Safety Data Sheet
安全数据表

This sheet is only provided as technical information and is referred normal use of the product in question. Pairdeer makes no warranty expressed or implied.
本表仅作为技术信息提供，是以电池在正常条件下使用为前提编制的引导性文件，不具备任何保障。

Section 1- Identification 信息

● Product Name:产品名称 Lithium Manganese-Dioxide Batteries 锂二氧化锰电池	Sizes:型号 All
● Company:公司名称 Ningbo GP & Sonluk Battery Co.,Ltd. 宁波金山双鹿电池有限公司	Telephone Numbers:联系电话 +86 574 87910000
● Address:地址 No.600 Qingfeng Road, Cicheng Town, Jiangbei District, Ningbo, Zhejiang, China 宁波市江北区慈城镇庆丰路 600 号	Effective Date:生效日期 Jan.1, 2026

Section 2-Hazards Identification 危害识别

This contains lithium, organic solvent, and other combustible materials. For this reason, improper handling of the battery could lead to distortion, leakage*, overheating, explosion, or fire and cause human injury or equipment trouble. Please strictly observe safety instructions.

(*leakage is defined as an unintended escape of liquid from a battery)
此电池内含有锂、有机溶剂以及其他易燃物质。因此，若对电池处理不当，可能会导致变形、泄漏、过热、爆炸或起火，从而造成人员伤害或设备故障。请严格遵守安全操作规程。
（*泄漏指的是电池中液体的意外泄漏）

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Results of PBT and vPvB assessment:

PBT：NA

vPvB：NA

Determination of endocrine-disrupting properties:NA

持久性、生物累积性和毒性和高持久性、高生物累积性评估结果：

持久性、生物累积性和毒性：不适用

高持久性、高生物累积性：不适用

内分泌干扰物：不适用

Section 3-Composition/Information on Ingredients 成分信息

Chemical Name 化学名	Common Name and Synonyms 常规名	CAS#	% by weight 重量百分比
Manganese Dioxide 二氧化锰	MnO2	1313-13-9	25 to 40
Propylene Carbonate 丙二醇碳酸酯	C4H6O3	108-32-7	2 to 6
1,2-Dimethoxyethane 1,2-二甲氧基乙烷	C4H10O2	110-71-4	0 to 5
Lithium Perchlorate 氯酸锂	LiClO4	7791-03-9	0.1 to 2
Lithium 锂	Li	7439-93-2	1 to 4
Graphite 石墨	C	7782-42-5	1 to 4
Nickel 镍	Ni	7440-02-0	0 to 1
Stainless steel 钢	/	12597-68-1	20 to 55
Polypropylene 聚丙烯	(C3H6)n	9003-07-0	0.2 to 5

Lithium content for each cell 每个电池的锂含量

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Model 型号	Li content(gr.)锂含量	Model 型号	Li content(gr.)锂含量
CR2012	0.014	CR2032	0.065
CR2016	0.025	CR2430	0.090
CR2025	0.048	CR2450	0.165
CR1632	0.038	CR1220	0.012
CR1620	0.030	CR1216	0.008
CR1616	0.016	CR927	0.008
CR1025	0.008	CR2477	0.290
CR1225	0.015	CR3032	0.170
CR2325	0.060	CR2320	0.045
CR2330	0.072	CR2354	0.155

Section 4-First Aid Measures 急救措施

None unless internal materials are exposed.

Inhalation Fumes can cause respiratory irritation. Remove to fresh air and consult a physician.

Skin Immediately flush skin with plenty of water. If itch or irritation by chemical burn persists,consult a physician.

Eyes Immediately flush eye with plenty of water for at least 15 minutes. Consult a physician immediately

Ingestion If swallowing a battery,consult a physician immediately.
If contents come into mouth, immediately rinse by plenty of water and consult a physician.

使用方法正确电池安全。若内部物质泄漏，请遵循以下说明：

吸入 烟雾会引起呼吸道刺激。请转移到新鲜空气中并咨询医生。

皮肤接触 立即用大量的水冲洗皮肤。如果化学烧伤引起的瘙痒或刺激持续存在，请咨询医生。

溅到眼睛 请立即用大量的水冲洗眼睛至少 15 分钟。立即就医。

吞食 如果吞咽电池，请立即咨询医生。如果内容物进入口腔，立即用大量水冲洗并咨询医生。

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Section 5-Fire Fighting Measures 消防措施

Extinguishing Media: Fire extinguisher: Carbon dioxide; fire foam; dry sand; water spray and powder etc.

灭火设备：灭火器：二氧化碳灭火器；泡沫灭火器；干燥沙子；水喷雾和干粉等。

Section 6-Accidental Release Measures 泄漏应急处理

NA

Section 7-Handling and Storage 操作和储存

1) Handling 操作

Never swallow. Never charge. Never heat. Never expose to open flame. Never disassemble. Never reverse the positive and negative terminals when mounting. Never short-circuit the battery. Never weld the terminal or wire to the body of the battery directly. Never use different batteries together. Never touch the liquid leaked out of battery. Never bring fire close to battery liquid. Keep away from children.

切勿吞食。切勿充电。切勿加热。切勿暴露于明火之下。切勿拆解。安装时切勿颠倒正负极连接。切勿使电池短路。切勿直接将电池端子或电线焊接到电池本体上。切勿将不同电池混合使用。切勿接触电池泄漏的液体。切勿让火源靠近电池液体。请远离儿童。

2) Storage 储存

Never let the battery contact with water. Never store the battery in hot and high humid place.

切勿让电池接触水。切勿将电池存放在高温高湿的地方。

Section 8-Exposure Controls/Personal Protection 暴露控制，个人防护

Respiratory Protection		NA
Ventilation	Local Exhaust	NA
	Mechanical	NA
	Special	NA
	Other	NA
Eye Protection		NA
Protective Glove		NA

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Other protective clothing		
呼吸防护		NA
通风	局部排风机械的；	NA
	机械的装置	NA
	特别的	NA
	其他	NA
眼部防护		NA
防护手套		NA
其他防护服		NA

Section 9-Physical/Chemical Characteristics 物理/化学特性

Nominal Voltage: 3.0V 标称电压: 3.0V

Section 10-Stability and Reactivity 稳定性和反应性

Stability	Stable
Incompatibility	Water
Hazardous polymerization	Will not occur
Condition to avoid	See section 7
Hazardous Decomposition or Byproducts	Hydrogen
稳定性	稳定
不相容性	水
危险的聚合反应	不会发生
需避免的情况	见第 7 节
危险的分解或副产物	氢气

Section 11-Toxicological Information 毒理学信息

Skin corrosion/irritation: Causes severe skin burns and eye damage.

Serious eye damage/irritation: Causes serious eye damage.

Respiratory or skin sensitisation: Based on available data, the classification criteria are not met.

Germ cell mutagenicity: Based on available data, the classification criteria are not met.

Carcinogenicity: Based on available data, the classification criteria are not met.

Reproductive toxicity: Based on available data, the classification criteria are not met.

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STOT-single exposure: Based on available data, the classification criteria are not met.
STOT-repeated exposure: Based on available data, the classification criteria are not met.
Aspiration hazard: Based on available data, the classification criteria are not met.
Endocrine disrupting properties：None of the ingredients is listed.
皮肤腐蚀/刺激：导致严重的皮肤灼伤和眼睛损伤。
严重的眼睛损伤/刺激：导致严重的眼睛损伤。
呼吸或皮肤致敏：根据现有数据，不符合分类标准。
生殖细胞突变性：根据现有资料，分类标准不符合。
致癌性：根据现有数据，不符合分类标准。
生殖毒性：根据现有数据，未达到分类标准。
单次暴露：根据现有数据，不符合分类标准。
重复暴露：根据现有数据，不符合分类标准。
吸入危害：根据现有资料，不符合分类标准。
内分泌干扰特性：没有列出任何成分。

Section 12-Ecological Information 生态信息

Aquatic toxicity: No further relevant information available
Persistence and degradability: No further relevant information available.
Bioaccumulative potential: No further relevant information available..
Mobility in soil: No further relevant information available.
Results of PBT and vPvB assessment:
PBT: NA
vPvB: NA
Endocrine disrupting properties: The product does not contain substances with endocrine disrupting properties.
水生毒性：没有进一步的相关资料
持久性和可降解性：没有进一步的相关信息。
生物蓄积潜能：没有进一步的相关资料。
土壤流动性：没有进一步的相关资料。
持久性、生物累积性和毒性和高持久性、高生物累积性评估结果：
持久性、生物累积性和毒性：不适用
高持久性、高生物累积性：不适用
内分泌干扰特性：本品不含具有内分泌干扰特性的物质。

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Section 13-Disposal condition 处置条件

The battery may be regulated by national or local regulation. Please follow the instructions of proper regulation. As electric capacity is left in a discarded battery and it meets other metals, it could lead to distortion, leakage, overheating, or explosion, so make sure to cover the (+) and (-) terminals with friction tape or some other insulator before disposal.

电池的使用可能受到国家或地方法规的约束。请遵循相关规范的指示进行操作。由于废弃电池会与其他金属接触，可能会导致变形、泄漏、过热或爆炸，所以在处理时务必用胶带或其他绝缘材料覆盖（+）和（-）端子。

Section 14-Transportation Information (Air, Sea, Land) 运输信息（空运、海运、陆运）

*Attention - the latest regulation shall prevail, and the specifications of transportation and its difference shall be confirmed with the carrier.

All single lithium-metal cells or battery packs are considered as Class 9 according to international standards as shown below. The transport of lithium-metal cells or battery packs should meet requirements defined in International Transport Regulations. All our products (defined in chapter 1) and its packing forms meet the requirements of UN Manual of Test and Criteria, Part III, subsection.

Besides, the following transportation requirements shall be met once in transit/delivery.

注意 - 最新规定优先适用，运输规格及其差异需与承运方确认。

所有单个的锂金属电池或电池组均根据国际标准（如下所示）归类为第 9 类。锂金属电池或电池组的运输应符合《国际运输规则》中规定的要求。我们所有的产品（在第 1 章中定义的）及其包装形式均符合《联合国试验和标准手册》第三部分第 3 节的要求。

此外，在运输过程中/交付时还需满足以下运输要求。

＜Air Transport ＞空运

All batteries produced by our company, including single cells with lithium content more than 0.3g but less than 1g or battery pack models with lithium content more than 0.3g but less than 2g, conform to 968 Section IB defined in Packing Instruction of IATA-DGR.All of our products and their packaging forms comply with the requirements of Section 1A or

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Section IB, and the packaging items meet the performance standards of Class II packaging.

本公司生产的所有电池，包括锂含量在 0.3 克至 1 克之间的单体电池，以及锂含量在 0.3 克至 2 克之间的电池组，均符合国际航空运输协会危险品规则（IATA-DGR）中第 968 节 IB 部分的规定。我们所有的产品及其包装形式均符合第 1A 节或第 IB 节的要求，并且包装物品符合二类包装的性能标准。

＜Sea Transport ＞海运

All batteries, including single cells with lithium content less than 1g or battery pack models with lithium content less than 2g, conform to special regulation 188 and transport condition defined in IMDG-Code. It can be transported as non-dangerous goods.

所有电池，包括锂含量低于 1 克的单体电池或锂含量低于 2 克的电池组，均符合特殊规定 188 及《国际海运危险货物规则》中规定的运输条件。可作为非危险货物进行运输。

UN No.编号	Proper Shipping Name/Description名称
UN 3090	Lithium Metal Batteries锂金属电池
UN 3091	Lithium Metal Batteries Contained in Equipment在设备内的锂金属电池
UN 3091	Lithium Metal Batteries Packed with Equipment随设备运输的锂金属电池

Related Regulations:相关规定

Transport form法规	Relevant agencies/Issued documents相关机构/发布的文件
Air transport	ICAO/ TI IATA/DGR
Sea transport	IMO/ IMDG Code
Land transport (within Europe)	RID, ADR
US	USDOT/ DOT 49 CFR
	UN: Recommendations on the transport of dangerous goods: Manual of Tests and Criteria 5th revised edition Amendment 1 [ST/SG/AC.10/11/Rev.5/Amend.1]: PartIII, Subsection 38.3

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* Dangerous Goods Regulations – 67th Edition Effective 1 January 2026: International Air Transport Association (IATA)/Packaging Instructions 968-970

* IMDG Code 42-24

* RID - COTIF 1999/Appendix C-RID/Article 5

危险品管理规定——第 67 版，自 2026 年 1 月 1 日起生效：国际航空运输协会（IATA）/包装说明 968 - 970

* IMDG 编号 42 - 24

* RID - COTIF 1999/附录 C - RID/第 5 条

Section 15-Regulatory Information 监管信息

OSHA hazard communication standard (29 CFR 1910.1200)

_____Hazardous____√____Non-hazardous

美国职业安全与健康管理局危害沟通标准（29 美国联邦法规第 1910.1200 条）：无危险

REGULATION (EU) 2023/1542 Batteries and Waste Batteries: Pairdeer batteries are compliant with all aspects of the Directive

欧盟电池与废电池法规（EU）2023/1542:Pairdeer 电池符合该法规的所有方面。

Section 16-Other Information 其他信息

If you want further information, please contact Pairdeer sales representative.

如果您需要更多信息，请联系 Pairdeer 销售代表

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