

化学品安全技术说明书 (MSDS) Material Safety Data Sheet (MSDS)

申请商:

Prepared For:

地址:

Address:

产品名称:

锂-二氧化锰电池

Product Name:

Lithium-manganese dioxide battery

型号:

Model:

CR2032

系列型号:

Series Model:

CR2032H, CR2032L, CR2025, CR2025H, CR2025L, CR2016,
CR2016H, CR2016L, CR2020, CR2050, CR1632, CR1632H,
CR1625, CR1620, CR1620H, CR1616, CR1616H, CR1220, CR1216,
CR1225, CR920, CR927, CR1130, CR1025, CR2450, CR2450H,
CR2430, CR2430H, CR2477, CR2477H, CR2354, CR2335,
CR2330, CR2325, CR2320, CR3032, CR3032H

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深圳市通测检测技术有限公司

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No.:

TCT241220W004

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第一部分 物质或混合物和供应商的标识

Section 1- Identification of the substance/mixture and of the company/undertaking

1.1 产品标识(Product identifier)

产品名称	锂-二氧化锰电池
Product Name	Lithium-manganese dioxide battery
型号	CR2032
Model	CR2032H, CR2032L, CR2025, CR2025H, CR2025L, CR2016, CR2016H, CR2016L, CR2020, CR2050, CR1632, CR1632H, CR1625, CR1620, CR1620H, CR1616, CR1616H, CR1220, CR1216, CR1225, CR920, CR927, CR1130, CR1025, CR2450, CR2450H, CR2430, CR2430H, CR2477, CR2477H, CR2354, CR2335, CR2330, CR2325, CR2320, CR3032, CR3032H
系列型号	
Series Model	
UFI	不适用
	Not applicable

1.2 产品的推荐用途和限制用途 (Relevant identified uses of the substance or mixture and uses advised against)

建议用途	无资料
Recommended Use	No information available
限制用途	无资料
Uses advised against	No information available

1.3 供应商的详细资料 (Details of the supplier of the material safety data sheet)

供应商	
Supplier	
地址	
Address	
联系人	
Contact Person	None
电话	
Phone	
邮箱	
E-mail	

1.4 应急电话 (Emergency telephone number)

第二部分 危险标识

Section 2- Hazards Identification

2.1 物质或混合物的分类 (Classification of the substance or mixture)

根据(EC) No. 1272/2008 [CLP]分类

Classification according to Regulation (EC) No. 1272/2008 [CLP]

不适用

Not applicable

2.2 标签要素 (Label elements)

象形图 不适用

Symbols/Pictograms Not applicable

信号词 不适用

Signal word Not applicable

危险说明 不适用

Hazard Statements Not applicable

防范说明 Precautionary statements

预防措施 不适用

Prevention Not applicable

事故响应 不适用

Response Not applicable

安全储存 不适用

Storage Not applicable

废弃处置 不适用

Disposal Not applicable

2.3 其他危害 (Other hazards)

PBT 和 vPvB 的结果评价(Results of PBT and vPvB assessment)

[依据 according to (EC) No 1907/2006]

不适用

Not applicable

内分泌干扰物特性评估结果(Results of endocrine disrupting properties assessment)

不适用

Not applicable

其他(Other)

正常条件下根据制造商的说明使用电池不会产生危害。使用不当的情况下，有破裂、起火、发烫、内部成分泄露的危险，并可能造成意外损失。使用不当的行为包括但不限于下列情况：长时间充电、短路、投入火中、硬物撞击、尖物刺破、破碎和破裂。

Using the battery under normal conditions according to the manufacturer's instructions is not hazardous. In the case of improper use, there is a risk of rupture, fire, hot, leakage of internal components, and may cause accidental losses. Improper use includes, but is not limited to, the following conditions: prolonged charging, short circuit, fire exposure, hard object impact, sharp object puncture, fragmentation and rupture.

第三部分 成分/组成信息

Section 3- Composition/Information on Ingredients

物品 Article

化学名称 Chemical Name	化学文摘号 CAS No.	百分含量 % Content%
铁 Iron	7439-89-6	15-40
二氧化锰 Manganese dioxide	1313-13-9	10-30
碳酸丙烯酯 Propylene carbonate	108-32-7	5-10
乙二醇二甲醚 Ethylene glycol dimethyl ether	110-71-4	5-10
石墨 Graphite	7782-42-5	5-10
铬 Chromium	7440-47-3	1-5
锂 Lithium	7439-93-2	1-5
钼 Molybdenum	7439-98-7	1-5
高氯酸锂盐 Perchloric acid, lithium salt	7791-03-9	1-5

第四部分 急救措施

Section 4- First Aid Measures

4.1 急救措施的描述 (Description of first aid measures)

一般建议

如果发生意外或不适，立即寻求医疗帮助

General advice

In case of accident or unwellness, seek medical advice immediately

吸入

如果吸入烟气或燃烧的产物，迅速脱离现场至空气新鲜处，保持呼吸通畅，若感到不适，寻求医生帮助

Inhalation

If fumes or combustion products are inhaled, remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical advice/attention if you feel unwell

摄入

用清水冲洗嘴巴，然后喝大量的水，催吐，并就医

Ingestion

Give water to rinse out mouth, then drink plenty of water, vomiting, and go to a doctor

眼睛接触

提起眼睑，用流动清水或生理盐水冲洗至少 15 分钟，若仍有刺激感，立即就医

Eye contact

Keep eyelids apart and away from eye and moving the eyelids by lifting the upper and lower lids occasionally, flush eyes with plenty of water or saline water for at least 15 minutes, call a physician if irritation persists.

皮肤接触

无明显症状，如果皮肤出现持续刺激，就医

Skin contact

No apparent symptoms. If skin irritation persists, call a physician.

急救人员的防护

确保医护人员了解产品的危害特性，并采取自身防护措施，以保护自己和防止污染传播

Protecting of

first-aiders

Ensure that medical personnel are aware of the substance involved. Take precautions to protect themselves and prevent spread of contamination.

4.2 最重要的症状和效果,急性和延迟 (Most important symptoms and effects, both acute and delayed)

有限的证据表明反复或长期职业接触可能会产生涉及器官或生化系统累积性的健康影响

Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term occupational exposure.

4.3 紧急医疗处理和特殊处理的说明 Indication of any immediate medical attention and special treatment needed (Indication of any immediate medical attention and special treatment needed)

根据症状治疗，注意症状可能会出现延迟。

Treat symptomatically, Symptoms may be delayed.

第五部分 消防措施

Section 5- Fire Fighting Measures

5.1 灭火介质 (Extinguishing media)

合适的灭火剂

使用适用于周围环境的灭火介质

Suitable

Use fire extinguishing media suitable for the surrounding environment

extinguishing media

不合适的灭火剂

无资料

Unsuitable

No information available

extinguishing media

5.2 源于此物质或混合物产生的特殊危害 (Special hazards arising from the substance or mixture)

燃烧时可能分解，产生刺激性、腐蚀性或有毒烟雾。烟雾可能引起头晕或窒息。

May decompose upon combustion to generate irritating, corrosive or toxic fumes. Fumes may cause dizziness or suffocation.

5.3 对消防人员的建议 (Advice for firefighters)

消防人员应佩戴自给式呼吸器和全套的消防服；

Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear;

用任何方式，防止泄漏进入下水道或河道；

Prevent, by any means available, spillage from entering drains or water courses;

用水作为一个很好的喷雾控制火和冷却的邻近区域。

Use water delivered as a fine spray to control fire and cool adjacent area.

第六部分 泄露应急处理

Section 6- Accidental Release Measures

6.1 个人防护措施、防护装备和应急程序 (Personal precautions, protective equipment and emergency procedures)

如果电池材料被释放，请撤离该区域，直到烟雾消散。提供最大程度的通风，清除有害气体。最好的反应是离开该区域，在电池冷却和蒸汽消散后处理掉外壳。提供最大程度的通风。避免皮肤和眼睛接触或吸入蒸汽。

If the battery material 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, dispose the case after the batteries cool and vapors dissipate. Provide maximum ventilation. Avoid skin and eye contact or inhalation of vapors.

6.2 环境保护措施 (Environmental precautions)

防止产品进入下水道。

Prevent product from entering drains

6.3 收集和清理的方法和材料 (Methods and material for containment and cleaning up)

收集和转移到合适的带标签的容器中，避免落灰。

Pick up and transfer to properly labeled containers. Avoid generation of dust

6.4 参考其他部分 (Reference to other sections)

个人防护设备建议见 MSDS 第 8 部分。

Personal Protective Equipment advice is contained in Section 8 of the MSDS.

废弃处置建议见 MSDS 第 13 部分。

Disposal considerations advice is contained in Section 13 of the MSDS.

第七部分 操作处置与储存

Section 7- Handling and Storage

7.1 安全操作注意事项 (Precautions for safe handling)

具体的安全处理建议:不要将电池扔进火中或暴露在高温下。不要将电池浸泡在水中或海水中。不要暴露在强氧化剂中。不得造成强烈的机械冲击或摔倒。切勿拆卸、修改或变形。请勿用导电材料连接正极和负极。

Specific safe handling advice: Never throw out cells in a fire or expose to high temperatures. Do not soak cells in water and seawater. Do not expose to strong oxidizers. Do not give a strong mechanical shock or throw down. Never disassemble, modify or deform. Do not connect the positive terminal to the negative terminal with electrically conductive material.

7.2 安全储存条件, 包括任何不相容性 (Conditions for safe storage, including any incompatibilities)

请勿将电池单体放置在加热设备附近, 也不要长时间暴露在阳光直射下。温度升高会缩短电池寿命, 降低电池性能。保存在阴凉的地方。不兼容产品:导电材料、水、海水、强氧化剂、强酸。配备相应品种和数量的消防设备和泄漏应急处理设备。

Do not place the battery cell near heating equipment, nor expose to direct sunlight for long periods. Elevated temperatures can result in shortened battery cell life and degrade performance. Store in cool place. Incompatible products: Conductive materials, water, seawater, strong oxidizers and strong acids. Equipped with corresponding varieties and number of fire equipment and leakage emergency treatment equipment.

7.3 特定用途(Reference to other sections)

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除第 1.2 部分提及的用途外，未预见其它具体用途。

In addition to use mentioned in the Section 1.2, unforeseen other specific end uses.

第八部分 接触控制和个体防护

Section 8 - Exposure Controls/Personal Protection

8.1 控制参数(Control parameters)

职业接触限值 (Occupational Exposure Limit, OEL)	无相关规定 No relevant regulations
生物限值(Biological limit values)	无相关规定 No relevant regulations
预测的无效应浓度 (Predicted No Effect Concentration (PNEC))	无相关规定 No relevant regulations
衍生的无效应水平(Derived No effect level, DNEL)	无相关规定 No relevant regulations

8.2 接触控制 (Exposure controls)

工程控制 Engineering controls	保持充分的通风，特别在封闭区内；确保在工作场所附近有洗眼和淋浴设施；使用防爆电器、通风、照明等设备；设置应急撤离通道和必要的泄险区。 Ensure adequate ventilation, especially in confined areas, Ensure that eye wash stations and safety showers are close to the workstation location, Use explosion-prooeelectrical/ventilating/lighting/equipment, Set up emergency exit and necessary risk-elimination area.
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个人防护设备

Personal protective equipment

眼睛防护 Eye protection	必须佩戴合适的防腐蚀护目镜。 Must wear appropriate anti-corrosion goggles. Wash hands or take a shower after working
手部防护 Hand protection	必须戴耐酸碱的化学防护手套。 Must wear acid and alkali resistant chemical protective gloves.
呼吸系统防护 Respiratory protection	必须佩戴合适的个人呼吸防护用品。 Must wear appropriate personal respiratory protective equipment.
皮肤和身体防护	必须穿抗酸碱化学防护服。

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Skin and body protection Must wear acid and alkali resistant chemical protective clothing.

第九部分 理化特性

Section 9- Physical and Chemical Properties

9.1 理化特性(Information on basic physical and chemical properties)

物理状态	固体
Physical state	Solid
颜色	无资料
Colour	No information available
气味	无气味
Odor	Odorless
嗅觉阈值	无资料
Odor threshold	No information available
pH 值	无资料
pH	No information available
熔点/凝固点	无资料
Melting/freezing point	No information available
沸点/沸腾范围	无资料
Boiling Point, initial boiling point and Boiling range	No information available
闪点(闭杯, °C)	不适用
Flash Point(Closed cup,°C)	Not applicable
蒸发率	不适用
Evaporation rate	Not applicable
可燃性	无资料
Flammability	No information available
可燃性或爆炸性上/下限	不适用
Upper/lower flammability or explosive limits	Not applicable
蒸汽压	不适用
Vapor pressure	Not applicable
相对蒸汽密度 (空气=1)	不适用
Vapor Density (Air = 1)	Not applicable
相对密度(水=1)	不适用

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Density/relative density(Water=1)	Not applicable
溶解性	不溶于水
Solubility	Insoluble in water.
辛醇/水分配系数	不适用
n-octanol/water partition coefficient	Not applicable
自燃温度(°C)	不适用
Autoignition temperature(°C)	Not applicable
分解温度(°C)	无资料
Decomposition temperature(°C)	No information available
运动粘度(mm²/s)	不适用
Kinematic viscosity(mm²/s)	Not applicable
燃爆特性	无资料
Explosive properties	No information available
氧化性	无资料
Oxidizing properties	No information available
颗粒特征	不适用
Particle characteristics	Not applicable

9.2 其他信息(Other information)

无资料

No information available

第十部分 稳定性和反应性

Section 10 -Stability and Reactivity

10.1 反应性(Reactivity)

与不相容物质接触可发生分解或其它化学反应。

Contact with incompatible substances can cause decomposition or other chemical reactions.

10.2 化学稳定性 (Chemical stability)

在正确的使用和存储条件下是稳定的。

Stable under proper operation and storage conditions.

10.3 危险反应的可能性 (Possibility of hazardous reactions)

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与氧化剂反应剧烈，有引起燃烧爆炸的危险。具有可燃性，其蒸气（或粉末）与空气接触可形成爆炸性混合物。与金属烷氧化物接触会发生着火。

In contact with oxidants causes severe reactions, and may cause a fire or explosion. Flammable, its gas or powder, if in contact with air, may form explosive mixtures. In contact with metal alkoxides may cause a fire.

10.4 避免的条件 (Conditions to avoid)

不要使电池受到机械冲击。远离明火、高温。

Do not subject battery to mechanical shock. Keep away from open flames, high temperature.

10.5 禁配物 (Incompatible materials)

导电材料、水、海水、强氧化剂、强酸。

Conductive materials, water, seawater, strong oxidizers and strong acids.

10.6 有害的分解产物 (Hazardous decomposition products)

碳氧化物、其他刺激性和有毒气体。

Carbon oxides, other irritating and toxic gases.

第十一部分 毒理学信息

Section 11 – Toxicological Information

11.1 (EC) No 1272/2008 法规中定义的危险类别信息 (Information on hazard classes as defined in Regulation (EC) No 1272/2008)

急毒性

Acute toxicity

皮肤腐蚀/刺激

Skin corrosion/irritation

严重眼损伤/眼睛刺激

Serious eye damage/eye irritation

致敏作用

Sensitization

生殖细胞突变性

Germ cell mutagenicity

未分类

Not classified

如果在内容物暴露的情况下，蒸汽烟雾可能对皮肤和眼睛非常刺激

In the event of exposure to internal contents, vapor fumes may be very irritating to the skin and eyes

如果在内容物暴露的情况下，蒸汽烟雾可能对皮肤和眼睛非常刺激

In the event of exposure to internal contents, vapor fumes may be very irritating to the skin and eyes

未分类

Not classified

未分类

Not classified

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致癌性 Carcinogenicity	未分类 Not classified
生殖毒性 Reproductive toxicity	未分类 Not classified
特定目标器官毒性-单次接触 STOT - single exposure	未分类 Not classified
特定目标器官毒性-反复接触 STOT - repeated exposure	未分类 Not classified
吸入性危害 Aspiration hazard	未分类 Not classified

11.2 其他危险信息 (Information on other hazards)
内分泌干扰物特性(Endocrine disrupting properties)
无可利用资料
No information available

其他信息(Other Information)
见第 11.1 节
See Section 11.1

第十二部分 生态学信息

Section 12-Ecological Information

12.1 水生毒性(Toxicity)
未分类
Not classified

12.2 持久性和降解性(Persistence and degradability)
无可利用资料
No information available

12.3 生物积累的潜在可能性(Bioaccumulative potential)
无可利用资料
No information available

12.4 土壤中移动性(Mobility in soil)

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无可用资料
No information available

12.5 PBT 和 vPvB 的结果评价(Results of PBT and vPvB assessment)

不适用
Not applicable

12.6 内分泌干扰物特性(Endocrine disrupting properties)

不适用
Not applicable

12.7 其他不利影响(Other adverse effects)

无可用资料
No information available

第十三部分 废弃处置

Section 13 – Disposal Considerations

废弃物处置方法(Waste treatment methods)

产品处理建议

Product disposal recommendation

包装处理建议

Packaging disposal recommendation:

废弃注意事项

Disposal recommendations

处置之前应参阅国家和地方有关法规。

National and local regulations should be referred to before disposal.

容器可以回收或者重用，遵守国家和地方有关法规。

Packaging disposal recommendation: Containers may be recycled or re-used. Observe National and local regulations.

废电池不能被当作普通垃圾。不能扔进火中或置于高温下。不能解体，刺穿，破碎或类似的处理。最好的处理办法是回收利用。

Deserted batteries shouldn't be treated as ordinary trash. Shouldn't be thrown into fire or placed in high temperature. Shouldn't be dissected, pierced, crushed or treated similarly. Best disposal method is recycling.

第十四部分 运输信息

Section 14 – Transport Information

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14.1 联合国危险货物编号(UN number or ID number)

UN 号 3090

UN Number

14.2 正式运输名称(proper shipping name)

正式运输名称 锂金属电池组 (包括锂合金电池组)

Proper shipping name LITHIUM METAL BATTERIES(including lithium alloy batteries)

14.3 运输危害分类(Transport hazard class(es))

运输危害分类 9

Transport hazard class(es)

使用者在其处所内外进行运输或运输时, 须知悉或须遵守的特别预防措施。

Special precautions which a user needs to be aware of, or needs to comply with, in connection with transport or conveyance either within or outside their premises.

国际民间航空组织/国际航空运输协会 根据国际航空组织(ICAO), TI 或国际航空运输协会(IATA)DGR 包装说明(PI) 968 第 IB 部分适用于 IATA DGR 66th (2025 版)进行空运。

ICAO/IATA Can be shipped by air in accordance with International Civil Aviation Organization (ICAO), TI or International Air Transport Association (IATA), DGR Packing Instructions (PI) 968 Section IB appropriate of IATA DGR 66th (2025 Edition) for transportation.

国际海运危险货物规则 根据特殊条款 188, 电池不受海运危规(IMDG-CODE-41-22 版)的限制。

IMDG CODE The batteries are not restricted to IMDG Code -41-22 Edition according to special provision 188.

欧洲国际陆运危险货物 根据特殊条款 188, 电池不受欧洲经济委员会(UN-ADR 2025 版)的限制。

协定/关于内陆水道国际运输危险货物的欧洲 协定 ADR/ADN The batteries are not restricted to Economic Commission for UN- ADR (2025 Edition) according to special provision 188.

备注 Remark:

无论是对内还是对外的运输或运输方式, 用户都需要注意或遵守特殊预防措施; 此外, 每个锂电芯和电池类型都必须通过联合国《关于危险货物运输的建议书试验和标准手册》第 38.3 节规定的适用测试

Special precautions which a user needs to be aware of, or needs to comply with, in connection with transport or conveyance either within or outside their premises; In addition, to be permitted in transport each lithium cell and battery types must have passed the applicable tests set out in Subsection 38.3 of the UN Manual of Tests and Criteria.

第十五部分 法规信息

Section 15 – Regulatory Information

15.1 针对该物质或混合物的安全，健康和环境法规/立法(Safety, health and environmental regulations/legislation specific for the substance or mixture)

国际化学品名录

International chemical inventory

欧盟监管物质清单

European chemical inventory

关于化学品注册、评估、授权和限制的法规(EC) No 1907/2006 (REACH)

Regulation (EC) No. 1907/2006 on the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH)

关于运输,引用和考虑了以下法规:

With regard to transport, the following regulations are cited and considered:

- 关于危险货物运输的建议书规章范本(TDG)
- Recommendations on the Transport Of Dangerous Goods Model Regulations (TDG)
- 国际民用航空协会《危险品规则》(IATA-DGR)
- International Civil Aviation Association Dangerous Goods Regulation (IATA-DGR)
- 国际海运危险货物规则(IMDG-CODE)
- International Maritime Dangerous Goods Code (IMDG-CODE)
- 国际铁路运输危险货物规则 (RID)
- International Railway Transport Dangerous Goods Regulations (RID)
- 国际公路运输危险货物协定(ADR)
- Agreement on the International Carriage of Dangerous Goods by Road (ADR)
- 国际内河运输危险货物协定 (ADN)
- Agreement on the International Carriage of Dangerous Goods by Inland Waters (ADN)

第十六部分 其他信息

Section 16 – Other Information

在我们看来上面的信息是准确的,这是我们目前能提供的最佳的信息。但是,对于这些信息,我们不对商品的性能做任何明示的或者暗示的保证,我们也不对使用这些信息造成的后果担负任何责任。用户应当自己调查研究后决定这些信息是否适用于他们的特定用途。尽管在该文档里提出了合理的预警,但是这仅仅只是给您做参考、考量和调查。这份安全技术说明书提供了安全处理和使用该产品的指南,但是它没有,也不能对所有可能发生的情景提出建议,所以您需要根据您对该产品的特定使用情况来决定是否

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需要其他的预防措施。此处所包含的数据/信息在通用版本的基础上已经审核并批准,本文档不包含出口控制信息。

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