GP Batteries

产品安全性资料

Material Safety Data Sheet

一次性锂金属电池

Lithium Battery

Document Number: MCRA003W Revision: 42

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1．产品及生产商 Product & Manufacturer

（1）产品分类 一次性锂金属电池

Product Classification Lithium Battery

（2）电池标称电压及合计锂含量 Battery Nominal Voltage & Aggregate Lithium Content

品 名 Battery Model	标称电压[V] Nominal Voltage	合计锂含量 Aggregate Lithium Content	
CR17450	3	0.84g	3.94%
CR14250	3	0.27g	2.69%
CR2/3A	3	0.56g	3.57%
CR123A	3	0.56g	3.57%
CR2	3	0.27g	2.69%
CR-P2	6	1.12g	3.02%
2CR5	6	1.12g	2.87%
CR-V9	9	0.81g	2.40%
GP15LF	1.5	0.96g	6.62%
GP24LF	1.5	0.43g	6.14%

（3）生产商 Manufacturer

GPI 国际有限公司

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【注意】[Remark]

电池非化学物质，非混合物，而是物件。

Batteries are neither chemical substance nor mixture, but articles.

电池的化学物质被密封在具有耐久性的金属钢壳中、不会流向外部。

The chemicals are sealed in outercan to prevent from outflux in the metal steel case for durability.

正常的搬用及使用，不会伤害人体的健康。

No harm to health under normal usage and adequate transportation method.

本资料阐述了异常使用时的潜在危险，主要目的是为了让大家了解电池中所含有的化学物质，
保管时的注意，以及电池运输法规相关的情报。

This instruction states the potential danger generating from non-intended use, for the explanations of chemicals in the batteries, cautions for storage and regulations for transportation.

2．电池的组成及成分 Components of the Battery

成分 Component	CAS No.	組成 Content
二氧化锰 Manganese-Dioxide	1313-13-9	30 ~ 40 wt%
锂金属 Lithium Metal	7439-93-2	2 ~ 4 wt%
电解液[有机电解液混合物] Electrolyte [Organic Electrolyte Mixture]	-	10 ~ 14 wt%
铁 Iron	7439-89-6	32 ~ 38 wt%
碳 Carbon	7440-44-0	3 ~ 5 wt%
聚丙烯 Polypropylene	9003-07-0	2 ~ 4 wt%
聚乙烯 Polyethylene	9002-88-4	1 ~ 2 wt%
其他 Others	-	3 ~ 4 wt%
SVHC Substances according to REACH (Article 33) 1,2-dimethoxyethane; ethylene glycol dimethyl ether (EGDME)*	110-71-4	>0.1wt%

*Remark: According to REACH Regulation Article 7(2) for SVHC present in articles, there is no obligation to notify because the substance EGDME has been registered in ECHA and it is excluded exposure to humans or the environment inside the battery during normal or reasonably foreseeable conditions of use and disposal. GP Lithium metal battery complies with REACH Regulation.

3．危险性 Risk

①重要的危险性	无相关情报
Significant Risk	No reference
②特有的危险性	无相关情报
Peculiar Risk	No reference

③可预想的非常情况概要

General avoidable issues:

●化学成分都密封在钢壳中，如果电池的保管方式等不正常的话，是有可能泄露出来的。

● Chemicals in the steel can may leak without proper storage.

●电池投入火中或者放在100℃以上的环境中可能会导致破裂、发火。

●Rupture or fire may happen to battery if disposed in fire or placed over 100℃.

●电池堆放、混放等导致短路时、电池可能会发热并破裂、着火。

● Heat, rupture and fire may happen to battery if short-circiut caused by stack or mixture.

※我司电池不属于GHS 分類区分。

※GHS classifications do not apply to our batteries.

4．应急措施 First Aid Measures

情况 Case	应急措施 First Aid Measures
吸入时 Inhalation	电池内的成分泄露，吸入体内时，应转移到空气新鲜的场所，并马上就医。 Seek fresh air and immediately get medical attention after inhalatingleaking component.
粘到皮肤时 Skin Contact	电池成分泄露粘到皮肤时，肥皂擦洗后，用大量的清水冲洗。长时间搁置会导致皮肤炎症等，应马上就医。 Wash affected area with plenty of soap and water. If irritation develops, get medical attention.

不慎入眼时 Eye Contact	电池内成分泄露进入眼睛时、应立即用清水冲洗15分钟以上后， 马上去医院就诊。 长时间搁置会导致眼镜障碍。 Flush with water for at least 15 minutes. If irritation develops, get medical attention.
饮入时 Ingestion	不慎饮入电池时、需立刻就医。 Get medical attention immediately if ingestion.

5．火灾时的措施 Fire Extinction Measures

灭火器　：粉末灭火剂、水溶性液体泡消类药剂、粉末灭火药剂、水喷雾、二氧化碳、干沙等。
Fire extinguisher: Carbon dioxide; fire foam; dry sand; water spray and powder etc.
灭火方法：为防止火种蔓延、将电池移至安全场所。如果电池的包装材料
是纸质的话、一般用水、二氧化碳、粉末消火剂灭火。
燃烧时的蒸汽会刺激到眼睛、鼻子、嗓子等、灭火应该在上风口进行，
根据情况需要佩戴面罩。

Means of extinction: Remove batteries to safe place to avoid fire spread. Use water, carbon dioxide, powder if the materials for packing is paper. Burning vapour may cause irritation to eyes, nose and throat. Hence, it is suggested put out the fire in the draught. Use mask when necessary.

6．泄漏时的措施 Measures for Leakage

化学成分虽然被密封在钢壳之中、但是电池被使用于设备时误操作的话，
会导致成分泄露。此时应采取以下措施:
If misuse the battery at application, the chemicals in steel can may vent. In such case, take measures below:
对于人体的注意事项：电解液短时间被人吸入、或粘到皮肤，不会对人体健康造成大的危险，
但是一定要呼吸新鲜的空气，并将电解液洗干净。

Health Cautions: The electrolyte may not cause great damage to health as soon as inhalation or contact to skin, but it should be cleaned immediately, and fresh air would help.

对于环境的注意事项：需进行彻底清洁，对于环境没有特别注意事项。
Environmental Cautions: Clean thoroughly, no significant damage to environment.
回收、中和、封口的方法·
器具：将漏出物集中到一起放入空容器中、根据规定做废弃处理。
Measures/container for collection, neutralization and crimping:
Collect in an empty container and dispose according to regulations.

7．保管注意 Storage

注意 Caution:
（1）电池充电、短路、分解、变形、过热时不要投入火中。
（1）Do not dispose batteries to fire in case of charge, short-circuit, disassembling, disformation or heat.
（2）不要重叠，混放电池。
（2）Do not stack or mix batteries.

（3）不要将电池放在金属容器、金属板、静電防止材上。
(3) Do not place batteries in metal container, metal sheet or antistatic materials.
（4）使用多个电池的器械，更换电池时、要一次性将电池全部换掉。
(4) Batteries should be changed at the same time when used in a multiple-cell applied device.
（5）保存在通风、干燥阴凉的地方。
(5) Stored in a dry and cool place with good ventilation.
（6）捆包要注意雨水、雪、霜、結露。
(6) Avoid water, snow, frost or condensation of moisture when packing.
（7）不要保存在熱源热风吹出口的附近。
(7) Do not place batteries near heat or hot air outlet.
（8）不要保存在阳光直射的场所。
(8) Do not expose batteries to sun directly.
（9）从寒冷的地方转移到高温的地方时，要注意结露。
(9) Avoid condensation of moisture when transferring batteries from cold to hot place.
（10）在仓库内设置多个消火器。
(10) Provide several fire extinguishers in the warehouse.

８．防止暴露及保护措施 Exposure Control and Protective Measures

正常的保存不需要特别的保护用具。但是异常使用于器械或电器时，可能会有大量的电解液漏出，需要使用以下的防护用具：
No special protection tools needed for normal usage. In case of abnormal use in devices or appliances, electrolyte may leak and certain protection tools should be used as below:
呼吸保护用具： 面罩（附带呼吸器）
Respiratory protective equipment: Respirators (with apparatus respiratorius)
护手用具： 合成橡胶手套
Hand protective equipment: Synthetic rubber gloves
眼睛保护用具： 防护眼镜
Eye protective equipment: Protective spectacles

９．物理或化学性質 Physical/Chemical Property

状态： 固体 States: Solid
形状： 角形 Form: Dihedral

１０．安定性及反应性 Stability and Reactivity

稳定性： 正常使用时是稳定的
Stability: It is extremely stable for normal use.

应避免的条件：电池外部短絡、受压变形、100℃以上的高温（可能会引起发热、发火）、直射日光、高湿度
Avoid Condition: External short-circuit, deformation by press, excessive temperature (above 100℃, which may cause heat or fire), expose to sun directly or high humidity.
应避免的物体： 引起短路的物体
Avoid Substance: Substance may cause short-circuit.

１１．毒理性信息 Toxicological Information

化学成分被密封在电池钢壳之中，不具危害性。
Chemicals are sealed in the steel can without danger.
以下是電池主要部材的毒理性信息，作为参考用途。
The followings are toxicological information for materials of batteries for reference.

部材 Component	毒性的种类 Classification	毒性 / 症状 Symptom
二氧化锰 Manganese Dioxide	急性毒性 Acute Toxicity	兔子Rabbit LDL0(静脈vein)=45mg/kg 老鼠Mouse LD50(皮下subcutaneous)=422mg/kg
	局部効果 Partially Affected	刺激眼 鼻、嗓子、皮肤 Irritation to eyes, nose, throat and skin.
	慢性或長期毒性 Chronic Toxicity or Long-Term Toxicity	长期（最低3个月）的灰尘或气体吸入 有可能会引起类似帕金森的中枢神経症候群 Parkinson's central nervous syndrome may caused by long-term (at least 3 months) inhalation of dirt or gas.
锂金属Lithium Metal	急性毒性 Acute Toxicity	没有金属状態的情报 No reference
	局部効果 Partially Affected	接触皮肤或眼睛，会引起化学火伤或碱性化学火伤 Chemical burning may occur in case of contact to skin or eyes.
電解液 Electrolyte	急性毒性 Acute Toxicity	目前没有情报 No reference
	局部効果 Partially Affected	对眼睛有少量刺激 A little irritation to eyes.

１２．环境影响 Environment Effects

残留性· 分解性
Residual property/Resolvability
无参考信息
No reference

对土壤的污染
Soil Pollution
无参考信息
No reference

１３．废弃时的注意 Disposal Considerations

用完的电池根据规定进行废弃。
Dispose of in a consistent manner according to the regulations.
作为安全措施，为防止短路造成的发热·破裂，用胶带贴电池两个端子、用绝缘袋捆包，
或用原来的包装袋捆包、电池做恰当的绝缘处理。
For safety purpose, insulation measures are needed to avoid heat or rupture caused by short-circuit. Such as film on terminals, insulation bag or original package for packing .

１４．輸送注意 Transportation Information

*注意，请以最新版的相关法规要求为准，具体可否进行运输及其差异化条件需与具体的承运方进行确认。
*Attention, the latest regulation shall prevail, and the specifications of transportation and its difference shall be confirmed with the carrier.

锂金属单体电池及组装电池、归属于国际class9 分类中、并编有下列国际编号。
运输锂金属单体电池或组装电池时、必须满足国际运输法规的要求。
我司的电池(第1 章中表述）以及出货包装都满足UN Manual of Test and Criteria, Part III, subsection 38.3的要求事项、并且满足以下的要求事项，才得以被允许运输的。

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 of 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 transporation requirements shall be meet when delivery.

＜空运 Air Transport＞

我司的电池，符合《通用要求》和《包装说明968》第二节的要求，按照包装说明968第二节进行包装，仅限于货机运输。我司的电池，单体电池合计锂含量大于0.3g并在1g 以下的、或者组装电池的合计锂含量超过0.3g、并在2g 以下的其中一项、符合IATA 危険物規則（IATA-DGR）的包装規格（Packing Instruction）968 Section IB、II 。电池及出货捆包、全部满足Section IB、II 运输条件，因此虽然是class 9 危险物、但是即便不用包装等級II的容器也可以运输。

Lithium metal battery. The goods meet the requirements in General Requirements and section II of Packaging Instruction 968. The goods are packaged according to the Packaging Instruction 968 section II. Cargo Aircraft Only. All batteries produced by our company, including single cells with aggregate lithium content more than 0.3g but less than 1g or battery pack models with aggregate lithium content more than 0.3g but less than 2g, conform to 968 Section IB or II defined in Packing Instruction of IATA-DGR. All of our products and its packing forms meet the requirements of Section IB or II, though the battery itself is considered as dangerous goods, it can be transported without applying containers defined as Class II.

＜海运 Sea Transport＞

我司的电池属于合计锂含量1g 以下的单体電池、或2g 以下的组装电池、满足国际海运危险品法规 （IMDG Code）188、及运输条件，作为危险品以外的物质可以运输。

All batteries produced by our company, including single cells with aggregate lithium content less than 1g or battery pack models with aggregate 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.

UN No. (国联编号)	Proper Shipping Name/Description （运输品类/描述）
UN 3090	Lithium Metal Batteries （锂金属电池）
UN 3091	Lithium Metal Batteries Contained in Equipment （安装于设备内的锂金属电池）
UN 3091	Lithium Metal Batteries Packed with Equipment （与装置一同包装的锂金属电池）

相关法规： Related Regulation:

运输手段Transport form	相关机构 / 相关法规 Relevant agencies/Issued documents
空运（航空运输）Air transport	ICAO（国际民用航空组织）/ TI（技术指南） IATA（国际航空运输协会）/ DGR（危险品法规）
海运（船舶运输）Sea transport	IMO（国际海事组织）/ IMDG Code（国际海运危险品法规）
公路运输（欧州境内） Land transport (within	RID（铁路运输法规），ADR（公路运输法规）

美国 / 国际 US/Internation	USDOT（美国运输部）/ DOT 49 CFR（美国特定法规）
	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

*1 Dangerous Goods Regulations – 63rd Edition Effective 1 January 2022: International Air Transport Association (IATA)/Packaging Instructions 968-970
*2 IMDG Code 40-20
*3 RID - COTIF 1999/Appendix C-RID/Article 5
*4 ADR - ADR/Part 3/CHAPTER 3.3/3.3.1/Clause188、230、238、239、310

１５．危险物规制内容 Regulations for Dangerous Goods

电池环境相关法：EU 诸国根据电池指令2006/66/EC相关法规、以及其他国家如中国、韓国、巴西等国，及北美加拿大都是相类似的法规。
Related environment regulations for batteries: EU countries according to the Battery Directive 2006/66/EC, and other countries like China, Korea, brazil, North America or Canada have similar regulations.

１６．其他 Others

引用文献 Reference

（１）国际航空运输协会 危险品规则（最新版）
（１）IATA DGR(Dangerous Goods Regulations), latest edition
（２）文本中定义为危险物品的，在航空运输过程中可能会引起爆炸。
（２）Notice defined in air transport regulations for dangerous goods may cause explosion.

本资料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。
This instruction established based on the normal use of the battery, without any ensurance.