三帕认证
CPUP TECHNOLOGY&SERVICE

真伪查询

Safety Data Sheet

安全技术说明书

Sample Name: **样品名称:**	Disposable Lithium-manganese Dioxide Cell 一次性锂-二氧化锰电芯
Model: **型号:**	CR2
Applicant: **申请商:**	Jiangmen Hongli Energy Co., Ltd. 江门市宏力能源有限公司
Report No.: **报告编号:**	JMHL20231125SDS07
Category: **报告类别:**	SDS

广州三帕认证技术服务有限公司

Guangzhou CPUP Certification Technology Service Co., Ltd.

Section 1 - Chemical and Company Identification 第一部分-化学品及企业标识		
Sample Name 样品名称		Disposable Lithium-manganese Dioxide Cell 一次性锂-二氧化锰电芯
Model/型号		CR2
Ratings/额定参数		3.0V, 1000mAh 3Wh
Lithium content/锂含量		0.5g
Applicant 申请商		Jiangmen Hongli Energy Co.,Ltd. 江门市宏力能源有限公司
Applicant address 申请商地址		1-3 floor of 7th Building, 6th Building, 9th Building, No. 82 Xin Nan Road, Tangxia Town, Pengjiang District, Jiangmen City, Guangdong Province , China 江门市蓬江区棠下镇新南路 82 号 9 幢、7 幢 1-3 层、6 幢（一址多照 ）
Manufacturer 制造商		Jiangmen Hongli Energy Co.,Ltd. 江门市宏力能源有限公司
Manufacturer Contact information 制造商联系信息	address 地址	1-3 floor of 7th Building, 6th Building, 9th Building, No.82 Xin Nan Road, Tangxia Town, Pengjiang District, Jiangmen City, Guangdong Province China 江门市蓬江区棠下镇新南路 82 号 9 幢、7 幢 1-3 层、6 幢（一址多照）
	Tel./应急电话	13169849023
	Email/邮箱	jwhuang@holith.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 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（化学文摘登记号）**	**Concentration or concentration ranges (%) 浓度或浓度范围(%)**
Manganese dioxide 二氧化锰	1313-13-9	46
Iron 铁	7439-89-6	25.1
Propylene carbonate 碳酸丙烯脂	108-32-7	7
Polytetrafluoroethylene 聚四氟乙烯	9002-84-0	5
1,2-Dimethoxyethane 乙二醇二甲醚	110-71-4	5
Lithium 锂	7439-93-2	2.9
Polypropylene 聚丙烯	9003-07-0	3
Graphite 石墨	7782-42-5	2
Aluminium 铝	7429-90-5	2
Lithium perchlorate 高氯酸锂	7791-03-9	1
Nickel 镍	7440-02-0	1
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 applicable. N/A=不适用		

Section 4- First Aid Measure 第四部分-急救措施	
Inhalation 吸入	Remove source of contamination or move victim to fresh air. Obtain medical advice. 移除污染源或者将受害者移至新鲜空气处。寻求医生建议。
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	Remove contaminated clothes and rinse skin with plenty of water or shower for 15 minutes. Get medical aid. 脱下已污染衣服，用大量的水冲洗至少 15 分钟，速就医。
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 **危险特性**	Toxic fumes, gases or vapors may evolve on burning. 火灾时可释放有害浓烟、气体或者蒸汽。
Hazardous Combustion Products **燃烧产生的危险物品**	Carbon monoxide, carbon dioxide, lithium oxide fumes and so on. 一氧化碳，二氧化碳，锂氧化物烟气等。
Fire-extinguishing Methods and Extinguishing Media **灭火方法及灭火剂**	Please use water, dry sand and other proper fire extinguishing media. 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 equipment, and emergency procedures **个人预防措施、防护装备和应急程序**	Restrict access to area until completion of clean-up. Do not touch the spilled material. Wear adequate personal protective equipment as indicated in Section 8. 限制区域，直到完成清理工作。请勿触摸泄漏的材料。穿戴适当的个人防护设备，如第 8 部分所示。
Environmental Precautions **环境保护措施**	Prevent material from contaminating soil and from entering sewers or waterways. 防止物质污染土壤和进入下水道或水道。
Methods and materials for Containment **方法和材料控制**	Stop the leak if safe to do so. Contain the spilled liquid with dry sand or earth. Clean up spills immediately. 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 cleaning up **清理的方法和材料**	Absorb spilled material with an inert absorbent (dry sand or earth). Scoop contaminated absorbent into an acceptable waste container. Collect all 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 **操作**	Don't handing the batteries in manner that allows terminals to short circuit. Do not open, 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 **储存**	Long period storage: 25±5°C, 60±25%R.H 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 Equipment **个人防护设备**	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. 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
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 **稳定性**	Stable under normal temperatures and pressures. 常温常压下稳定。
Conditions to Avoid **应避免的条件**	Heat above 70°C or Incinerate, Deform, Mutilate, Crush, Disassemble, Overcharge, Short circuit, Expose over a long period to humid conditions. 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。
Hazardous Decomposition Products **危害分解物**	Toxic Fumes, and may form peroxides. 有毒烟雾，并可能形成过氧化物。
Possibility of Hazardous Reaction **危险反应的可能性**	If leaked, forbidden to contact with strong oxidizers ,mineral acids ,strong alkalis, halogenated hydrocarbons. 如果发生泄露，避免与强氧化剂，无机酸，强碱，卤代烃接触。

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	
General note **通用信息**	Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system. 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 environmental impact/ ecotoxicity **化学产品在环境/可能的环境预 期的行为的一种生态毒性**	Not applicable. 不适用
Mobility in soil **土壤中移动性**	Not applicable. 不适用
Persistence and Degradability **持久性和降解性**	Not applicable. 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 Waste Treatment **废弃注意事项**	Deserted batteries couldn't be treated as ordinary trash. Couldn't be thrown into fire or placed in high temperature. Couldn't be dissected, pierced, crushed or treated similarly. 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 2024 IATA Dangerous Goods regulations 65th Edition.
该电池可以根据 2024 年 IATA 危险物品规则第 65 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 41-22) Special Provision188.
海运按照国际海事组织《国际海运危险货物规则》(41-22 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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Other Information 其他信息：

The information above is believed to be accurate and represents the best information currently available to us. However, we makes no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. Although reasonable precautions have been taken in the preparation of the data contained herein, it is offered solely for your information, consideration and investigation. This safety data sheet provides guidelines for the safe handling and use of this product; it does not and cannot advise on all possible situations, therefore, your specific use of this product should be evaluated to determine if additional precautions are required.

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需要其他的预防措施。

--End of report--
--报告结束--

Test Report issued under the responsibility of:
检测报告负责发行机构:

中国认可
检测
TESTING
CNAS L2065

检 测 报 告
TEST REPORT

SAMPLE INFORMATION: 样品信息：	Primary Lithium-Metal Cell, Model CR2, 3.0V, 1000mAh, 3.0Wh 不可充式锂金属电芯, 型号 Model CR2, 3.0V, 1000mAh, 3.0Wh
APPLICANT: 申请单位：	Jiangmen Hongli Energy Co., Ltd. 江门市宏力能源有限公司
TYPE OF TEST: 检测类别：	Commercial Inspection and Testing Services 商业委托检测

苏州UL美华认证有限公司广州分公司
UL-CCIC Company Limited Guangzhou Branch

Date Issued: 2017-08-21
Date Revised:2018-07-13

Applicant information 申请资料	
Name of samples 样品名称	Primary Lithium-Metal Cell 不可充式锂金属电芯
Type/ Model 型号规格	Cell Model CR2, 3.0V, 1000mAh, 3.0Wh; Li Content: 0.5g 电芯型号CR2, 3.0V, 1000mAh, 3.0Wh；锂含量：0.5g
Trade mark 商标	N/A 不适用
Applicant 申请单位	江门市宏力能源有限公司 Jiangmen Hongli Energy Co., Ltd.
Applicant address 申请单位地址	9 Building, No. 82 Xin Nan Road, Tangxia Town, Pengjiang District, Jiangmen, Guangdong, China 中国广东省江门市蓬江区棠下镇新南路82号9栋
Manufacturer 制造商	江门市宏力能源有限公司 Jiangmen Hongli Energy Co., Ltd.
Manufacturer address 制造商地址	9 Building, No. 82 Xin Nan Road, Tangxia Town, Pengjiang District, Jiangmen, Guangdong, China 中国广东省江门市蓬江区棠下镇新南路82号9栋
Appearance 样品外观颜色	White Cell 白色电芯
Quantity of sample 样品数量	Cell/ 电池芯: 40 pcs.
Sample identification 样品标识序号	Cell/ 电池芯: 1981336-21~1981336-25, 1981336-46~1981336-55; 1981339-1~1981339-15, 1981339-21~1981339-30
Testing standard 参考标准	United Nations: Recommendations on the Transport of Dangerous Goods - Manual of Tests and Criteria, Sixth revised edition, 2015 (ST/SG/AC.10/11/Rev.6), Section 38.3: Lithium Batteries联合国《关于危险品货物运输的建议书》试验和标准手册第六修订版(2015)，第38.3节：锂电池
Received date / 接样日期	2018-12-13, 2018-12-18
Completion date / 完成日期	2019-02-03
Remark/备注: N/A	

Test Conclusion 测试结论					
No. 序号	Name of test 测试项目名称	Sample Condition 样品状态	Sample Number 样品编号	Conclusion 单项结论	Remarks 备注
T.1	Altitude simulation 高度模拟	Undischarged state/ 未放电	1981336-46~1981336-55	Pass 通过	--
		Fully discharged state/完全放电	1981339-1~1981339-10		
T.2	Thermal test 温度试验	Undischarged state/ 未放电	1981336-46~1981336-55	Pass 通过	--
		Fully discharged state/完全放电	1981339-1~1981339-10		
T.3	Vibration 振动	Undischarged state/ 未放电	1981336-46~1981336-55	Pass 通过	--
		Fully discharged state/完全放电	1981339-1~1981339-10		
T.4	Shock 冲击	Undischarged state/ 未放电	1981336-46~1981336-55	Pass 通过	--
		Fully discharged state/完全放电	1981339-1~1981339-10		
T.5	External Short-circuit 外部短路	Undischarged state/ 未放电	1981336-46~1981336-55	Pass 通过	--
		Fully discharged state/完全放电	1981339-1~1981339-10		
T.6	Impact 撞击	Undischarged state/ 未放电	N/A 不适用	N/A 不适用	Cylindrical cell less than 18 mm in diameter 圆柱形电芯,直径小于18 mm.
		Fully discharged state/完全放电	N/A 不适用		
	Crush 挤压	Undischarged state/ 未放电	1981336-21~1981336-25	Pass 通过	--
		Fully discharged state/完全放电	1981339-11~1981339-15		

T.7	Overcharge 过度充电	Undischarged state/ 未放电	N/A 不适用	N/A 不适用	Primary cell without overcharge protection
		Fully discharged state/完全放电	N/A 不适用	N/A 不适用	Primary cell without overcharge protection
T.8	Forced discharge 强制放电	Fully discharged state/完全放电	1981339-21~1981339-30	Pass 通过	--
				Pass 通过	--

Test Conclusion / 检验结论：

The Primary Lithium-Metal Cell, Model CR2, 3.0V, 1000mAh, 3.0Wh submitted by Jiangmen Hongli Energy Co., Ltd. is tested according to Section 38.3 of the Sixth Revised Edition of the Recommendations on the Transport of Dangerous Goods, Manual of Test and Criteria (ST/SG/AC.10/11/Rev.6, Section 38.3). The test items are full items.

由江门市宏力能源有限公司送检的不可充式锂金属电芯, 型号CR2, 3.0V, 1000mAh, 3.0Wh，依据《关于危险品货物运输的建议书》试验和标准手册第六修订版第38.3节进行检测。试验为全项目。

The test results: Pass.

测试结果：通过。

Date of issue / 签发日期: 2019-02-03

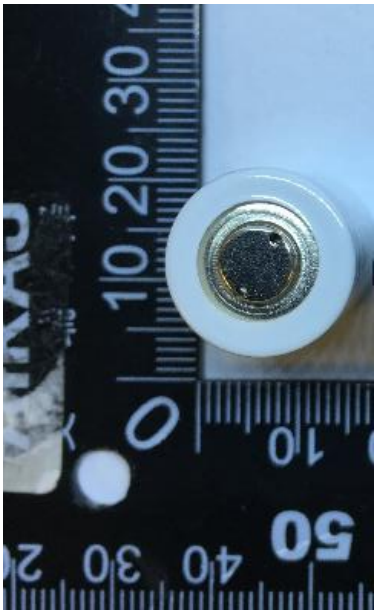
Approved by: 批准：

Reviewed by: 审核：

Tested by: 检测：

Photos of samples and markings
样品及标识照片

Primary Lithium-Metal Cell, Model CR2, 3.0V, 1000mAh, 3.0Wh
不可充式锂金属电芯, 型号CR2, 3.0V, 1000mAh, 3.0Wh



T.1 Altitude simulation
高度模拟

Test Method
测试方法

The samples were stored for at least 6 hours at an absolute pressure of 11.6 kPa (1.68 psi) and a temperature of 20 ± 5°C (68 ± 9°F). The samples were weighed before and after the exposure. The cell/battery voltage was also determined before and after the test. 将测试样品放在温度为20±5°C，大气压力为不大于11.6kpa的环境中贮存不少于6个小时。对样品在测试前后进行称重，并记录电压。

Test Result
测试结果

Sample No. 样品编号	Sample Condition 样品状态	Weight Before Test in Grams 测试前质量（克）	Weight After Test In Grams 测试后质量（克）	Percentage of Weight Loss 质量损失百分比	Voltage Before Test(V) 测试前电压（伏）	Voltage After Test(V) 测试后电压（伏）	Percent of residual Voltage 残余电压百分比	Results 结果
1981339-1	(A)	10.498	10.498	0.000	--	--	--	(6), (7)
1981339-2	(A)	10.462	10.462	0.000	--	--	--	(6), (7)
1981339-3	(A)	10.394	10.394	0.000	--	--	--	(6), (7)
1981339-4	(A)	10.564	10.564	0.000	--	--	--	(6), (7)
1981339-5	(A)	10.503	10.503	0.000	--	--	--	(6), (7)
1981339-6	(A)	10.439	10.439	0.000	--	--	--	(6), (7)
1981339-7	(A)	10.658	10.658	0.000	--	--	--	(6), (7)
1981339-8	(A)	10.295	10.295	0.000	--	--	--	(6), (7)
1981339-9	(A)	10.453	10.453	0.000	--	--	--	(6), (7)
1981339-10	(A)	10.396	10.396	0.000	--	--	--	(6), (7)
1981336-46	(B)	11.553	11.553	0.000	3.270	3.271	100.000	(6), (7)
1981336-47	(B)	11.630	11.630	0.000	3.271	3.272	100.000	(6), (7)
1981336-48	(B)	11.588	11.588	0.000	3.277	3.277	100.000	(6), (7)
1981336-49	(B)	11.669	11.670	0.000	3.274	3.274	100.000	(6), (7)
1981336-50	(B)	11.685	11.686	0.000	3.272	3.273	100.000	(6), (7)
1981336-51	(B)	11.755	11.756	0.000	3.270	3.270	100.000	(6), (7)
1981336-52	(B)	11.603	11.603	0.000	3.280	3.280	100.000	(6), (7)
1981336-53	(B)	11.674	11.674	0.000	3.272	3.271	99.969	(6), (7)
1981336-54	(B)	11.661	11.661	0.000	3.277	3.277	100.000	(6), (7)
1981336-55	(B)	11.555	11.555	0.000	3.270	3.270	100.000	(6), (7)

Results/结果:
(1) Leakage/漏液.
(2) Venting/排气.
(3) Disassembly/解体.
(4) Rupture/破裂.

(5) Fire/着火.
(6) No leakage, no venting, no disassembly, no rupture, no fire/无漏液，无排气，无解体，无破裂，无着火.
(7) The open circuit voltage of each cell after testing was greater than 90%/开路电压不低于试验前开路电压的90％.
Condition/状态:
(A) Fully discharged state/完全放电.
(B) Undischarged state/未放电.
(C) First cycle in fully charged state/第一个交替充电放电周期完全充电.
(D) After fifty cycles ending in fully charged state/第五十个交替充电放电周期完全充电.
(E) After twenty five cycles ending in fully charged state/第二十五个交替充电放电周期完全充电.

T.2 Thermal test
温度试验

Test Method
测试方法

The samples were subjected to temperature cycling consisting of the following. The samples were weighed before and after the exposure. The cell/battery voltage was also determined before and after the test. 测试样品将进行如下温度循环测试。样品测试前后进行称重，并记录电压。

Samples In/样品进箱:	The chamber temperature was raised to 72 ± 2°C (162 ± 4°F) within 30 minutes and maintained at this temperature for **[6] ~~[12]~~** hours. 烤箱温度在30分钟内上升到72 ± 2°C，并维持此温度 **[6] ~~[12]~~**小时。
	The chamber temperature was reduced to -40 ± 2°C (-40 ± 4°F) within 30 minutes and maintained at this temperature for **[6] ~~[12]~~** hours. 烤箱温度在30分钟内降低到-40 ± 2°C，并维持此温度 **[6] ~~[12]~~**小时。
	Repeat the sequence for 9 additional cycles (total of 10 cycles). 重复此顺序测试额外9个循环（总共10个循环）。
Samples Out/样品出箱:	After the 10th cycle, store the batteries at ambient temperature 20 ± 5°C (68 ± 9°F) for 24 hours prior to examination. 在第10个循环后，于20 ± 5°C环境下储存24小时，然后检查其状态。

Note: The duration of exposure to the test temperature extremes was determined as below:
注：样品承受极端温度的持续时间按如下确定：

- Small cells and small batteries: 6 hours; 小电芯和小电池为6小时;
- Large cells and large batteries: 12 hours. 大电芯和大电池为12小时。

Test Result
测试结果

Sample No. 样品编号	Sample Condition 样品状态	Weight Before Test in Grams 测试前质量（克）	Weight After Test In Grams 测试后质量（克）	Percentage of Weight Loss 质量损失百分比	Voltage Before Test(V) 测试前电压（伏）	Voltage After Test(V) 测试后电压（伏）	Percent of residual Voltage 残余电压百分比	Results 结果
1981339-1	(A)	10.498	10.490	0.076	--	--	--	(6), (7)
1981339-2	(A)	10.462	10.455	0.067	--	--	--	(6), (7)
1981339-3	(A)	10.394	10.387	0.067	--	--	--	(6), (7)
1981339-4	(A)	10.564	10.556	0.076	--	--	--	(6), (7)
1981339-5	(A)	10.503	10.496	0.067	--	--	--	(6), (7)
1981339-6	(A)	10.439	10.431	0.077	--	--	--	(6), (7)
1981339-7	(A)	10.658	10.650	0.075	--	--	--	(6), (7)
1981339-8	(A)	10.295	10.288	0.068	--	--	--	(6), (7)
1981339-9	(A)	10.453	10.445	0.077	--	--	--	(6), (7)
1981339-10	(A)	10.396	10.390	0.058	--	--	--	(6), (7)
1981336-46	(B)	11.553	11.547	0.052	3.271	3.277	100.000	(6), (7)
1981336-47	(B)	11.630	11.622	0.069	3.272	3.278	100.000	(6), (7)
1981336-48	(B)	11.588	11.580	0.069	3.277	3.281	100.000	(6), (7)
1981336-49	(B)	11.670	11.663	0.060	3.274	3.279	100.000	(6), (7)
1981336-50	(B)	11.686	11.675	0.094	3.273	3.279	100.000	(6), (7)

1981336-51	(B)	11.756	11.748	0.068	3.270	3.280	100.000	(6), (7)
1981336-52	(B)	11.603	11.596	0.060	3.280	3.283	100.000	(6), (7)
1981336-53	(B)	11.674	11.668	0.051	3.271	3.278	100.000	(6), (7)
1981336-54	(B)	11.661	11.654	0.060	3.277	3.278	100.000	(6), (7)
1981336-55	(B)	11.555	11.549	0.052	3.270	3.277	100.000	(6), (7)

Results/结果:
(1) Leakage/漏液.
(2) Venting/排气.
(3) Disassembly/解体.
(4) Rupture/破裂.
(5) Fire/着火.
(6) No leakage, no venting, no disassembly, no rupture, no fire/无漏液，无排气，无解体，无破裂，无着火.
(7) The open circuit voltage of each cell after testing was greater than 90%/开路电压不低于试验前开路电压的90%.
Condition/状态:
(A) Fully discharged state/完全放电.
(B) Undischarged state/未放电.
(C) First cycle in fully charged state/第一个交替充电放电周期完全充电.
(D) After fifty cycles ending in fully charged state/第五十个交替充电放电周期完全充电.
(E) After twenty five cycles ending in fully charged state/第二十五个交替充电放电周期完全充电.

T.3 Vibration
振动

Test Method
测试方法

The samples were subjected to vibration tests consisting of the following. The samples were weighed before and after the exposure. The cell/battery voltage was also determined before and after the test. 测试样品将进行如下振动测试。

The samples were firmly secured to the platform of the vibration machine without distorting the cells in such a manner as to faithfully transmit the vibration. The vibration was a sinusoidal waveform with a logarithmic sweep between 7 Hz and 200 Hz and back to 7 Hz traversed in 15 minutes. This cycle was repeated 12 times for a total of 3 hours for each of three mutually perpendicular mounting positions of the cell. One of the directions of vibration was perpendicular to the terminal face. 电芯和电池牢固地安装在振动台上。振动以正弦波形式，以7Hz增加至200Hz，然后在减少回到7Hz为一个循环，一个循环持续15分钟的对数前移传送。以振动的其中一个方向必须是垂直样品极性，对每个电芯从三个互相垂直的方向上循环12次，每个方向3个小时。

The logarithmic frequency sweep was as follows/对数扫频如下:

[X] For cells and small batteries: From 7 Hz a peak acceleration of 1 g was maintained until 18 Hz is reached. The amplitude was then maintained at 0.8 mm (1.6 mm total excursion) and the frequency increased until a peak acceleration of 8 g occurred (approximately 50 Hz). A peak acceleration of 8 g was then maintained until the frequency was increase to 200 Hz. 对于小电芯和小电池：7赫兹开始保持1gn的最大加速度直到频率为18赫兹，然后将振幅保持在0.8毫米（总偏移1.6毫米）并增加频率直到最大加速度达到8gn（频率约为50赫兹），将最大加速度保持在8gn直到频率增加到200赫兹。

[ ] For large batteries: From 7 Hz a peak acceleration of 1 g was maintained until 18 Hz is reached. The amplitude was then maintained at 0.8 mm (1.6 mm total excursion) and the frequency increased until a peak acceleration of 2 g occurred (approximately 25 Hz). A peak acceleration of 2 g was then maintained until the frequency was increase to 200 Hz. 对大电芯和大电池： 7赫兹开始保持1gn的最大加速度直到频率为18赫兹，然后将振幅保持在0.8毫米（总偏移1.6毫米）并增加频率直到最大加速度达到2gn（频率约为25赫兹），将最大加速度保持在2gn直到频率增加到200赫兹。

Test Result
测试结果

Sample No. 样品编号	Sample Condition 样品状态	Weight Before Test in Grams 测试前质量（克）	Weight After Test In Grams 测试后质量（克）	Percentage of Weight Loss 质量损失百分比	Voltage Before Test(V) 测试前电压（伏）	Voltage After Test(V) 测试后电压（伏）	Percent of residual Voltage 残余电压百分比	Results 结果
1981339-1	(A)	10.490	10.490	0.000	--	--	--	(6), (7)
1981339-2	(A)	10.455	10.455	0.000	--	--	--	(6), (7)
1981339-3	(A)	10.387	10.386	0.010	--	--	--	(6), (7)
1981339-4	(A)	10.556	10.557	0.000	--	--	--	(6), (7)
1981339-5	(A)	10.496	10.496	0.000	--	--	--	(6), (7)
1981339-6	(A)	10.431	10.430	0.010	--	--	--	(6), (7)
1981339-7	(A)	10.650	10.649	0.009	--	--	--	(6), (7)
1981339-8	(A)	10.288	10.287	0.010	--	--	--	(6), (7)

1981339-9	(A)	10.445	10.445	0.000	--	--	--	(6), (7)
1981339-10	(A)	10.390	10.389	0.010	--	--	--	(6), (7)
1981336-46	(B)	11.547	11.546	0.009	3.277	3.282	100.000	(6), (7)
1981336-47	(B)	11.622	11.621	0.009	3.278	3.287	100.000	(6), (7)
1981336-48	(B)	11.580	11.580	0.000	3.281	3.290	100.000	(6), (7)
1981336-49	(B)	11.663	11.662	0.009	3.279	3.287	100.000	(6), (7)
1981336-50	(B)	11.675	11.674	0.009	3.279	3.286	100.000	(6), (7)
1981336-51	(B)	11.748	11.747	0.009	3.280	3.286	100.000	(6), (7)
1981336-52	(B)	11.596	11.595	0.009	3.283	3.289	100.000	(6), (7)
1981336-53	(B)	11.668	11.667	0.009	3.278	3.284	100.000	(6), (7)
1981336-54	(B)	11.654	11.652	0.017	3.278	3.286	100.000	(6), (7)
1981336-55	(B)	11.549	11.548	0.009	3.277	3.284	100.000	(6), (7)

Results/结果:

(1) Leakage/漏液.

(2) Venting/排气.

(3) Disassembly/解体.

(4) Rupture/破裂.

(5) Fire/着火.

(6) No leakage, no venting, no disassembly, no rupture, no fire/无漏液，无排气，无解体，无破裂，无着火.

(7) The open circuit voltage of each cell after testing was greater than 90%/开路电压不低于试验前开路电压的90%.

Condition/状态:

(A) Fully discharged state/完全放电.

(B) Undischarged state/未放电.

(C) First cycle in fully charged state/第一个交替充电放电周期完全充电.

(D) After fifty cycles ending in fully charged state/第五十个交替充电放电周期完全充电.

(E) After twenty five cycles ending in fully charged state/第二十五个交替充电放电周期完全充电.

T.4 Shock
冲击

Test Method
测试方法

The samples were subjected to shock. The samples were weighed before and after the exposure. The cell/battery voltage was also determined before and after the test. The sample cell was secured to the testing machine by means of a rigid mount, which supports all mounting surfaces of the sample. Each sample was subjected to a half-sine shock as below: 样品将进行如下冲击测试。对样品在测试前后进行称重，并记录电压。以稳固的托架固定住每个电芯和电池样品的全部配件表面。每个样品将进行如下半正弦冲击测试：

[X] For small cells: Peak acceleration of 150 gn and pulse duration of 6 milliseconds. 小电芯：峰值为150gn，脉冲持续6毫秒。

[ ] For large cells: Peak acceleration of 50 gn and pulse duration of 11 milliseconds. 大电芯：峰值为50gn，脉冲持续11毫秒。

[ ] For small batteries: Peak acceleration of the smaller of the following, and pulse duration of 6 milliseconds: 小电池：取如下较小值为峰值，脉冲持续6毫秒。

- 150 gn.
- √(100850 / mass of the battery in kg)

[ ] For large batteries: Peak acceleration of the smaller of the following, and pulse duration of 11 milliseconds: 大电池：取如下较小值为峰值，脉冲持续6毫秒。

- 50 gn.
- √(30000 / mass of the battery in kg)

Each sample was subjected to three shocks in the positive direction followed by three shocks in the negative direction of three mutually perpendicular mounting positions of the cell for a total of 18 shocks. 每个测试样品须在三个互相垂直的电池安装方位的正方向经受三次冲击，接着在反方向经受三次冲击，总共经受18次冲击。

Cell/Battery Model	CR2
[**X**] Weight of Cell/Battery in kg	See the chart below
[**X**] Target Peak Acceleration for Battery in gn	150 g_n

Test Result
测试结果

Sample No. 样品编号	Sample Condition 样品状态	Weight Before Test in Grams 测试前质量（克）	Weight After Test In Grams 测试后质量（克）	Percentage of Weight Loss 质量损失百分比	Voltage Before Test(V) 测试前电压（伏）	Voltage After Test(V) 测试后电压（伏）	Percent of residual Voltage 残余电压百分比	Results 结果
1981339-1	(A)	10.490	10.489	0.010	--	--	--	(6), (7)
1981339-2	(A)	10.455	10.454	0.010	--	--	--	(6), (7)
1981339-3	(A)	10.386	10.385	0.010	--	--	--	(6), (7)
1981339-4	(A)	10.557	10.556	0.009	--	--	--	(6), (7)
1981339-5	(A)	10.496	10.496	0.000	--	--	--	(6), (7)
1981339-6	(A)	10.430	10.429	0.010	--	--	--	(6), (7)
1981339-7	(A)	10.649	10.648	0.009	--	--	--	(6), (7)

1981339-8	(A)	10.287	10.286	0.010	--	--	--	(6), (7)
1981339-9	(A)	10.445	10.444	0.010	--	--	--	(6), (7)
1981339-10	(A)	10.389	10.388	0.010	--	--	--	(6), (7)
1981336-46	(B)	11.546	11.546	0.000	3.282	3.282	100.000	(6), (7)
1981336-47	(B)	11.621	11.619	0.017	3.287	3.287	100.000	(6), (7)
1981336-48	(B)	11.580	11.578	0.017	3.290	3.290	100.000	(6), (7)
1981336-49	(B)	11.662	11.661	0.009	3.287	3.286	99.970	(6), (7)
1981336-50	(B)	11.674	11.673	0.009	3.286	3.286	100.000	(6), (7)
1981336-51	(B)	11.747	11.745	0.017	3.286	3.286	100.000	(6), (7)
1981336-52	(B)	11.595	11.593	0.017	3.289	3.288	99.970	(6), (7)
1981336-53	(B)	11.667	11.666	0.009	3.284	3.284	100.000	(6), (7)
1981336-54	(B)	11.652	11.650	0.017	3.286	3.286	100.000	(6), (7)
1981336-55	(B)	11.548	11.547	0.009	3.284	3.284	100.000	(6), (7)

Results/结果:

(1) Leakage/漏液.

(2) Venting/排气.

(3) Disassembly/解体.

(4) Rupture/破裂.

(5) Fire/着火.

(6) No leakage, no venting, no disassembly, no rupture, no fire/无漏液，无排气，无解体，无破裂，无着火.

(7) The open circuit voltage of each cell after testing was greater than 90%/开路电压不低于试验前开路电压的90%.

Condition/状态:

(A) Fully discharged state/完全放电.

(B) Undischarged state/未放电.

(C) First cycle in fully charged state/第一个交替充电放电周期完全充电.

(D) After fifty cycles ending in fully charged state/第五十个交替充电放电周期完全充电.

(E) After twenty five cycles ending in fully charged state/第二十五个交替充电放电周期完全充电.

T.5 External short circuit
外部短路

Test Method
测试方法

The samples were shall be heated for a period of time noted below, to reach a homogeneous stabilized temperature of 57 ± 4 °C, measured on the external case: 为使样品达到均匀稳定的初始温度：57 ± 4 °C，样品需在此环境下暴露一段时间。

- Small cells and small batteries: 6 hours. 小电芯和小电池至少暴露6小时。
- Large cells and large batteries: 12 hours.大电芯和大电池至少暴露12小时。
- **[ ]** ___hours, assessed depended on the size and design of the sample. _____小时，根据样品尺寸设计评估所得。

The samples were then subjected to a short circuit condition with a total external resistance of less than 0.1 ohm, until: 然后将样品正负极用小于0.1欧姆的总电阻回路进行短路，直到：

- Small cells, small batteries and large cells: 1 hour after the external case temperature of sample has returned to 57 ± 4 °C. 小电芯，小电池和大电芯： 样品外表温度恢复到57 ± 4 °C之后保持短路状态1小时以上。
- Large batteries: After the external case temperature of sample has decreased by half of the maximum temperature increase observed during the test and remains below that value.大电池：样品表面温度下降所测最大温升的一半，然后维持此温度之下。

Test Result
测试结果

Sample No. 样品编号	Sample Condition 样品状态	Voltage Before Test(V) 测试前电压（伏）	Maximum Temperature, °C 最高温度（摄氏度）	Results 结果
1981339-1	(A)	--	57.1	(4), (5)
1981339-2	(A)	--	57.3	(4), (5)
1981339-3	(A)	--	56.9	(4), (5)
1981339-4	(A)	--	57.1	(4), (5)
1981339-5	(A)	--	57.0	(4), (5)
1981339-6	(A)	--	103.0	(4), (5)
1981339-7	(A)	--	57.2	(4), (5)
1981339-8	(A)	--	74.9	(4), (5)
1981339-9	(A)	--	57.0	(4), (5)
1981339-10	(A)	--	78.8	(4), (5)
1981336-46	(B)	3.282	92.9	(4), (5)
1981336-47	(B)	3.287	93.2	(4), (5)
1981336-48	(B)	3.290	95.7	(4), (5)
1981336-49	(B)	3.286	93.2	(4), (5)
1981336-50	(B)	3.286	105.3	(4), (5)
1981336-51	(B)	3.286	103.1	(4), (5)
1981336-52	(B)	3.288	90.7	(4), (5)
1981336-53	(B)	3.284	95.9	(4), (5)
1981336-54	(B)	3.286	89.8	(4), (5)

1981336-55	(B)	3.284	92.5	(4), (5)

Results/结果:

(1) Disassembly/解体.

(2) Rupture/破裂.

(3) Fire/着火.

(4) No disassembly, no rupture, no fire within 6 hours after the test/测试后6小时内无解体，无破裂，无着火.

(5) The maximum temperature did not exceed 170°C/最高温度不超过170摄氏度.

Condition/状态:

(A) Fully discharged state/完全放电.

(B) Undischarged state/未放电.

(C) First cycle in fully charged state/第一个交替充电放电周期完全充电.

(D) After fifty cycles ending in fully charged state/第五十个交替充电放电周期完全充电.

(E) After twenty five cycles ending in fully charged state/第二十五个交替充电放电周期完全充电.

T.6 Impact / Crush
撞击 / 挤压

Test Method
测试方法

[ ] Impact (for cylindrical cells not less than 18 mm in diameter)/ 撞击（适用于直径不小于18毫米的圆柱形电池）

A test sample was placed on a flat surface. A 15.8 mm ± 0.1 mm diameter, at least 6 cm long, or the longest dimension of the cell, whichever is greater, Type 316 stainless steel bar was placed across the center of the sample. A 9.1 kg ± 0.1 kg mass was dropped from a height of 61 ± 2.5 cm at the intersection of the bar and sample in a controlled manner, using a near frictionless, vertical sliding track or channel with minimal drag on the falling mass. The vertical track or channel used to guide the falling mass was oriented 90 degrees from the horizontal supporting surface. 将试验样品放在一个平坦光滑的平面上。将一条316型不锈钢棒，其直径为15.8 mm ± 0.1 mm，长度为至少6 cm，或电芯的最长边长度（两者中较大者），放置在样品中心。将一质量为9.1 kg ± 0.1 kg的物体于61 ± 2.5 cm的高度, 无摩擦地从垂直滑轨落向样品。垂直滑轨与横向支承面互相垂直，保持90度。

The test sample was impacted with its longitudinal axis parallel to the flat surface and perpendicular to the longitudinal axis of a 15.8 mm ± 0.1 mm diameter curved surface lying across the center of the test sample. Separate samples were used for each test. 接受撞击的试样，纵轴应与平坦的表面平行并与横放在试样中心的直径15.8 mm ± 0.1 mm弯曲表面的纵轴垂直。每一个试样只经受一次撞击。

[X] Crush (for prismatic, pouch, coin/button cells and cylindrical cells less than 18 mm in diameter)/挤压（适用于棱柱形、袋装、硬币/纽扣电池和直径小于18毫米的圆柱形电池）

A sample was crushed between two flat surfaces. The crushing was gradual with a speed of approximately 1.5 cm/s at the first point of contact. The crushing was continued until the first of the three options below has reached/将样品放在两个平面之间挤压。挤压力度逐渐加大，在第一个接触点上的速度大约为1.5厘米/秒。挤压持续进行，直到出现以下三种情况之一：:

- The applied force reaches 13 kN ± 0.78 kN/施加的力达到13 kN ± 0.78 kN;
- The voltage of the cell drops by at least 100 mV; or/电池的电压下降至少100毫伏，或者
- The cell is deformed by 50% or more of its original thickness/电池变形达原始厚度的50%以上。

A prismatic or pouch cell was crushed by applying the force to the widest side. A button/coin cell was crushed by applying the force on its flat surfaces. For cylindrical cells, the crush force was applied perpendicular to the longitudinal axis/棱柱形或袋装电池应从最宽的一面施压。纽扣/硬币形电池应从其平坦表面施压。圆柱形应从与纵轴垂直的方向施压。

The test sample was observed for a further 6 hours. Separate samples that have not previously been subjected to other tests were used for each test/测试样品进一步观察6小时。未进行过其他测试的样品用于此测试。

Test Result
测试结果

Sample No. 样品编号	Sample Condition 样品状态	Voltage Before Test(V) 测试前电压（伏）	Maximum Temperature, °C 最高温度（摄氏度）	Results 结果
1981336-21	(A)	3.274	46.0	(3), (4)
1981336-22	(A)	3.279	55.8	(3), (4)
1981336-23	(A)	3.297	44.3	(3), (4)
1981336-24	(A)	3.257	53.8	(3), (4)
1981336-25	(A)	3.262	56.5	(3), (4)
1981339-11	(B)	--	22.3	(3), (4)

1981339-12	(B)	--	24.6	(3), (4)
1981339-13	(B)	--	25.8	(3), (4)
1981339-14	(B)	--	24.7	(3), (4)
1981339-15	(B)	--	26.1	(3), (4)

Results/结果:

(1) Disassembly/解体.

(2) Fire/着火.

(3) No disassembly, no fire within 6 hours after the test/测试后6小时内无解体，无着火.

(4) The maximum temperature did not exceed 170°C/最高温度不超过170摄氏度.

Condition/状态:

(A) Undischarged/未放电.

(B) Fully discharged/完全放电.

(C) One half discharged/半放电.

T.8 Forced discharge
强制放电

Test Method
测试方法

Each cell was forced discharged at ambient temperature by connecting it in series with a 12 V DC power supply at an initial current equal to the maximum discharge current specified by the manufacturer. 在常温环境下，将单个电芯连接在12V的直流电源上进行强制放电，此直流电源提供给每个电芯初始电流为制造厂指定的最大放电电流。

The specified discharge current was obtained by connecting a resistive load of the appropriate size and rating in series with the test cell. Each cell was forced discharged for a time interval (in hours) equal to its rated capacity divided by the initial test current (in amperes). 指定的放电电流通过串联在测试电芯上的合适大小和功率的负载来获得，每个电芯的强制放电时间（小时）为额定容量除以初始电流（安培）。

Test Result
测试结果

Sample No. 样品编号	Condition 样品状态	Initial Discharge Current, mA 初始放电电流（毫安）	Voltage of Discharged Cell Before Test(V) 测试前电压（伏）	Voltage After Test(V) 测试后电压（伏）	Results 结果
1981339-21	(A)	1.016	2.721	0	(3)
1981339-22	(A)	1.015	2.716	0	(3)
1981339-23	(A)	1.017	2.730	0	(3)
1981339-24	(A)	1.015	2.721	0	(3)
1981339-25	(A)	1.016	2.794	0	(3)
1981339-26	(A)	1.011	2.697	0	(3)
1981339-27	(A)	1.018	2.736	0	(3)
1981339-28	(A)	1.020	2.764	0	(3)
1981339-29	(A)	1.014	2.714	0	(3)
1981339-30	(A)	1.009	2.693	0	(3)

Results/结果:
(1) Disassembly/解体.
(2) Fire/着火.
(3) No disassembly, no fire within seven days after the test/测试后七天内无解体、无着火.
Condition/状态:
(A) Fully discharged state/完全放电.
(B) First cycle in fully discharged state/第一个交替充电放电周期完全放电.
(C) After fifty cycles ending in fully discharged state/第五十个交替充电放电周期完全放电.

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4. 对检验报告若有异议，应于收到报告之日起十五天内向检验单位提出。
   Objections to the test report must be submitted to UL within 15 days.

5. 本报告中以点号代替小数点。
   Throughout this report a point is used as the decimal separator.

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