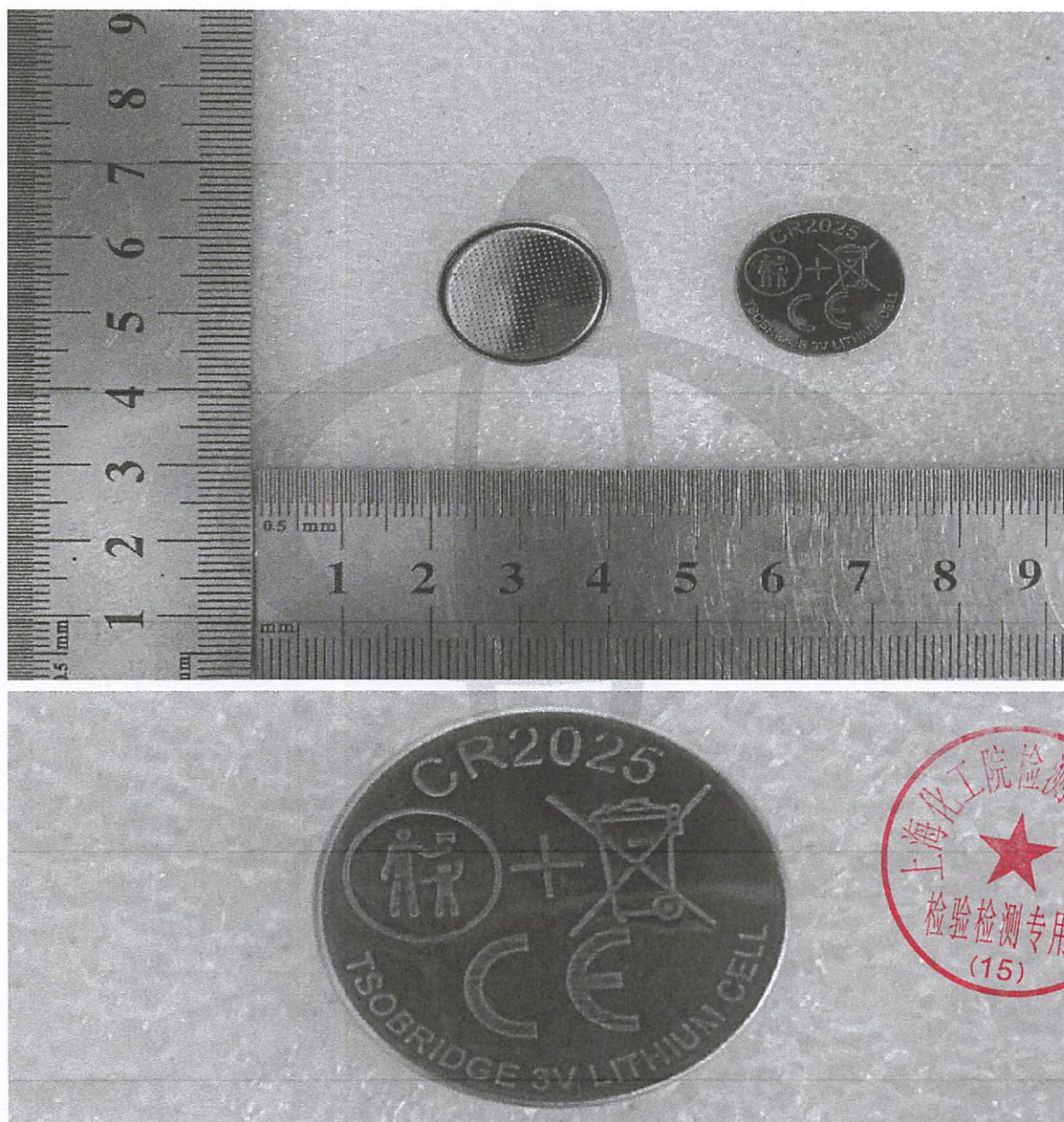
第0次修订

缩略语和首字母缩写:

CAS: 美国化学文摘社 EC: 欧盟委员会 ACGIH: 美国政府工业卫生学家委员会 PC-TWA: 时间加权平均容许浓度 TLV-TWA: 时间加权平均阈值 TLV-STEL: 短时间接触阈值 皮: 该物质通过完整的皮肤吸收引起全身效应 ADR: 关于国际公路运输危险货物的欧洲协议 RID: 国际铁路运输危险货物规则 IMO IMDG CODE: 国际海事组织 国际海运危险货物规则 IATA DGR: 国际航空运输协会 危险货物规则 EU: 欧洲联盟 ICAO TI: 国际民用航空组织 危险物品安全航空运输技术细则 PI: 包装说明

其他信息:

本SDS报告仅针对电池。报告内容是根据申请单位提供的成分含量等信息和我司现有知识编写, 仅作为指导使用。如果电池被用于其它产品中的组件, 本SDS报告的信息可能不适用。本SDS的使用者必须对内容的正确性与完整性做出独立判断, 根据实际情况决定其适用性, 并对使用后果承担相关法律责任。



报告结束



中国认可
检验
INSPECTION
CNAS IB0071



NO.2625010248

SAFETY DATASHEET

Product Name: LiMnO₂ CR2025 3V 150mAh

Effective Date: 2025-01-01

Compiler: Xia Bangwei

Checker: Liu Wangqing

Approver: Dongxuesheng

Shanghai Institute of Chemical Industry Testing Co., Ltd.



Anyuan Kaiwen Technology Co.,Ltd

SAFETY DATA SHEET

LiMnO₂ CR2025 3V 150mAh

SECTION1 PRODUCT AND COMPANY IDENTIFICATION

Product name: LiMnO₂ CR2025 3V 150mAh

Company: Anyuan Kaiwen Technology Co.,Ltd

Address: Qian Yi Electronics Industrial Park, Chancheng New District, Anyuan County,
Ganzhou City, Jiangxi Province, 342100, P.R.China

Email: CR20321625@126.com

Fax: 86-797-3785199

Emergency Phone: 86-797-3785199

Recommend use of the chemical and restrictions on use: /

SDS Number: 2625010248

Effective Date: 2025-01-01

SECTION2 HAZARDS IDENTIFICATION

The product is outside of the scope of GHS system.

Main Hazards:**Fire or Explosion Hazards:**

Lithium metal emits spontaneously flammable gas in contact with water, and the electrolyte may contain flammable liquid.

Health Hazards:

Lithium metal is corrosive to eyes and skin, and may cause burns or corrosion in contact. The electrolyte in the battery causes skin irritation and eye irritation.

SECTION3 INFORMATION ON INGREDIENTS

Product name: LiMnO₂ CR2025 3V 150mAh

Ingredient	Concentration	CAS No.	EC No.
430 Stainless steel	52.15%	12597-68-1	/
Electrolytic manganese dioxide	30%	1313-13-9	215-202-6
Graphite	4.6%	7782-42-5	231-955-3

Polypropylene	4. 4%	9003-07-0	618-352-4
Propylene carbonate	3%	108-32-7	203-572-1
Ethylene glycol dimethyl ether	2%	110-71-4	203-794-9
Lithium metal	1. 85%	7439-93-2	231-102-5
1,3-Dioxolane	1. 3%	646-06-0	211-463-5
Lithium perchlorate	0. 7%	7791-03-9	232-237-2

SECTION4 FIRST-AID MEASURES

Skin Exposure:

If in contact with the internal materials of battery, remove the contaminated clothing and footwear, immediately flush with plenty of water for at least 20 minutes. Call a physician.

Eye Exposure:

If in contact with the internal materials of battery, lift your eyelids immediately and rinse them with running water for more than 20 minutes. Call a physician.

Inhalation Exposure:

If the internal materials of battery are inhaled, immediately remove to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Call a physician.

Oral Exposure:

Do not induce vomiting if the internal materials of battery are swallowed. Call a physician immediately.

Most Important Symptoms/Effects, Acute and Delayed:

No data available.

Indication of Immediate Medical Attention and Special Treatment Needed, If Necessary:

No data available.

SECTION5 FIRE FIGHTING MEASURES

Suitable Extinguishing Media:

Suitable: Dry graphite powder, dry sand.

Specific Hazards Arising from the Chemical:

Lithium metal can ignite spontaneously in the air when heated to a molten state. It can release hydrogen and energy when reacting with water or acids, which causes fire or even explosion. A molten stream is generated immediately after burning and will disperse and emit thick white smoke, which will shade the fire scene.

Special Protective Action for Fire-fighters:

Protective Equipment: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes. Fire-extinguishing work is done from the windward. Uninvolved persons should evacuate to a safe place.

SECTION6 ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures:

Use personal protective equipment. Ensure adequate ventilation. Keep people away from and upwind of spill/leak. Entry to noninvolved personnel should be controlled around the leakage area by roping off. Remove all sources of ignition. Water treatment is strictly prohibited. Cut off the source of leakage as much as possible.

Environmental Precautions:

Avoid leakage getting into the earth, ditches or waters.

Methods and Materials for Containment and Cleaning Up:

In case of small leakage, use dry sand or other non-combustible materials to cover the leakage, and then cover with plastic cloth to reduce scattering and avoid rain. In case of powder leakage, cover the leakage with plastic cloth or canvas to reduce scattering. Keep it dry, and remove it under the guidance of an expert.

SECTION7 HANDLING AND STORAGE**Precautions for Safe Handling:**

Operators should be trained and strictly abide by operating procedures. Wear appropriate protective clothing and safety gloves. Keep away from ignition sources, heat and flame. No smoking at working site. Handling is performed in an explosion-proof ventilation system and equipment. Do not let the lithium metal contact with water. Avoid disassembling the battery at will and reversing battery polarity within the battery assembly. The battery must be firmly packed in inner packaging so as to effectively prevent short circuits and short circuits caused by movement. In case of leakage of the materials in the battery, avoid directly contact with eyes and skin. Avoid inhalation. Incompatibilities: Acids. Halogens, Combustible materials and Corrosive substances.

Conditions for Safe Storage, Including Any Incompatibilities:

Store in a cool, dry, and well-ventilated area. Keep away from ignition sources, heat and flame. Avoid exposure to moisture. Incompatibilities: Acids. Halogens, Combustible materials and Corrosive substances. The battery must be firmly packed in inner packaging so as to effectively prevent short circuits and short circuits caused by movement. Storage place should be equipped with appropriate varieties and quantities of fire fighting equipment and leakage emergency treatment equipment.

SECTION8 EXPOSURE CONTROL/PPE**Control Parameters:**

GBZ 2.1-2019 Occupational Exposure Limits for Hazardous Agents in the Workplace - Part 1: Chemical Hazardous Agents:

Manganese and its inorganic compounds (calculated by MnO_2): PC-TWA 0.15 mg / m³

Polypropylene: Polypropylene dust PC-TWA 5mg / m³ (total dust)

Graphite dust: PC-TWA 4 mg/m³ (Total dust) ; PC-TWA 2 mg/m³ (Respirable dust)

ACGIH:

Manganese dioxide: TLV-TWA 0.02mg/m³ (calculated by manganese, respirable particles) TLV-STEL 0.1mg/m³ (calculated by manganese, respirable particles)

Graphite: TLV-TWA 2 mg/m³

Ethylene glycol dimethyl ether: TLV-TWA 0.5 ppm, skin

Appropriate Engineering Controls:

Mechanical exhaust required. Safety shower and eye bath.

Individual Protection Measures:**Eye/Face Protection:**

Wear chemical safety glasses.

Skin Protection:

Hand Protection: Wear safety gloves.

Body Protection: Wear appropriate protective clothing.

Respiratory Protection:

Wear government approved respirator if needed.

Thermal hazards:

No data available.

Other Protect:

No smoking, drinking and eating at working site. Wash thoroughly after handling.

SECTION9 PHYSICAL/CHEMICAL PROPERTIES**Appearance:** Silvery button metal shell**Odor:** Odorless**pH Value:** 8-9**Solubility:** Partial soluble in water**Boiling Point,** No data available**Initial Boiling
Point and Boiling****Range:**
Melting >300°C**Point/Freezing****Point:****Flash Point** No data available**(Closed Cup):****Density/Relative** No data available**Density:****Kinematic** No data available**Viscosity:****Lower/Upper** No data available**Explosion****Limit/Flammabili****ty Limit:****Vapour Pressure:** No data available**Relative Vapor** No data available**Density:****Partition** No data available**Coefficient****N-Octanol/Water(****Log Value):****Autoignition** No data available**Temperature:****Decomposition** No data available**Temperature:****Particle** No data available**characteristics:****Flammability** No data available**(Solid, Gas):****SECTION10 STABILITY AND REACTIVITY****Reactivity:**

No data available.

Chemical Stability:

Stable under normal temperatures and pressures.

Possibility of Hazardous Reactions:

No data available.

Conditions to Avoid:

Avoid misoperation, exposure to heat and open flame. Avoid mechanical or electrical abuse and overcharge. Prevent short circuits. Prevent movement which could lead to short circuits. Avoid exposure to moisture.

Incompatible Materials:

Acids. Halogens, Combustible materials and Corrosive substances.

Hazardous Decomposition Products:

Carbon oxides, metal oxides, etc.

SECTION11 TOXICOLOGICAL INFORMATION

Acute Toxicity:

No data available.

Skin Corrosion/Irritation:

Lithium metal is corrosive to skin, and may cause burns or corrosion in contact. The electrolyte in the battery causes skin irritation.

Serious Eye Damage/Irritation:

Lithium metal is corrosive to eyes, and may cause burns or corrosion in contact. The electrolyte in the battery causes eye irritation.

Respiratory Sensitization:

No data available.

Skin Sensitization:

No data available.

Carcinogenicity:

No data available.

Germ Cell Mutagenicity:

No data available.

Reproductive Toxicity:

No data available.

Specific Target Organ Toxicity -Single Exposure:

No data available.

Specific Target Organ Toxicity -Repeated Exposure:

No data available.

Aspiration Hazard:

No data available.

SECTION12 ECOLOGICAL INFORMATION

Toxicity:

No data available.

Persistence and Degradability:

No data available.

Bioaccumulative Potential:

No data available.

Mobility in Soil:

No data available.

Other Adverse Effects:

No data available.

SECTION13 DISPOSAL CONSIDERATION

Disposal Methods:

The disposal of discarded battery shall comply with the requirements of relevant laws, regulations, policies and standards such as the "Law of the People's Republic of China on the Prevention and Control of Environmental Pollution by Solid Waste" and "Technical Policy for the Prevention and Control of Waste Battery Pollution". Contact a licensed professional waste disposal service to dispose of wastes. Used battery being transported for disposal or reclamation should be carefully checked prior to shipment to ensure the integrity of each battery and its suitability for transport.

SECTION14 TRANSPORT INFORMATION

Only Lithium
Metal Battery
During Transport:

The product has passed the test items of Manual of Tests and Criteria Section 38.3 and UN Model Regulations, SP188, 1.2m drop test. The net weight of the lithium batteries in the package is less than 2.5 kg. The content of Lithium is less than 1 g.

RID/ADR(2023 Edition): The product is not subject to the other provisions of RID/ADR according to special provision 188. According to 2.2.9.1.7 (g), Manufacturers and subsequent distributors of cells or batteries manufactured shall make available the test summary as specified in the Manual of Tests and Criteria, Part III, sub-section 38.3, paragraph 38.3.5.

IATA DGR (66th Edition): Hazard Class: 9
UN Number: UN3090
Proper Shipping Name: Lithium metal batteries
The product shall meet the General Requirements and section IB of Packaging Instruction 968.
The package must be capable of withstanding the stacking test required in PI 968- IB. According to 3.9.2.6.1(g), Manufacturers and subsequent distributors of cells or batteries manufactured after 30 June 2003 shall make available the test summary as specified in the Manual of Tests and Criteria, Part III, sub-section 38.3, paragraph 38.3.5.

IMO IMDG CODE(2022 Edition): The product is not subject to the other provisions of IMO IMDG Code according to special provision 188.
According to 2.9.4.7, Manufacturers and subsequent distributors of cells or batteries manufactured shall make available the test summary as specified in the Manual of Tests and Criteria, Part III, sub-section 38.3, paragraph 38.3.5.

SECTION15 REGULATORY INFORMATION

Domestic Regulations:

Only Lithium Metal Battery During Transport:

Regulations Concerning Road Transportation Of Dangerous Goods(JT/T 617-2018):

UN Number: 3090

Name and Description: Lithium metal batteries

The product has passed the test items of Manual of Tests and Criteria Section 38.3.

The product is not subject to JT/T 617-2018 according to special provision 188.

List Of Dangerous Goods(GB 12268-2012):

UN Number: 3090

Proper Shipping Name: Lithium metal batteries

The product has passed the test items of Manual of Tests and Criteria Section 38.3, The product is not subject to GB 12268-2012 according to special provision 188.

List of Dangerous Goods by Rail (TB/T 30006-2022):

Number: 91042

Name of Product: Lithium metal batteries

The product has passed the test items of Manual of Tests and Criteria Section 38.3.

The product is not subject to TB/T 30006-2022 according to special provision 78, 79.

International Regulations:

Directive (EU) 2023/1542 and 2013/56/EU:

The label, disposal and recycling of the battery shall meet the requirements of EU Directive (EU) 2023/1542 and 2013/56/EU.

ICAO TI:

1. Unless be exempted according to ICAO TI, the lithium ion cell/batteries (UN 3480, PI 965) and lithium metal cell/batteries (UN 3090, PI 968) are forbidden for carriage on passenger aircraft.
2. Unless be approved according to ICAO TI, Lithium ion cells/batteries (UN 3480, PI 965) must be offered for transport at a state of charge (SoC) not exceeding 30% of their rated design capacity.

SECTION 16 OTHER INFORMATION

Preparation Date:

2025-01-01

Preparation Department:

Shanghai Institute of Chemical Industry Testing Co., Ltd. Tel(Fax): +86-21-52815377/31765555

Revision:

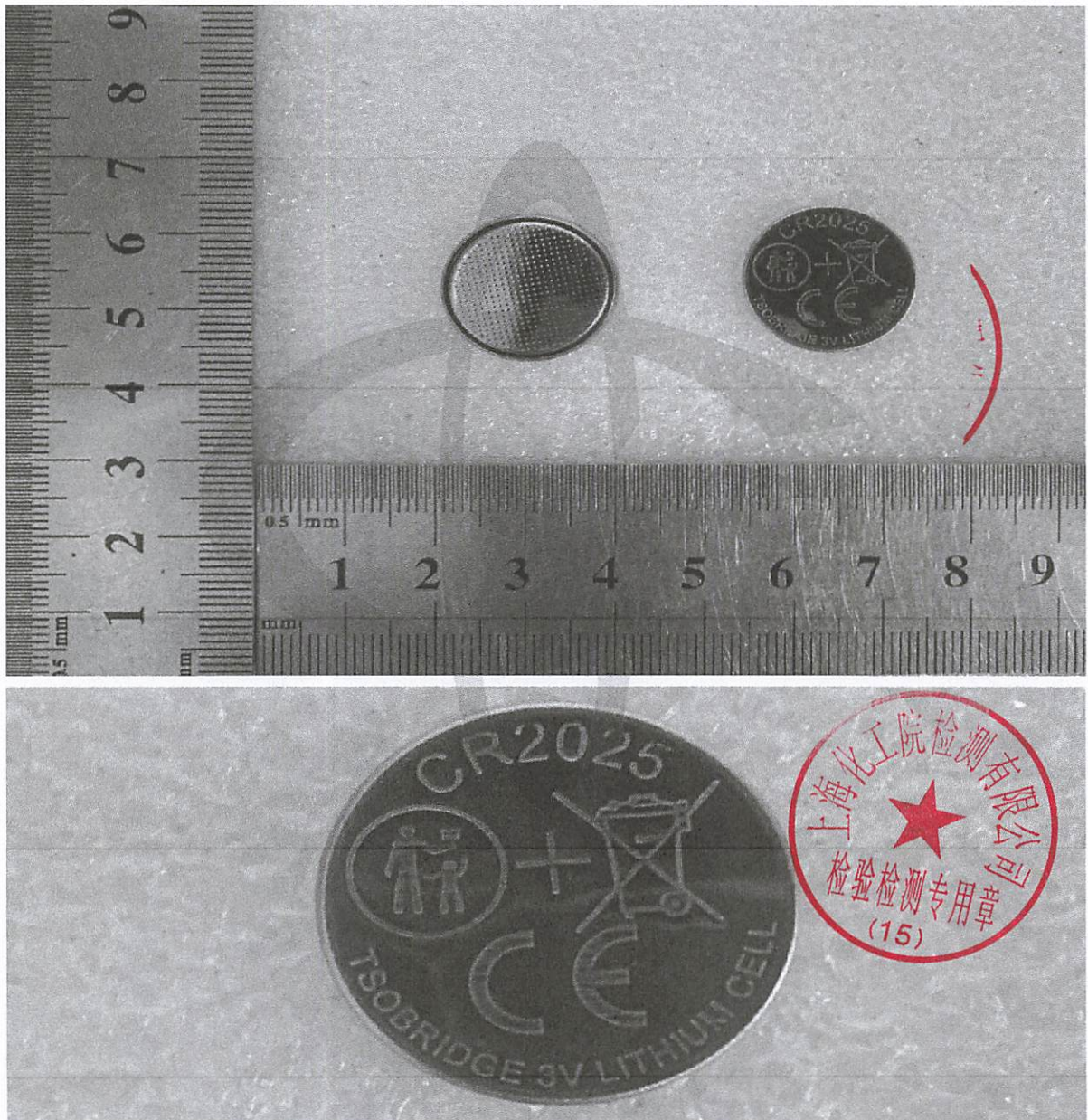
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Abbreviations and Acronyms:

CAS: Chemical Abstracts Service EC: European Commission ACGIH: American Conference of Governmental Industrial Hygienists PC-TWA: Permissible concentration-time weighted average TLV-TWA: Threshold limit value-time weighted average TLV-STEL: Threshold limit value-short term exposure limit Skin: The substance causes systemic effects through entire skin absorption ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road RID: Regulations concerning the International Carriage of Dangerous Goods by Rail IMO IMDG CODE: International Maritime Organization International Maritime Code for Dangerous Goods IATA DGR: International Air Transport Association Dangerous Goods Regulations EU: European Union ICAO TI: International Civil Aviation Organization Technical Instructions for the Safe Transport of Dangerous Goods by Air PI: Packaging Instruction

Other Information:

This SDS is only compiled for battery and based on the information such as ingredients provided by the applicant and our current knowledge. This SDS shall be used only as a guide. If the battery is used as a component in another product, the information in this SDS may not be applicable. The users of this SDS must make independent judgments on the correctness and completeness and then decide its suitability according to the actual situation. The users should take the relevant legal responsibilities for the consequences of use.



END OF REPORT



中国认可
检验
INSPECTION
CNAS IB0071



NO.2625010248

SAFETY DATASHEET

Product Name: LiMnO₂ CR2025 3V 150mAh

Effective Date: 2025-01-01

Compiler: Xia Bangwei

Checker: Liu Wangqing

Approver: Dongxuesheng

Shanghai Institute of Chemical Industry Testing Co., Ltd.



Anyuan Kaiwen Technology Co.,Ltd

SAFETY DATA SHEET

LiMnO₂ CR2025 3V 150mAh

SECTION1 PRODUCT AND COMPANY IDENTIFICATION

Product name: LiMnO₂ CR2025 3V 150mAh

Company: Anyuan Kaiwen Technology Co.,Ltd

Address: Qian Yi Electronics Industrial Park, Chancheng New District, Anyuan County,
Ganzhou City, Jiangxi Province, 342100, P.R.China

Email: CR20321625@126.com

Fax: 86-797-3785199

Emergency Phone: 86-797-3785199

Recommend use of the chemical and restrictions on use: /

SDS Number: 2625010248

Effective Date: 2025-01-01

SECTION2 HAZARDS IDENTIFICATION

The product is outside of the scope of GHS system.

Main Hazards:**Fire or Explosion Hazards:**

Lithium metal emits spontaneously flammable gas in contact with water, and the electrolyte may contain flammable liquid.

Health Hazards:

Lithium metal is corrosive to eyes and skin, and may cause burns or corrosion in contact. The electrolyte in the battery causes skin irritation and eye irritation.

SECTION3 INFORMATION ON INGREDIENTS

Product name: LiMnO₂ CR2025 3V 150mAh

Ingredient	Concentration	CAS No.	EC No.
430 Stainless steel	52.15%	12597-68-1	/
Electrolytic manganese dioxide	30%	1313-13-9	215-202-6
Graphite	4.6%	7782-42-5	231-955-3

Polypropylene	4. 4%	9003-07-0	618-352-4
Propylene carbonate	3%	108-32-7	203-572-1
Ethylene glycol dimethyl ether	2%	110-71-4	203-794-9
Lithium metal	1. 85%	7439-93-2	231-102-5
1,3-Dioxolane	1. 3%	646-06-0	211-463-5
Lithium perchlorate	0. 7%	7791-03-9	232-237-2

SECTION4 FIRST-AID MEASURES

Skin Exposure:

If in contact with the internal materials of battery, remove the contaminated clothing and footwear, immediately flush with plenty of water for at least 20 minutes. Call a physician.

Eye Exposure:

If in contact with the internal materials of battery, lift your eyelids immediately and rinse them with running water for more than 20 minutes. Call a physician.

Inhalation Exposure:

If the internal materials of battery are inhaled, immediately remove to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Call a physician.

Oral Exposure:

Do not induce vomiting if the internal materials of battery are swallowed. Call a physician immediately.

Most Important Symptoms/Effects, Acute and Delayed:

No data available.

Indication of Immediate Medical Attention and Special Treatment Needed, If Necessary:

No data available.

SECTION5 FIRE FIGHTING MEASURES

Suitable Extinguishing Media:

Suitable: Dry graphite powder, dry sand.

Specific Hazards Arising from the Chemical:

Lithium metal can ignite spontaneously in the air when heated to a molten state. It can release hydrogen and energy when reacting with water or acids, which causes fire or even explosion. A molten stream is generated immediately after burning and will disperse and emit thick white smoke, which will shade the fire scene.

Special Protective Action for Fire-fighters:

Protective Equipment: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes. Fire-extinguishing work is done from the windward. Uninvolved persons should evacuate to a safe place.

SECTION6 ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures:

Use personal protective equipment. Ensure adequate ventilation. Keep people away from and upwind of spill/leak. Entry to noninvolved personnel should be controlled around the leakage area by roping off. Remove all sources of ignition. Water treatment is strictly prohibited. Cut off the source of leakage as much as possible.

Environmental Precautions:

Avoid leakage getting into the earth, ditches or waters.

Methods and Materials for Containment and Cleaning Up:

In case of small leakage, use dry sand or other non-combustible materials to cover the leakage, and then cover with plastic cloth to reduce scattering and avoid rain. In case of powder leakage, cover the leakage with plastic cloth or canvas to reduce scattering. Keep it dry, and remove it under the guidance of an expert.

SECTION7 HANDLING AND STORAGE**Precautions for Safe Handling:**

Operators should be trained and strictly abide by operating procedures. Wear appropriate protective clothing and safety gloves. Keep away from ignition sources, heat and flame. No smoking at working site. Handling is performed in an explosion-proof ventilation system and equipment. Do not let the lithium metal contact with water. Avoid disassembling the battery at will and reversing battery polarity within the battery assembly. The battery must be firmly packed in inner packaging so as to effectively prevent short circuits and short circuits caused by movement. In case of leakage of the materials in the battery, avoid directly contact with eyes and skin. Avoid inhalation. Incompatibilities: Acids. Halogens, Combustible materials and Corrosive substances.

Conditions for Safe Storage, Including Any Incompatibilities:

Store in a cool, dry, and well-ventilated area. Keep away from ignition sources, heat and flame. Avoid exposure to moisture. Incompatibilities: Acids. Halogens, Combustible materials and Corrosive substances. The battery must be firmly packed in inner packaging so as to effectively prevent short circuits and short circuits caused by movement. Storage place should be equipped with appropriate varieties and quantities of fire fighting equipment and leakage emergency treatment equipment.

SECTION8 EXPOSURE CONTROL/PPE**Control Parameters:**

GBZ 2.1-2019 Occupational Exposure Limits for Hazardous Agents in the Workplace - Part 1: Chemical Hazardous Agents:

Manganese and its inorganic compounds (calculated by MnO_2): PC-TWA 0.15 mg / m³

Polypropylene: Polypropylene dust PC-TWA 5mg / m³ (total dust)

Graphite dust: PC-TWA 4 mg/m³ (Total dust) ; PC-TWA 2 mg/m³ (Respirable dust)

ACGIH:

Manganese dioxide: TLV-TWA 0.02mg/m³ (calculated by manganese, respirable particles) TLV-STEL 0.1mg/m³ (calculated by manganese, respirable particles)

Graphite: TLV-TWA 2 mg/m³

Ethylene glycol dimethyl ether: TLV-TWA 0.5 ppm, skin

Appropriate Engineering Controls:

Mechanical exhaust required. Safety shower and eye bath.

Individual Protection Measures:**Eye/Face Protection:**

Wear chemical safety glasses.

Skin Protection:

Hand Protection: Wear safety gloves.

Body Protection: Wear appropriate protective clothing.

Respiratory Protection:

Wear government approved respirator if needed.

Thermal hazards:

No data available.

Other Protect:

No smoking, drinking and eating at working site. Wash thoroughly after handling.

SECTION9 PHYSICAL/CHEMICAL PROPERTIES**Appearance:** Silvery button metal shell**Odor:** Odorless**pH Value:** 8-9**Solubility:** Partial soluble in water**Boiling Point,** No data available**Initial Boiling
Point and Boiling****Range:**
Melting >300°C**Point/Freezing****Point:****Flash Point** No data available**(Closed Cup):****Density/Relative** No data available**Density:****Kinematic** No data available**Viscosity:****Lower/Upper** No data available**Explosion****Limit/Flammabili****ty Limit:****Vapour Pressure:** No data available**Relative Vapor** No data available**Density:****Partition** No data available**Coefficient****N-Octanol/Water(****Log Value):****Autoignition** No data available**Temperature:****Decomposition** No data available**Temperature:****Particle** No data available**characteristics:****Flammability** No data available**(Solid, Gas):****SECTION10 STABILITY AND REACTIVITY****Reactivity:**

No data available.

Chemical Stability:

Stable under normal temperatures and pressures.

Possibility of Hazardous Reactions:

No data available.

Conditions to Avoid:

Avoid misoperation, exposure to heat and open flame. Avoid mechanical or electrical abuse and overcharge. Prevent short circuits. Prevent movement which could lead to short circuits. Avoid exposure to moisture.

Incompatible Materials:

Acids. Halogens, Combustible materials and Corrosive substances.

Hazardous Decomposition Products:

Carbon oxides, metal oxides, etc.

SECTION11 TOXICOLOGICAL INFORMATION

Acute Toxicity:

No data available.

Skin Corrosion/Irritation:

Lithium metal is corrosive to skin, and may cause burns or corrosion in contact. The electrolyte in the battery causes skin irritation.

Serious Eye Damage/Irritation:

Lithium metal is corrosive to eyes, and may cause burns or corrosion in contact. The electrolyte in the battery causes eye irritation.

Respiratory Sensitization:

No data available.

Skin Sensitization:

No data available.

Carcinogenicity:

No data available.

Germ Cell Mutagenicity:

No data available.

Reproductive Toxicity:

No data available.

Specific Target Organ Toxicity -Single Exposure:

No data available.

Specific Target Organ Toxicity -Repeated Exposure:

No data available.

Aspiration Hazard:

No data available.

SECTION12 ECOLOGICAL INFORMATION

Toxicity:

No data available.

Persistence and Degradability:

No data available.

Bioaccumulative Potential:

No data available.

Mobility in Soil:

No data available.

Other Adverse Effects:

No data available.

SECTION13 DISPOSAL CONSIDERATION

Disposal Methods:

The disposal of discarded battery shall comply with the requirements of relevant laws, regulations, policies and standards such as the "Law of the People's Republic of China on the Prevention and Control of Environmental Pollution by Solid Waste" and "Technical Policy for the Prevention and Control of Waste Battery Pollution". Contact a licensed professional waste disposal service to dispose of wastes. Used battery being transported for disposal or reclamation should be carefully checked prior to shipment to ensure the integrity of each battery and its suitability for transport.

SECTION14 TRANSPORT INFORMATION

Only Lithium
Metal Battery
During Transport:

The product has passed the test items of Manual of Tests and Criteria Section 38.3 and UN Model Regulations, SP188, 1.2m drop test. The net weight of the lithium batteries in the package is less than 2.5 kg. The content of Lithium is less than 1 g.

RID/ADR(2023 Edition): The product is not subject to the other provisions of RID/ADR according to special provision 188. According to 2.2.9.1.7 (g), Manufacturers and subsequent distributors of cells or batteries manufactured shall make available the test summary as specified in the Manual of Tests and Criteria, Part III, sub-section 38.3, paragraph 38.3.5.

IATA DGR (66th Edition): Hazard Class: 9
UN Number: UN3090
Proper Shipping Name: Lithium metal batteries
The product shall meet the General Requirements and section IB of Packaging Instruction 968.
The package must be capable of withstanding the stacking test required in PI 968- IB. According to 3.9.2.6.1(g), Manufacturers and subsequent distributors of cells or batteries manufactured after 30 June 2003 shall make available the test summary as specified in the Manual of Tests and Criteria, Part III, sub-section 38.3, paragraph 38.3.5.

IMO IMDG CODE(2022 Edition): The product is not subject to the other provisions of IMO IMDG Code according to special provision 188.
According to 2.9.4.7, Manufacturers and subsequent distributors of cells or batteries manufactured shall make available the test summary as specified in the Manual of Tests and Criteria, Part III, sub-section 38.3, paragraph 38.3.5.

SECTION15 REGULATORY INFORMATION

Domestic Regulations:

Only Lithium Metal Battery During Transport:

Regulations Concerning Road Transportation Of Dangerous Goods(JT/T 617-2018):

UN Number: 3090

Name and Description: Lithium metal batteries

The product has passed the test items of Manual of Tests and Criteria Section 38.3.

The product is not subject to JT/T 617-2018 according to special provision 188.

List Of Dangerous Goods(GB 12268-2012):

UN Number: 3090

Proper Shipping Name: Lithium metal batteries

The product has passed the test items of Manual of Tests and Criteria Section 38.3, The product is not subject to GB 12268-2012 according to special provision 188.

List of Dangerous Goods by Rail(TB/T 30006-2022):

Number: 91042

Name of Product: Lithium metal batteries

The product has passed the test items of Manual of Tests and Criteria Section 38.3.

The product is not subject to TB/T 30006-2022 according to special provision 78, 79.

International Regulations:

Directive (EU)2023/1542 and 2013/56/EU:

The label, disposal and recycling of the battery shall meet the requirements of EU Directive (EU)2023/1542 and 2013/56/EU.

ICAO TI:

1. Unless be exempted according to ICAO TI, the lithium ion cell/batteries (UN 3480, PI 965) and lithium metal cell/batteries (UN 3090, PI 968) are forbidden for carriage on passenger aircraft.
2. Unless be approved according to ICAO TI, Lithium ion cells/batteries (UN 3480, PI 965) must be offered for transport at a state of charge (SoC) not exceeding 30% of their rated design capacity.

SECTION16 OTHER INFORMATION

Preparation Date:

2025-01-01

Preparation Department:

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Revision:

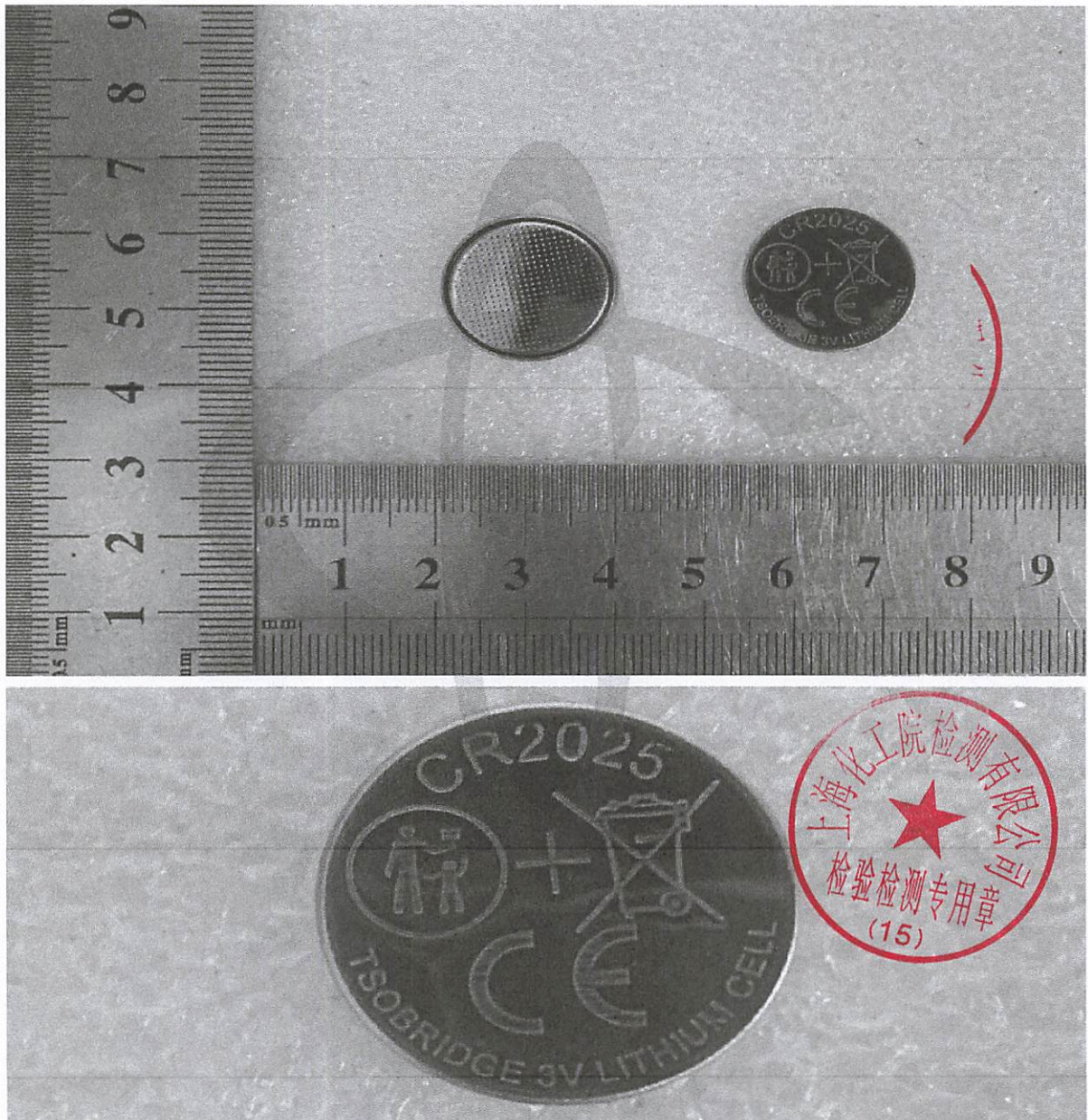
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Abbreviations and Acronyms:

CAS: Chemical Abstracts Service EC: European Commission ACGIH: American Conference of Governmental Industrial Hygienists PC-TWA: Permissible concentration-time weighted average TLV-TWA: Threshold limit value-time weighted average TLV-STEL: Threshold limit value-short term exposure limit Skin: The substance causes systemic effects through entire skin absorption ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road RID: Regulations concerning the International Carriage of Dangerous Goods by Rail IMO IMDG CODE: International Maritime Organization International Maritime Code for Dangerous Goods IATA DGR: International Air Transport Association Dangerous Goods Regulations EU: European Union ICAO TI: International Civil Aviation Organization Technical Instructions for the Safe Transport of Dangerous Goods by Air PI: Packaging Instruction

Other Information:

This SDS is only compiled for battery and based on the information such as ingredients provided by the applicant and our current knowledge. This SDS shall be used only as a guide. If the battery is used as a component in another product, the information in this SDS may not be applicable. The users of this SDS must make independent judgments on the correctness and completeness and then decide its suitability according to the actual situation. The users should take the relevant legal responsibilities for the consequences of use.



END OF REPORT