

Test Report No. CANEC2124864816 Date: 19 Jan 2022 Page 1 of 4

DONGGUAN GUANTE ELECTRONICS TECHNOLOGY CO., LTD.

HENGTAI BUILDING, MIDDLE ROAD OF DONGCHENG, GUANCHENG DISTRICT, DONGGUAN CITY

The following sample(s) was/were submitted and identified on behalf of the clients as: Button cell

SGS Job No.: CP21-069501 - SZ

Model No.: CR2032 GT

Client Ref. Info.: CR927.CR1025.CR1130.CR1212.CR1216.CR1220.CR1225.CR1616.

CR1620.CR1625.CR1632.CR2016.CR2020.CR2025.CR2032.CR2032

Guante Cell CR2320.CR2325.CR2330.CR2332.CR2354.CR2430.

CR2450.CR2477.CR3032.CR123A.CR2.CR-P2.2CR5.CR34615.CR322.

CR425.CR435.CR525.CR535

Date of Sample Received: 30 Dec 2021

Testing Period: 30 Dec 2021 - 12 Jan 2022

Test Requested: Selected test(s) as requested by client.

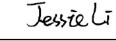
Test Method : Please refer to next page(s).

Test Results : Please refer to next page(s).

Result Summary:

Test Requested	Conclusion
European Directive 2006/66/EC and its Article 4 amendment of Directive	PASS
2013/56/EU– Heavy Metals Content in Batteries and Accumulators	

Signed for and on behalf of SGS-CSTC Standards Technical Services Co., Ltd. Guangzhou Branch



Jessie Li

Approved Signatory





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Test Results:

Test Part Description:

Specimen No. SGS Sample ID Description
SN1 CAN21-248648.008 Button cell

Remarks:

- (1) 1 mg/kg = 0.0001%
- (2) MDL = Method Detection Limit
- (3) ND = Not Detected (< MDL)
- (4) "-" = Not Regulated

<u>European Directive 2006/66/EC and its Article 4 amendment of Directive 2013/56/EU– Heavy Metals Content in Batteries and Accumulators</u>

Test Method: SGS In House Method (GZTC CHEM-TOP-068), analysis was performed by ICP-OES or AAS or

Hg-analyzer.

Comment				Pass
Mercury (Hg)	0.0005	%(w/w)	0.0001	ND
Lead (Pb)	-	%(w/w)	0.0010	ND
Cadmium (Cd)	0.0020	%(w/w)	0.0010	ND
Test Item(s)	<u>Limit</u>	<u>Unit</u>	<u>MDL</u>	<u>008</u>

Notes:

- (1) Results shown are of total weight of the battery sample.
- (2) According to the European Directive 2006/66/EC and its Article 4 amendment of Directive 2013/56/EU, all types of battery shall include the chemical symbol Lead when containing more than 0.004% of Pb.



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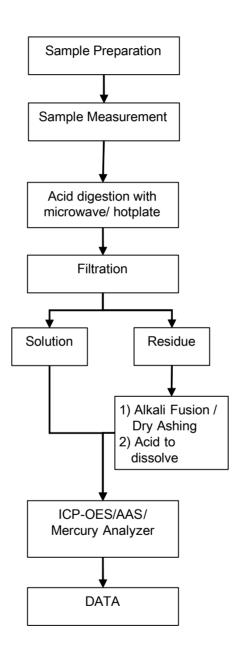
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ATTACHMENTS

Battery Testing Flow Chart





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Sample photo:



SGS authenticate the photo on original report only

*** End of Report ***



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檢验 INSPECTION CNAS IB0071 货物运输条件鉴定书

Certification for Safe Transport of Chemical Goods

锂电池类货物

样品名称:

锂-二氧化锰扣式电池 CR2032 3.0V 210mAh

Sample name:

LiMnO2 Battery CR2032 3.0V 210mAh

委托单位:

东莞市莞特电子科技有限公司

DONGGUAN GUANTE ELECTRONICS TECHNOLOGY CO., LTD.

生产单位:

东莞市莞特电子科技有限公司

DONGGUAN GUANTE ELECTRONICS TECHNOLOGY CO., LTD.



上海化工 是检测有限公司

Shanghai Institute of Chemical Industry Testing Co., Ltd

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Certification for Safe Transport of Chemical Goods 锂-二氧化锰扣式电池 CR2032 3.0V 210mAh 中文 Chinese 样品名称 Sample Name LiMnO2 Battery CR2032 3.0V 210mAh 英文 English 东莞市莞特电子科技有限公司 委托单位 DONGGUAN GUANTE ELECTRONICS TECHNOLOGY CO., LTD. Consignor 东莞市莞特电子科技有限公司 生产单位 DONGGUAN GUANTE ELECTRONICS TECHNOLOGY CO., LTD. Manufacturer 国际海事组织《国际海运危险货物规则》(2020版) 检验方法、程序 IMO International Maritime Dangerous Goods Code (2020 Edition) Inspection method and procedure 银色金属外壳 样品外观 Silvery Metal shell Sample appearance 重量≤30kg。 包装件信息

weight≤30kg. Package information 放置方式 容量Capacity 型号 电池种类 序号 Placement Model /锂含量Li content Battery type NO. 电池单独运输 210mAh / ≤0.3g 不可充电锂金属电池芯 CR2032 Battery only Primary Li-metal cell

1. 危险性识别 (Hazards identification)

锂金属电池。

Lithium metal battery.

DENTI FI CATI ON CONCL USI ON 定 结

2. 海运按照国际海事组织《国际海运危险货物规则》办理的类项(Suggestion according to IMO IMDG Code)

根据特殊规定188, 该物品不受IMO IMDG Code其他条款限制。

The article is not subject to other provisions of IMO IMDG Code according to special provision 188.

论

3. 包装要求 (Packaging requirements)

无。

None.

检验日期: Inspection Date:

2022-12-08

签发日期: Issue Date:

2022-12-08

生效日期:

Effective Date:

备注 Comment

> 批准 Approver:

Checker:

Appraiser:

品价

2023-01-0



货物运输条件鉴定书

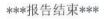
Certification for Safe Transport of Chemical Goods

NO. 212300606507219 Page 2/3

序号 No.	检验结果及其他事项 Inspection results and other things
1	本报告所述锂电池按照《国际海运危险货物规则》(2020版)2.9.4.5规定的质量管理体系进行制造。 Lithium cells and batteries listed in this report were manufactured under the quality management program described in IMDG CODE 2020 EDITION 2.9.4.5.
2	本报告所述锂电池已通过联合国《试验和标准手册》第111部分38.3小节相应测试要求。 包装件能够承受1.2m跌落试验。 Lithium cells and batteries listed in this report are of the types proved to meet the requirements of each applicable test in the UN Manual of Tests and Criteria, Part 111, sub-section 38.3. The package has passed the 1.2m drop test. UN38.3试验概要编号 The UN38.3 Test Summary No.(s) 812100100037484 详细信息请扫描右侧二维码。 Please scan the QR code on the right for more information.
3	锂电池完全封装在内包装内,位于坚固的外包装中。 Lithium cells and batteries are packed in inner packagings that completely enclose the cell or battery and placed in a strong outer packaging.
4	电池具有适当的防短路措施。 Cells and batteries are properly protected to prevent short circuits.
5	每个包装件必须标示恰当的锂电池标记。 装有锂电池的包装件,符合国际民航组织《危险物品安全航空运输技术细则》第4部分第11章的包装说明965或968第1B部分规定的,黏贴 5.2.1.10(锂电池标记)和5.2.2.2所示的9A型标签,应视为符合本特殊规定188的规定。 Each package shall be marked with the appropriate lithium battery mark. Packages containing lithium batteries packed in conformity with the provisions of part 4, chapter 11, packing instructions 965 or 968, section IB of the ICAO Technical Instructions for the Safe Transport of Dangerous Goods by air that bear the mark as shown in 5.2.1.10(lithium battery mark) and the label shown 5.2.2.2, Model No.9A shall be deemed to meet the provisions of this special provision 188.
6	
7	
	-验证码:326168-

Certification for Safe Transport of Chemical Goods











Safety Data Sheet

安全技术说明书

Sample Name: Lithium metal battery

样品名称: 锂金属电池

Model:

See page 2 见第二页 型号:

DONGGUAN GUANTE ELECTRONICS

Applicant: TECHNOLOGY CO..LTD.

申请商: 东莞市莞特电子科技有限公司

Report No.:

报告编号:

DGGT20221208SDS15

Category:

报告类别:

SDS





Teperinen 200	120221200000	
	Sect	ion 1 - Chemical and Company Identification 第一部分-化学品及企业标识
Sample Name		Lithium metal battery
样品	名称	锂金属电池
Mode	I/型号	CR2032, CR1216, CR1220, CR1225, CR1616,
		CR1620, CR1625, CR1632, CR2016, CR2020
Ratings/	额定参数	3.0V
Applicant		DONGGUAN GUANTE ELECTRONICS TECHNOLOGY CO.,LTD.
申请商		东莞市莞特电子科技有限公司
Applicant address		Room405, Hengtai building, Middle road of dongcheng, Guancheng district,
申请商	新地址	Dongguan city
		东莞市莞城区东城中路恒泰大厦 405 室
Manufa	acturer	DONGGUAN GUANTE ELECTRONICS TECHNOLOGY CO.,LTD.
制设	造商	东莞市莞特电子科技有限公司
Manufacturer		Room405, Hengtai building, Middle road of dongcheng, Guancheng district,
Contact	address	Dongguan city
information	地址	东莞市莞城区东城中路恒泰大厦 405 室
制造商联系信息	Tel./应急电话	86-076923102849
(C)	Email/邮箱	guantecell@vip.163.com

Section 2 - Hazards Identification 第二部分-危险性概述

Hazards Identification: 危险性描述

Not dangerous with normal use. Do not dismantle, open or shred the battery ingredients contained within or their ingredients products could be harmful.

正常使用没有危险,不能拆解、打开或分解电池,里面的材料或成分是有害的。

Primary Route (s) of Exposure: 接触途径

inhalation, ingestion, Skin contact and Eye contact.

吸入、食入、皮肤接触、眼睛接触。

Potential Health Effects: 潜在健康影响

inhalation: Vapors or mists from a ruptured battery may cause respiratory irritation.

吸入: 破裂的电池散发出来的气雾会引起呼吸道刺激。

Ingestion: The battery ingredients contained within or their ingredients products can cause serious chemical burns of mouth, esophagus, and gastrointestinal tract.

食入: 电池的组成成分或原料可以导致嘴, 食道和胃肠道的严重化学烧伤。

Skin: Skin contact with contents of an open battery can cause severe irritation or burns to the skin.

皮肤:皮肤接触到电池的内部化学材料可能会导致严重的刺激或烧伤皮肤。

Eye: Eye contact with contents of an open battery can cause severe irritation or burns to the eye.

眼睛:眼睛接触到电池的内部化学材料可能会导致严重的刺激或烧伤眼睛。



Section	Section 3- Composition/Information on Ingredients 第三部分-成分/组成信息		
Chemical Name 化学名称	CAS Number CAS 号(化学文摘索引登记号)	Concentration or concentration ranges (%) 浓度或浓度范围(%)	
Manganese dioxide	1313-13-9	12-50	
Lithium metal	7439-93-2	0.5-6	
1,2-dimethoxyethane	110-71-4	1.5-3.5	
Lithium Perchlorate	7791-03-9	0.2-0.7	
Organic electrolyte	N/A	2.5-7	
Steel	7439-89-6, 7440-47-3	30-35	
Polypropylene	9003-07-0	0.5-10	

Note: CAS number is Chemical Abstract Service Registry Number.

注意: CAS 号是化学文摘服务注册号。

N/A=Not apply. N/A=不适用

	Section 4- First Aid Measure 第四部分-急救措施		
Inhalation 吸入			
Ingestion 食入	Please rinse mouth thoroughly with water, induce vomiting under the guidance of professional personage. Please seek medical treatment in time. 立即用清水漱口,在专业人士的指导下催吐,速就医。		
Skin contact 皮肤接触	Get medical aid.		
Eye contact 眼睛接触	Irrigate with flowing water for 15 minutes. If irritation persists, consult a physician. 用流动水冲洗 15 分钟,如刺激持续发生,请求助于医生。		

Section 5- Fire Fighting Measures		
	第五部分-消防措施	
Characteristics of Hazard	Toxic fumes, gases or vapors may evolve on burning.	
危险特性	火灾时可释放有害浓烟、气体或者蒸汽。	
Hazardous Combustion Products	Carbon monoxide, carbon dioxide, lithium oxide fumes and so on.	
燃烧产生的危险物品	一氧化碳,二氧化碳,锂氧化物烟气等。	
Fire-extinguishing Methods and	Please use water, dry sand and other proper fire extinguishing media.	
Extinguishing Media		
灭火方法及灭火剂	请使用水,干沙等合适的灭火介质。	



Attention in Fire-extinguishing 灭火注意事项

The firemen should put on antigas masks and full fire-fighting suits. 消防人员须佩戴防毒面具、穿全身消防服。

Section 6- Accidental Release Measure		
第六部分-泄漏应急处理		
Personal Precautions, protective	Restrict access to area until completion of clean-up.	
equipment, and emergency	Do not touch the spilled material. Wear adequate personal protective	
procedures	equipment as indicated in Section 8.	
个人预防措施、防护装备和应急	限制区域,直到完成清理工作。请勿触摸泄漏的材料。穿戴适当的个	
程序	人防护设备,如第8部分所示。	
Environmental Precautions	Prevent material from contaminating soil and from entering sewers or	
环境保护措施	waterways.	
	防止物质污染土壤和进入下水道或水道。	
Methods and materials for	Stop the leak if safe to do so. Contain the spilled liquid with dry sand or	
Containment	earth. Clean up spills immediately.	
方法和材料控制	出于安全,阻止泄漏,可以用干沙或沙土来遏制液体泄露,立即清理	
	泄漏。	
Methods and materials for	Absorb spilled material with an inert absorbent (dry sand or earth). Scoop	
cleaning up	contaminated absorbent into an acceptable waste container. Collect all	
清理的方法和材料	contaminated absorbent and dispose of according to directions in Section	
	13. Scrub the area with detergent and water; collect all contaminated	
	wash water for proper disposal.	
	用惰性吸收剂(干沙或沙土)吸收溢出的材料。污染物转移到可吸收废	
	物的容器。收集所有受污染的吸收剂和根据第 13 部分的指令处置。	
	用洗涤剂和水清洁污染区域,收集所有受污染的洗涤水进行适当处	
	置。	

	Section 7- Handling and Storage		
	第七部分-操作处置与储存		
Handling	Don't handing the batteries in manner that allows terminals to short circuit. Do not open,		
操作	disassemble, crush or burn battery.		
	不要以让接头短路的方式对电池进行操作。不要打开,分解,挤压或燃烧电池。		
Storage	Long period storage: 25±5°C, 60±25%R.H		
储存	长期存储: 25±5°C,相对湿度 60±25%		
	Do not storage the battery haphazardly in a box or drawer where they may short-circuit each		
	other or be short-circuited by other metal objects.		
	不要将电池随意丢在盒子或抽屉里,以免电池之间或电池与其他金属物质发生短路。		
	Keep out of reach of children.		
	储存在小孩接触不到的地方。		
	Do not expose the battery to heat or fire. Avoid storage in direct sunlight.		
	不要将电池暴露在火源和热源附近,避免在阳光直射下存储。		
	Do not store together with oxidizing and acidic materials.		
	不要与氧化和酸性物质存储在一起。		



Section 8 - Exposure Controls/Personal Protection 第八部分-接触控制和个体防护		
Engineering Controls 工程控制	No engineering controls are required for handling batteries that have not been damaged. Personal protective equipments for damaged batteries should include chemical resistant gloves and safety glasses. 操作未破损的电池,没有工程控制要求。对于破损的电池,个人防护用品应包括化学品防护手套和安全眼镜。	
Personal Protective	Respiratory Protection: in case of battery venting, provide as much ventilation as possible. Avoid confined areas with venting cell cores. Respiratory Protection is not necessary under conditions of normal use. Not necessary under conditions of normal use. 呼吸保护: 当电池排气阀打开时,应尽量使通风设备开至最大,避免将打开排气阀的电芯局限在某一狭窄空间内。正常操作条件下,呼吸保护是不必要的。正常使用条件下不必考虑。Protective Gloves: Not necessary under conditions of normal use.	
Equipment 个人防护设备	防护手套:正常使用条件下不必考虑。 Other Protective Clothing or Equipment: Not necessary under conditions of normal use. 其他防护服装或设备:正常使用条件下不必考虑。 Personal Protection is recommended for venting battery: Respiratory Protection, Protective Gloves, Protective Clothing and safety glass with side shields. 当电池排气阀打开时,应做好个人防护。呼吸防护,防护手套,防护服装和有护边的安全玻璃罩都是要准备的。	

Section	9- Physical and Chemical Properties	
	第九部分-理化特性	
Physical state: Solid		
物理状态: 固体		
Form: Button shape		
形状: 纽扣状		
Odor: Odorless		
气味: 无气味		
Solubility: Partial soluble in water		
溶解度: 部分溶于水		

Section 10 - Stability and Reactivity 第十部分-稳定性和反应性		
Stability Stable under normal temperatures and pressures.		
稳定性	常温常压下稳定。	
	Heat above 70°C or Incinerate, Deform, Mutilate, Crush, Disassemble,	
Conditions to Avoid	Overcharge, Short circuit, Expose over a long period to humid conditions.	
应避免的条件	加热 70°C 以上或焚烧、变形、毁坏、粉碎、拆卸、过充电、短路,	
	长时间暴露在潮湿的条件下。	



report no.: BOOTZOZZ TZOOC	2010
Hazardous Decomposition	Toxic Fumes, and may form peroxides.
Products	有毒烟雾, 并可能形成过氧化物。
危害分解物	有母
Possibility of Hazardous	If leaked, forbidden to contact with strong oxidizers ,mineral acids ,strong alkalis,
Reaction	halogenated hydrocarbons.
危险反应的可能性	如果发生泄露,避免与强氧化剂,无机酸,强碱,卤代烃接触。

0.11	, <u> </u>		
Section 11 - Toxicological Information 第十一部分-毒理学信息			
Irritation 刺激	In the event of exposure to internal contents, vapor fumes may be very irritating to the eyes and skin. 内部物质暴露的情况下,蒸汽烟雾可能对眼睛和皮肤产生刺激性。		
Sensitization 致敏	Not applicable. 不适用		
Reproductive Toxicity 再生毒性	Not applicable. 不适用		
Toxicologically Synergistic Materials 协同材料毒理学	Not applicable. 不适用		

Section 12-Ecological Information		
	第十二部分-生态学信息	
2	Do not allow undiluted product or large quantities of it to reach	
General note 通用总自	ground water, water course or sewage system.	
通用信息	不允许未稀释或大量的产品到达地下水、水道或污水系统。	
Anticipated behavior of a chemical		
product in environment/possible	Not applicable.	
environmental impact/ ecotoxicity	不适用	
化学产品在环境/可能的环境预 期的行	7.2011	
为的一种生态毒性		
Mobility in soil	Not applicable.	
土壤中移动性	不适用	
Persistence and Degradability	Not applicable.	
持久性和降解性	不适用	

Section 13 - Disposal Considerations		
第十三部分-废弃处置		
Waste Treatment 废弃处置方法	Recycle or dispose of in accordance with government, state & local	
	regulations.	
	建议遵照国家和地方法规处置或再利用。	
Attention for	Deserted batteries couldn't be treated as ordinary trash. Couldn't be thrown into fire or	
Waste Treatment	placed in high temperature. Couldn't be dissected, pierced, crushed or treated similarly.	
废弃注意事项	Best way is recycling.	



废电池不能被当做普通垃圾。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。最好的办法是回收利用。

Section 14 - Transport Information

第十四部分-运输信息

The battery shall be passed the test items of the UNITED NATIONS "Recommendations on the Transport of Dangerous Goods, Manual of Tests and Criteria" section 38.3 and meet the requirements of UNITED NATIONS "Recommendations on the Transport of Dangerous Goods, model Regulations"

该电池必须通过联合国《关于危险货物运输的建议书 试验和标准手册》第 38.3 章节的测试项目和满足联合国《关于危险货物运输的建议书 规章范本》的要求。

The battery shall be protected so as to prevent short circuits. This includes protection against contact with conductive materials within the same packaging that could lead to short circuit;

该电池必须做好防短路保护。包括防止与同一封装内的导电材料接触可能导致的短路。

The packaging shall be adequate to avoid mechanical damage during transport, handling and stacking. 包装应足以避免在运输,处理和堆放期间的机械损坏。

The package must be handled with care and that a flammability hazard exists if the package is damaged. 包装必须小心处理,如果包装损坏,存在易燃危险。

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

关于运输,引用和考虑了以下法规:

- -The international Civil Aviation Organization (ICAO) Technical Instructions.
- -国际民用航空组织(ICAO)技术细则。
- -The international Air transport Association (IATA) Dangerous Goods Regulations.
- -国际航空运输协会(IATA)危险物品规则。

The battery can be shipped by air in according to PACKING INSTRUCTION 968 Section IB, or PACKING INSTRUCTION 969 ∽970 Section II of the 2023 IATA Dangerous Goods regulations 64th Edition.

该电池可以根据 2023 年 IATA 危险物品规则第 64 版包装指令 968 第 IB 部分或包装指令 969~970 第 II 部分运输。

UN number: UN3090 or UN3091;

UN 编号: UN3090 或 UN3091:

UN Proper shipping name/Description (technical name): Lithium metal batteries or Lithium metal batteries packed with equipment or Lithium metal batteries contained in equipment;

UN 合适的运输名称/描述(技术名称): 锂金属电池, 锂金属电池与设备包装在一起或锂金属电池内置于设备中;

UN Classification (Transport hazard class): Class 9 (PI968 Section IB) or Not applicable (PI969 ∽970 Section II)

UN 分类(运输危险类别): 9 类危险品(包装指令 968 第 IB 部分)或者不适用(包装指令 969∽970 第 II 部分)

UN Packing Group: Not applicable

UN 包装类别:不适用

- -The international Maritime Dangerous Goods (IMDG) Code.
- -国际海运危险货物(IMDG)规则。

UN number: UN3090 or UN3091;

UN 编号: UN3090 或 UN3091:

UN Proper shipping name/Description (technical name): Lithium metal batteries or Lithium metal batteries



packed with equipment or Lithium metal batteries contained in equipment;

UN 合适的运输名称/描述(技术名称): 锂金属电池, 锂金属电池与设备包装在一起或锂金属电池内置于设备中;

UN Classification (Transport hazard class): Not applicable

UN 分类(运输危险类别):不适用 UN Packing Group: Not applicable

UN 包装类别:不适用

The battery is not restricted according to IMO IMDG Code (inc. Amendment 40-20) Special Provision188.

海运按照国际海事组织《国际海运危险货物规则》(40-20版)特殊规定 188 不受限制。

Section 15 - Regulatory Information

第十五部分-法规信息

International Civil Aviation Organization (ICAO) Technical Instructions ICAO 国际民用航空组织(ICAO)技术细则:

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.

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.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.

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%。

Section 16 - Additional Information

第十六部分-附加信息

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--End of report--



