Instructions and correlating documents prior to air travel with SmartChair

The company Decon certifies that the SmartChair wheelchair is suitable for air transport.

Decon has based this certification on international regulations regarding the transport of lithium batteries, which prohibit the transportation of lithium batteries exceeding 300 Wh. However, the SmartChair wheelchair battery has an energy capacity of 288 Wh, making it compliant.

Lithium ion battery (Li-ion)

Model	FY24-12
Voltage	24 V
Capacity	12 Ah (288 Wh)
Type	Dry cell

Air travel guidelines

- The SmartChair battery is removable.
- Only **one battery** can be transported and it **must be carried in the cabin.**
- The battery is classified as **"Lithium-ion Batteries" (UN3480)** and is safe for transport according to **UN 38.3 test requirements**.
- Complies with **ADR, IMDG, RID, and IATA** regulations for the safe transport of hazardous goods.

About the lithium ion battery
There may be restrictions in regards to carrying the lithium ion battery on-board, or checking in as baggage. Be sure to consult the airline company at least one month in advance.

Print-out
Make sure to print al the following documents and keep handy att all times at the airport.

1. **Material Safety Data Sheet (MSDS)**: Detailed information about the battery's composition and safety **(MSDS-FY24-12.pdf)**.
2. **UN 38.3 Certificate**: Documentation verifying that the battery has been tested according to international transport standards **(FY24-12-UN38.3.pdf).**
3. **Identification and classification report for air transport of goods**: Specific guidelines for transporting the battery **(FY24-12-series-8001-8002-by-AIR.pdf)**.

Decon Wheel AB
Södra Ekeryd 119
314 91 Hyltebruk

2025/03/19

材料安全数据表

MATERIAL SAFETY DATA SHEET

Prepared For 申请商	:	**Changzhou Fengyu New Energy Technology Co., Ltd.** 常州丰宇新能源科技有限公司 **No. 35 Leshan Road, Xinbei District, Changzhou City, Jiangsu Province, China** 江苏省常州市新北区乐山路**35**号
Prepared By 编制单位	:	**Shenzhen LCS Compliance Testing Laboratory Ltd.** 深圳立讯检测股份有限公司 **Room 101, 201, Building A and Room 301, Building C, Juji Industrial Park, Yabianxueziwei, Shajing Street, Bao'an District, Shenzhen, Guangdong, China** 广东省深圳市宝安区沙井街道衙边学子围巨基工业园A栋101、201，C栋301
Issue Date	:	**2024.01.01**
Report Number	:	**KA2311020025A**

Written by: Wendy （制作）　　**Approved by:** （批准）

材料安全数据表
Material Safety Data Sheet

REPORT NO.: KA2311020025A

** The MSDS is prepared based on the information provided by client. The contents and formats of this MSDS are revised as per client's request.*这份材料安全数据表是根据客户提供的信息编辑，其内容和格式按客户要求来修订。

Section 1-Chemical Product and Company Identification
第一部分-化学品及企业标识

Product Name 产品名称	Polymer Lithium-Ion Battery 聚合物锂离子电池组
Model 型号	FY24-12
Trade Mark 商标	N/A
Ratings 额定参数	24V,12Ah,288Wh
Weight 重量	2241.2g
Manufacturer 制造商	Changzhou Fengyu New Energy Technology Co., Ltd. 常州丰宇新能源科技有限公司
Manufacturer Address 制造商地址	No. 35 Leshan Road, Xinbei District, Changzhou City, Jiangsu Province, China 江苏省常州市新北区乐山路35号
Emergency Telephone 应急电话	+86-519-83859198
Fax 传真	+86-519-83859098

Section 2- Composition Information
第二部分-成分信息

Chemical Composition 化学成分	**Chemical Formula** 化学式	**CAS No.** CAS号	**Weight (%)** 重量含量（%）
Lithium cobaltate 钴酸锂	$LiCoO_2$	12190-79-3	15 - 40
Graphite 石墨	$C_{24}X_{12}$	7782-42-5	10 - 30
Phosphate(1-), hexafluoro-, lithium 六氟磷酸锂	$LiPF_6$	21324-40-3	10 - 30
Copper 铜箔	Cu	7440-50-8	7-13
Aluminium 铝箔	Al	7429-90-5	5-10
Nickel 镍	Ni	7440-02-0	1-5

Section 3- Hazards Identification
第三部分-危险性概述

Emergency overview 紧急情况概述	N/A 不适用
Classification according to GHS	Not a dangerous substance according to GHS

GHS分类	不属于GHS危险物品
Label elements: 标签元素	
Hazard pictogram(s) 危险标签图	Not Applicable 不适用
Signal word 提示语	Not Applicable 不适用
Hazard statement(s) 危险声明	Not Applicable 不适用
Precautionary statement(s): 预防声明	
Prevention 预防	Not Applicable 不适用
Response 反应	Not Applicable 不适用
Disposal 废弃处理	Not Applicable 不适用
Environmental hazards: 环境危害	No relevant information 无相关信息
Important symptoms: 重要症状	See section 11 for more information 见第11部分更多信息

Section 4- First Aid Measures
第四部分-急救措施

Eye contact 眼睛接触	Flush eyes with plenty of water for least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid. 万一接触，立即用大量的清水冲洗至少15分钟，翻起上下眼睑，直到化学的残留物消失为止，迅速就医。
Skin contact 皮肤接触	Remove contaminated clothes and rinse skin with plenty of water or shower for 15 minutes. Get medical aid. 万一接触，用大量的水冲洗至少15分钟，同时除去污染的衣物和鞋子，迅速就医。
Inhalation 吸入	Remove from exposure and move to fresh air immediately. Use oxygen if available. 立即从暴露处移至空气清新处，如果呼吸困难给予输氧，立即就医。
Ingestion 摄入	Give at least 2 glasses of milk or water. Induce vomiting unless patient is unconscious. Call a physician. 饮用两杯牛奶或水，如果当事人仍然清晰可以采取催吐的方法，并且立即就医。

Section 5- Fire Fighting Measures
第五部分-消防措施

Flash Point 燃点	N/A 不适用
Auto-Ignition Temperature 自燃温度	N/A 不适用
Extinguishing Media 灭火介质	H_2O, CO_2 水，二氧化碳
Special Fire-Fighting Procedures 特殊灭火程序	Self-contained breathing apparatus 自给式呼吸器

Unusual Fire and Explosion Hazards 异常火灾或爆炸	Cell may vent when subjected to excessive heat-exposing battery contents 当电芯暴露于过热的环境中时，安全阀可能会打开
Hazardous Combustion Products 燃烧产生的危险物品	Carbon monoxide, carbon dioxide, lithium oxide fumes. 一氧化碳，二氧化碳，锂氧化物烟气

Section 6- Accidental Release Measures
第六部分-泄露应急处理

Personal precautions, protective equipment and emergency procedures:
If the battery 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 and allow the vapors to dissipate, Avoid skin and eyes contact or inhalation of vapors. Remove spilled liquid with absorbent and incinerated. If leakage of the battery happens, liquid could be absorbed by using sand, earth or other inert substance and contaminated area should be ventilated meantime.

个人预防措施、保护设备和应急程序:
如果电池被泄露，让人员离开该区域直到烟雾消散。提供最大限度的通风，清除有害气体。首选的反应就是离开这个地区并消散气体，避免皮肤和眼睛接触或吸入气体。用吸收剂清除溢出的液体然后焚烧。如果电池泄漏发生时,液体可以用砂、泥土或其他惰性物质来吸收，污染区域应该保持通风。

Environment precautions:
Do not allow product to reach sewage system or any water source.
Inform respective authorities in case of seepage into water course or sewage system.
Do not allow to enter sewers/ surface or ground water.

环境预防措施:
不允许产品到达排水系统或任何水源。
如果渗透进排水系统或任何水源，通知相应的部门。
不允许进入下水道/表面或地下水。

Methods and material for containment and cleaning up:
If battery casing is dismantled, small amounts of electrolyte may leak. Collect all released material in a plastic lined container. Dispose off according to the local law and rules, Avoid leached substances to get into the earth, canalization or waters.

抑制和清理材料的方法:
如果电池外壳被拆除，少量电解液可能会泄漏。收集所有材料放进一个塑料容器。根据当地的法律法规来处置，避免可溶物质进入大地、下水道或水源。

Section 7- Handling and Storage
第七部分-操作处置和储存

Handling 操作处置	The battery should not be opened, destroyed or incinerate, since they may leak or rupture and release to the environment the ingredients that they contain in the hermetically sealed container. Do not short circuit terminals, or over charge the battery, forced over-discharge, throw to fire. Do not crush or puncture the battery, or immerse in liquids. 禁止打开、毁坏或焚烧电池，因为电池有可能在这些处理过程中发生爆炸、破裂或泄露等事故。 禁止将电池短路、过充、强制放电或扔入火中。 禁止挤压或刺穿电池，或将电池浸入溶液中。

Storage 储存	Avoid mechanical or electrical abuse. Storage preferably in cool, dry and ventilated area, which is subject to little temperature change. Storage at high temperatures should be avoided. Do not place the battery near heating equipment, nor expose to direct sunlight for long periods. 禁止物理或电滥用，禁止高温储存，最好将电池储存在阴凉、干燥、通风及温度变化较小的环境中。 禁止将电池接触加热设备，或将电池长时间直接暴露在阳光中。
Other Precautions 其他要注意的防范措施	The battery may explode or cause burns, if disassembled, crushed or exposed to fire or high temperatures. Do not short or install with incorrect polarity. 拆解、挤压、直接放入火中或高温条件下，电池可能发生爆炸和燃烧。 禁止短接或将电池正负极错误的安装在设备中。

Section 8- Exposure Controls/Personal Protection
第八部分-接触控制和个体防护

Engineering Controls 设计控制	Use local exhaust ventilation or other engineering controls to control sources of dust, mist, fumes and vapor. Keep away from heat and open flame. Store in a cool, dry place. 设计局部排气通风或其它设计来控制粉尘、雾、烟雾和气体。
Personal Protective Equipment 个人防护装备	Respiratory Protection: Not necessary under normal conditions. Skin and body Protection: Not necessary under normal conditions, Wear suitable protective clothing and gloves if handling an open or leaking battery. Hand protection: Wear suitable gloves if handling an open or leaking battery. Eye Protection: Not necessary under normal conditions, Wear safety glasses if handling an open or leaking battery. 呼吸防护:在正常情况下不需要。 皮肤和身体防护：在正常情况下不需要,如果处理一个裂开的或泄漏的电池需要穿戴适当的防护服和手套。 手保护：如果处理一个裂开的或泄漏的电池需要戴适当手套。 眼睛保护：在正常情况下不需要，如果处理一个裂开的或泄漏的电池需要戴上安全眼镜。
Other Protective Equipment 其它防护装备	Have a safety shower and eye wash fountain readily available in the immediate work area. 在工作区域应该有一个立即可以使用的安全淋浴和喷水洗眼器。
Hygiene Measures 卫生措施	Do not eat, drink, or smoke in work area. Maintain good housekeeping. 在工作区域不得进食，饮水或吸烟。

Section 9- Physical and Chemical Properties
第九部分-物理和化学特性

Form 形态	Solid 固体
Color 颜色	Silver 银色
Odour 气味	Not Applicable 不适用

pH 酸碱度	Not Applicable 不适用
Melting point/freezing point 熔点/凝固点	Not Applicable 不适用
Boiling Point and Boiling range 沸点、沸点范围:	Not Applicable 不适用
Flash Point 易燃度	Not Applicable 不适用
Upper/lower flammability or explosive limits 自燃或爆炸的上、下极限	Not Applicable 不适用
Vapor Pressure 蒸汽压	Not Applicable 不适用
Vapor Density 蒸汽密度	Not Applicable 不适用
Relative density 相对密度	Not Applicable 不适用
Solubility in Water 水溶性	Not Applicable 不适用
Auto-ignition temperature 自燃温度	Not Applicable 不适用
Decomposition temperature 分解温度	Not Applicable 不适用
Evaporation rate 蒸发速率	Not Applicable 不适用
Flammability (soil, gas) 易燃性(土壤、天然气)	Not Applicable 不适用
Viscosity 粘性	Not Applicable 不适用

Section 10- Stability and reactivity
第十部分 稳定性和反应活性

Stability 稳定性	The product is stable under conditions described Section 7 产品在第七部分所述的条件下稳定
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。
Incompatible Materials 不兼容的材料	Oxidizing agents, acid, base. 氧化剂，酸，碱。
Hazardous Decomposition Products 危险分解物	Carbon monoxide, carbon dioxide, lithium oxide fumes. 一氧化碳、二氧化碳、氧化锂烟雾。
Possibility of Hazardous Reaction 危险反应的可能性	Not Applicable 不适用

Section 11 – Toxicological Information 第十一部分-毒理学资料	
Irritation 刺激	Risk of irritation occurs only if the cell is mechanically, thermally or electrically abused to the point of compromising the enclosure. If this occurs, irritation to the skin, eyes and respiratory tract may occur. 如果电芯的外壳受到机械、热或电的滥用到达一定程度，会发生刺激的风险。如果发生这种情况，可能会刺激皮肤、眼睛和呼吸道。
Sensitization 致过敏	Not Applicable 不适用
Neurological Effects 影响神经系统	Not Applicable 不适用
Teratogenicity 致畸	Not Applicable 不适用
Reproductive Toxicity 再生毒性	Not Applicable 不适用
Mutagenicity (Genetic Effects) 诱变(遗传效应)	Not Applicable 不适用
Toxicologically Synergistic Materials 附带材料毒理性	Not Applicable 不适用
Section 12- Ecological Information 第十二部分-生态学资料	
Ecological Toxicity 生态毒性	Not Applicable 不适用
Mobility in soil 在土壤中的流动性	Not Applicable 不适用
Persistence and Degradability 持久性和分解性	Not Applicable 不适用
Bioaccumulation potential 生物聚积	Not Applicable 不适用
Other Adverse Effects 其他不利影响	Not Applicable 不适用
Section 13- Disposal Considerations 第十三部分-废弃处置	
Product disposal recommendation 产品废弃处理建议	Observe local, state and federal laws and regulations. 遵守当地、州和联邦法律和法规。
Packaging disposal recommendation 包装处理建议	Disposal must be made according to official regulations 废弃处理必须根据当地法规

Section 14 – Transport Information
第十四部分-运输信息

Label for conveyance 运输标签	Lithium Battery Label 锂电池标签	
UN Number UN编号	UN 3480 or UN 3171	
Transport hazard class(es) 运输风险类别	9	
Packing group 包装等级	965	II
	952	--
Marine pollutant 海洋污染物	No 无污染	
UN Proper shipping name 联合国运输专用名称	Lithium ion Batteries (Including lithium ion polymer batteries) 锂离子电池(含锂离子聚合物电池) Battery-powered vehicle or 电池驱动汽车或 Battery-powered equipment 电池驱动的设备	
ICAO/IATA	Can be shipped by air in accordance with international Civil Aviation Organization (ICAO), TI or International Air Transport Association (IATA) DGR 65th Packing Instructions Section IA of 965 or 952 appropriately. 可以根据国际民用航空织(ICAO)， TI或国际航空运输协会(IATA) DGR第65版本说明第IA节965或952进行空运	
IMDG CODE	International Maritime Dangerous Goods Code IMDG CODE (Amdt 41-22) 《国际海运危险货物规则》(IMDG CODE)相关规定 IMDG CODE (Amdt 41-22)	
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road 《国际危险货物道路运输欧洲协定》(ADR)相关规定	
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail 《国际危险货物铁路运输欧洲协定》(RID)相关规定	

The dangerous goods regulations require that each battery design be subject to tests contained in Section 38.3 of the UN Manual ofTests and Criteria prior to being offered fortransport.
危险品规例规定，运输前，每一个电池设计须通过联合国试验和标准手册38.3节所载的测试。

Section 15- Regulatory information
第十五部分 法规信息

Law information
法律信息
《Dangerous Goods Regulations》
《危险物品规则》
《Recommendation on the Transport of Dangerous Goods Model Regulations》
《对危险货物运输的有关规定的建议》
《International Maritime Dangerous Goods》

《国际海运危险货物规则》
《Technical Instructions for the Safe Transport of Dangerous Goods》
《危险品安全运输技术指令》
《Classification and code of dangerous Goods》
《危险货物分类和品名编号》
《Consumer Product Safety Act》(CPSA)
《消费产品安全法》
《Federal Environmental Pollution Control Act》(FEPCA)
《联邦环境污染控制法》
《Resource Conservation and Recovery Act》(RCRA)
《资源保护及恢复法案》
《European Agreement concerning the International Carriage of Dangerous》
《国际危险货物道路运输欧洲协定》
《Regulations concerning the International Carriage of Dangerous》
《国际危险货物铁路运输欧洲协定》
In according with all Federal, State and local laws.
根据所有联邦、州和地方法律。

Section 16- Other Information
第十六部分-其它信息

The information above is believed to be accurate and represents the best information currently available to us. However, concorde 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 material 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.

上面的信息被认为是准确代表了目前最好的信息提供给我们。然而,飞机没有对商品性能保证或任何其他保证,包括明示或暗示,对这类信息的使用我们不承担责任。用户应作出自己的调查，以确定是否适合其特定用途的信息。虽然在此处所包含的数据的准备已经采取了合理的预防措施,这是仅为你提供的信息、考虑和调查。这个化学品安全技术说明书为本产品提供了安全操作指南和使用指南，它并不能对所有可能发生的情况提供建议，因此，您特殊使用该产品应先进行评估，以确定是否需要额外的预防措施。

-- End of Report --
-- 报告结束 --

立讯检测股份
LCS Testing Lab

报告编号：KA2112161151AA100

Lithium Battery UN38.3 Test Report

锂电池UN38.3 测试报告

ST/SG/AC.10/11/Rev.7/Subsection 38.3

Sample name	:	POLYMER Lithium-Ion Battery
物品名称	:	聚合物锂离子电池组
Model	:	FY24-12
型号	:	
Applicant	:	Changzhou Fengyu New Energy Technology Co., Ltd
申请商	:	常州丰宇新能源科技有限公司

深圳立讯检测股份有限公司
Shenzhen LCS Compliance Testing Laboratory Ltd.

深圳立讯检测股份有限公司 | 地址：广东省深圳市宝安区沙井街道衙边学子围巨基工业园A栋101、201，C栋301
Shenzhen LCS Compliance Testing Laboratory Ltd. | Add: Room 101, 201, Building A and Room 301, Building C, Juji Industrial Park, Yabianxueziwei, Shajing Street, Bao' an District, Shenzhen, Guangdong, China | Tel：+(86) 0755-8259 1330 | Fax：+(86) 0755-8259 1332 | E-mail：webmaster@lcs-cert.com | http:// www.lcs-cert.com

UN38.3 Test Report
UN38.3测试报告

Report No .....: 报告号.....:	KA2112161151AA100	
Tested by (+ signature) .....: 测试(签名) .....:	Taylor Zhang /Testing Engineer 张晓君/测试工程师	
Checked by (+ signature) .....: 审核(签名) .....:	Lilia Zhang/Project Manager 张杨/项目经理	
Approved by (+ signature) .....: 批准(签名) .....:	Hart Qiu/Technical Manager 邱文才/技术总监	
Contents.....: 页数.....:	21 pages	
Date of issue .....: 签发日期.....:	2021.12.28	
Testing Laboratory Name .....: 测试实验室.....:	Shenzhen LCS Compliance Testing Laboratory Ltd. 深圳立讯检测股份有限公司	
Address .....: 地址.....:	Room 101, 201, Building A and Room 301, Building C, Juji Industrial Park, Yabianxueziwei, Shajing Street, Bao’an District, Shenzhen, Guangdong, China 广东省深圳市宝安区沙井街道衙边学子围巨基工业园A栋101、201，C栋301	
Applicant's Name .....: 申请商.....:	Changzhou Fengyu New Energy Technology Co., Ltd 常州丰宇新能源科技有限公司	
Address .....: 地址.....:	No. 35 Leshan Road, Xinbei District, Changzhou City, Jiangsu Province, China 江苏省常州市新北区乐山路35号	
Manufacturer .....: 制造商.....:	Changzhou Fengyu New Energy Technology Co., Ltd 常州丰宇新能源科技有限公司	
Address .....: 地址.....:	No. 35 Leshan Road, Xinbei District, Changzhou City, Jiangsu Province, China 江苏省常州市新北区乐山路35号	
Telephone Number.....: 联系电话.....:	+86-519-83859198	
Email address.....: 邮件地址.....:	269087008@qq.com	
Website.....: 网址.....:	www.jsczyj.cn	
Standard .....: 标准.....:	UN Recommendations on the Transport of Dangerous Goods Manual of Tests and Criteria ST/SG/AC.10/11/Rev.7/Subsection 38.3 联合国《关于危险货物运输的建议书-试验和标准手册》（第7版）38.3节	
Test item description .....: 测试项目描述.....:	POLYMER Lithium-Ion Battery 聚合物锂离子电池组	
Trade Mark .....: 商标.....:	N/A	
Model/type reference .....: 型号/引用型号.....:	FY24-12	

Ratings.....: 额定值.....:	24V, 12Ah, 288Wh
Classification.....: 类别.....:	POLYMER Lithium-Ion Battery 聚合物锂离子电池组
Type of Sample.....: 样品形状.....:	Prismatic 棱形

Details information of the battery and the cell built in the battery, as following:
电池和电芯的详细信息见下表：

Product 产品	Cell 电芯	Battery 电池
Model 型号	7292170	FY24-12
Nominal voltage 标称电压	3.7V	24V
Rated capacity 额定容量	12Ah	12Ah
Charge method 充电方法	2A CC(constant current) charge to 4.2V, then CV (constant voltage 4.2V) charge till charge current decline to 0.02C. 以2A恒流充电至4.2V，然后4.2V恒压充电至电流小于等于0.02C。	2A CC(constant current) charge to 29.4V, then CV (constant voltage 29.4V) charge till charge current decline to 0.02C. 以2A恒流充电至29.4V，然后29.4V恒压充电至电流小于等于0.02C。
Standard discharge current 标准放电电流	2A	2A
Maximum continuous charging current 最大连续充电电流	3A	3A
Maximum continuous discharge current 最大连续放电电流	15A	15A
End of discharge voltage 放电终止电压	3V	21V
Cell numbers 电芯个数	7PCS (7S1P)	
Dimension 尺寸	7.2*92*170(mm)	66.2*104.0*250.0(mm)
Weight 重量	236.5g	2.41Kg

Possible test case verdicts: 报告中可能用到的结论标识：	
Test case does not apply to the test object.....: 测试项目不适用于该产品.....:	N/A 不适用
Test item does meet the requirement 测试项目符合标准的要求.....:	P(ass) 合格
Test item does not meet the requirement .....: 测试项目不符合标准的要求.....:	F(ail) 不合格
Testing: 测试：	
Date of sample received.....: 样品接收日期.....:	2019.09.16
Date(s) of performance of test.....: 测试执行日期.....:	2019.09.16 ~ 2019.10.10

Test conclusion:
检验结论：
Test result: Pass
检验结果: 通过
The standard version of this report is upgraded according to LCS190610174ASA and is only used for commercial purposes.
本报告参照 LCS190610174ASA 进行标准版本升级，仅用于商业用途。

Ⅰ、CONCLUSION 结论

Item 项目	Sample Number 样品号	Standard 标准	Conclusion 结论
Altitude simulation 高空模拟	B01-B08	UN Recommendations on the Transport of Dangerous Goods Manual of Tests and Criteria ST/SG/AC.10/11/Rev.7/ Subsection 38.3 联合国《关于危险货物运输的建议书-试验和标准手册》（第7版）38.3节	PASS 合格
Thermal test 耐热测试			PASS 合格
Vibration 振动测试			PASS 合格
Shock 冲击测试			PASS 合格
External short circuit 外部短路			PASS 合格
Crush/ Impact 挤压/撞击	C01-C10		PASS 合格
Overcharge 过充电测试	B09-B16		PASS 合格
Forced discharge 强制放电测试	C11-C30		PASS 合格

Notes备注:

The conditions of the battery of sample No. B01 to B04, B09-B12 are at first cycle, in fully charged state;

样品编号B01-B04, B09-B12的状态为第一个交替充电放电周期完全充电状态的电池;

The conditions of the cells of sample No. C01 to C05 are at first cycle at 50% of the design rated capacity, in fully charged state;

样品编号C01-C05的状态为第一个交替充电放电周期完全充电状态电芯容量设计值的50%的电芯;

The conditions of the cells of sample No. C06 to C10 are after 25 cycles at 50% of the design rated capacity, in fully charged state;

样品编号C06-C10的状态为在二十五个交替充电放电周期完全充电状态电芯容量设计值的50%的电芯;

The conditions of the battery of sample No.B05 to B08, B13 to B16 are after 25 cycles, in fully charged state;

样品编号B05-B08, B13-B16的状态为在二十五个交替充电放电周期结束后完全充电状态的电池;

The conditions of the cells of sample No.C11 to C20 are at first cycle, in fully discharged state;

样品编号C11-C20的状态为第一个交替充电放电周期完全放电状态的电芯;

The conditions of the cells of sample No.C21 to C30 are after 25 cycles ending in fully discharged state.

样品编号C21-C30的状态为在二十五个交替充电放电周期结束后完全放电状态的电芯。

Ⅱ、MAIN TEST EQUIPMENT 主要测试设备

Instrument Name 仪器名称
Battery charge tester 电池充放电测试仪
Battery low press tester 高空模拟试验箱
Rapid temperature rise tester 快速温变试验机
Vibration tester 振动台
Vertical shock Tester 垂直冲击台
Battery external short-circuit tester 电池短路试验机
DC source 直流稳压电源
Battery crush tester 电池挤压试验机
Battery impact tester 电池重物冲击试验机
Scales 天平
Digital multimeter 万用表
Temperature recorder 温度记录仪
Temp.& Humi. Meter 温湿度计

Ⅲ、TEST METHOD AND DATA测试方法和数据

Tests T.1 to T.5 shall be conducted in sequence on the same cell or battery. Tests T.6 and T.8 shall be conducted using not otherwise tested cells or batteries. Test T.7 may be conducted using undamaged batteries previously used in tests T.1 to T.5 for purposes of testing on cycled batteries.

Cells and batteries meet this requirement if there is no leakage, no venting, no disassembly, no rupture and no fire and if the open circuit voltage of each test cell or battery after testing is not less than90% of its voltage immediately prior to this procedure. The requirement relating to voltage is not applicable to test cells and batteries at fully discharged states.

小型电池或电池组必须按顺序进行试验T1至T5。试验T6和T8应使用未试验过的电池或电池组。试验T7可以使用原先在试验T1至T5中使用过的未损坏的电池组进行，以便测试交替充电放电的电池组。

要求电池和电池组无渗漏、无漏气、无解体、无破裂和无起火并且每个电池或电池组在试验后的开路电压不小于其在进行这一试验前电压的90%。有关电压的要求不适用于完全放电状态的电池和电池组。

In order to quantify the mass loss, the following procedure is provided.

$$\text{mass loss} = (M_1 - M_2)/M_1 \times 100\%$$

Where$M_1$is the mass before the test and$M_2$is the mass after the test, when mass loss does not exceed the values in Table below, it shall be considered as “no mass loss”.

质量损失依照下式计算：

$$\text{质量损失} = (M_1 - M_2)/M_1 \times 100\%$$

式中M_1是试验前的质量，M_2是试验后的质量。如质量损失不超过下表所列数值，即视为“无质量损失”。

Mass M of cell or battery 电池或电池组质量M	Mass lost limited 质量损失限值
M＜1g	0.5%
1g≤M≤75g	0.2%
M＞75g	0.1%

Test T1: Altitude simulation 高度模拟

Test procedure 试验程序：

Test cells and batteries shall be stored at a pressure of 11.6 kPa or less for at least six hours at ambient temperature (20 ± 5 °C). 试验样品在压力不大于11.6kPa和温度20℃±5°C的环境下存放至少6小时。

Requirement 要求：

Cells and batteries meet this requirement if there is no leakage, no venting, no disassembly, no rupture and no fire and if the open circuit voltage of each test cell or battery after testing is not less than 90% of its voltage immediately prior to this procedure.

要求样品无漏液、无漏气、无解体、无破裂以及无起火, 且样品试验后开路电压应不低于试验前开路电压的90％。

Data数据：

No. 编号	Pre-test测试前		After test测试后		Mass loss 质量损失 (%)	Voltage loss 电压损失 (%)	Verdict# （判定#）
	Mass(g) 质量(g)	Voltage(V) 电压(V)	Mass(g) 质量(g)	Voltage(V) 电压(V)			
B01	2410.25	29.25	2410.25	29.24	0.000	0.03	PASS/合格
B02	2409.65	29.24	2409.60	29.24	0.002	0.00	PASS/合格
B03	2409.85	29.24	2409.80	29.24	0.002	0.00	PASS/合格
B04	2411.30	29.24	2411.30	29.24	0.000	0.00	PASS/合格
B05	2411.35	29.25	2411.35	29.25	0.000	0.00	PASS/合格
B06	2409.80	29.25	2409.80	29.25	0.000	0.00	PASS/合格
B07	2412.55	29.25	2412.55	29.24	0.000	0.03	PASS/合格
B08	2409.35	29.24	2409.35	29.24	0.000	0.00	PASS/合格

#：No leakage, No venting,No disassembly No rupture and no fire

#：无漏液、无漏气、无解体、无破裂以及无起火现象

Test T.2: Thermal test 耐热测试

Test procedure 测试程序：

Test cells and batteries are to be stored for at least six hours at a test temperature equal to72 ± 2 °C, followed by storage for at least six hours at a test temperature equal to - 40 ± 2 °C. The maximum time interval between test temperature extremes is 30 minutes. This procedure is to be repeated until 10 total cycles are complete, after which all test cells and batteries are to be stored for 24 hours at ambient temperature (20 ± 5 °C). For large cells and batteries the duration of exposure to the test temperature extremes should be at least 12 hours.

试验样品在试验温度等于72℃±2℃下存放至少6小时，然后在试验温度等于-40℃±2℃下存放至少6小时。两个极端温度之间的最大时间间隔为30分钟。这一过程须重复10次，接着将所有样品在环境温度20℃±5℃下存放24小时。对于大型电池和电池组，暴露于极端试验温度的时间至少应为12小时。

Requirement 要求

Cells and batteries meet this requirement if there is no leakage, no venting, no disassembly, no rupture and no fire and if the open circuit voltage of each test cell or battery after testing is not less than 90% of its voltage immediately prior to this procedure.

要求样品无漏液、无漏气、无解体、无破裂以及无起火, 且样品试验后开路电压应不低于试验前开路电压的90％。

Data数据：

No. 编号	Pre-test测试前		After test测试后		Mass loss 质量损失 (%)	Voltage loss 电压损失 (%)	Verdict# （判定#）
	Mass(g) 质量(g)	Voltage(V) 电压(V)	Mass(g) 质量(g)	Voltage(V) 电压(V)			
B01	2410.25	29.24	2410.05	28.96	0.008	0.96	PASS/合格
B02	2409.60	29.24	2409.35	28.94	0.010	1.03	PASS/合格
B03	2409.80	29.24	2409.60	28.95	0.008	0.99	PASS/合格
B04	2411.30	29.24	2411.05	28.94	0.010	1.03	PASS/合格
B05	2411.35	29.25	2411.10	28.96	0.010	0.99	PASS/合格
B06	2409.80	29.25	2409.40	28.93	0.017	1.09	PASS/合格
B07	2412.55	29.24	2412.45	28.94	0.004	1.03	PASS/合格
B08	2409.35	29.24	2409.15	28.94	0.008	1.03	PASS/合格

#：No leakage, No venting,No disassembly No rupture and no fire

#：无漏液、无漏气、无解体、无破裂以及无起火现象

Test T.3: Vibration 振动

Test procedure测试程序：

1. Cells and batteries are firmly secured to the platform of the vibration machine /样品牢固地安装在振动台（的台面）上。

2. The vibration:a sinusoidal waveform with a logarithmic sweep between 7Hz and 200Hz and back to 7Hz traversed in 15 minutes/振动以正弦波形式，对数扫描频率从7Hz增加至200Hz，然后再回到7Hz，一个循环持续15分钟。

3. the logarithmic frequency sweep is as follows: from 7 Hz a peak acceleration of 1 gn is maintained until 18 Hz is reached, The amplitude is then maintained at 0,8mm (1,6 mm total excursion) and the frequency increased until a peak acceleration of 8 gn occurs (approximately 50Hz), A peak acceleration of 8 gn is then maintained until the frequency is increased to 200 Hz/对数扫频为:从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。

4. This cycle repeated 12 times for a total of 3 hours for each of three mutually perpendicular mounting position of the cell /每个样品从三个互相垂直的方向上循环12 次，共3 个小时。

Requirement 要求

Cells and batteries meet this requirement if there is no leakage, no venting, no disassembly, no rupture and no fire during the test and after the test and if the open circuit voltage of each test cell or battery directly after testing in its third perpendicular mounting position is not less than 90% of its voltage immediately prior to this procedure.
要求样品无漏液、无漏气、无解体、无破裂以及无起火, 且样品试验后开路电压应不低于试验前开路电压的90％。

Data数据：

No. 编号	Pre-test测试前		After test测试后		Mass loss 质量损失 (%)	Voltage loss 电压损失 (%)	Verdict# （判定#）
	Mass(g) 质量(g)	Voltage(V) 电压(V)	Mass(g) 质量(g)	Voltage(V) 电压(V)			
B01	2410.05	28.96	2410.05	28.94	0.000	0.07	PASS/合格
B02	2409.35	28.94	2409.30	28.94	0.002	0.00	PASS/合格
B03	2409.60	28.95	2409.55	28.95	0.002	0.00	PASS/合格
B04	2411.05	28.94	2411.05	28.94	0.000	0.00	PASS/合格
B05	2411.10	28.96	2411.10	28.94	0.000	0.07	PASS/合格
B06	2409.40	28.93	2409.40	28.93	0.000	0.00	PASS/合格
B07	2412.45	28.94	2412.45	28.94	0.000	0.00	PASS/合格
B08	2409.15	28.94	2409.15	28.93	0.000	0.03	PASS/合格

#：No leakage, No venting,No disassembly No rupture and no fire

#：无漏液、无漏气、无解体、无破裂以及无起火现象

Test T4: Shock 冲击

Test procedure测试程序:

1. Test cells and batteries shall be secured to the testing machine by means of a rigid mount which will support all mounting surfaces of each test battery.

2. Each cell or battery shall be subjected to a half sine shock of peak acceleration of 150gn and pulse duration of 6 milliseconds. Alternatively, large cells and large batteries may be subjected to a half-sine shock of peak acceleration of 50gn and pulse duration of 11 milliseconds.

3. Each cell or battery shall be subjected to a half-sine shock of peak acceleration depending on the mass of the battery. The pulse duration shall be 6 milliseconds for small batteries and 11 milliseconds for large batteries. The formulas below are provided to calculate the appropriate minimum peak accelerations

以稳固的托架固定住每个样品的安装表面。对每个电样品以峰值为150gn 的半正弦的加速度冲击，脉冲持续6 毫秒，大型电池和大型电池组须经受最大加速度50gn 和脉冲持续时间11 毫秒的半正弦波冲击。每个样品必须经受根据其质量峰值加速度的半正弦震荡。小型电池脉冲持续时间应为6毫秒为和大容量电池脉冲持续时间应为11毫秒。下面的公式供计算相应最小峰值加速度，每个样品须在三个互相垂直的样品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。

Battery	Minimum peak acceleration	Pulse duration
Small batteries	150 g_n or result of formula Acceleration(g_n) = $\sqrt{\left(\frac{100850}{mass^*}\right)}$ whichever is smaller	6 ms
Large batteries	50 g_n or result of formula Acceleration(g_n) = $\sqrt{\left(\frac{30000}{mass^*}\right)}$ whichever is smaller	11 ms

Requirement 要求:

Cells and batteries meet this requirement if there is no leakage, no venting, no disassembly, no rupture and no fire and if the open circuit voltage of each test cell or battery after testing is not less than 90% of its voltage immediately prior to this procedure.

要求样品无漏液、无漏气、无解体、无破裂以及无起火, 且样品试验后开路电压应不低于试验前开路电压的90％。

Data数据：

No. 编号	Pre-test测试前		After test测试后		Mass loss 质量损失 (%)	Voltage loss 电压损失 (%)	Verdict# （判定#）
	Mass(g) 质量(g)	Voltage(V) 电压(V)	Mass(g) 质量(g)	Voltage(V) 电压(V)			
B01	2410.05	28.94	2410.05	28.94	0.000	0.00	PASS/合格
B02	2409.30	28.94	2409.30	28.94	0.000	0.00	PASS/合格
B03	2409.55	28.95	2409.50	28.94	0.002	0.03	PASS/合格
B04	2411.05	28.94	2411.05	28.94	0.000	0.00	PASS/合格
B05	2411.10	28.94	2411.10	28.94	0.000	0.00	PASS/合格
B06	2409.40	28.93	2409.40	28.93	0.000	0.00	PASS/合格
B07	2412.45	28.94	2412.40	28.92	0.002	0.07	PASS/合格
B08	2409.15	28.93	2409.15	28.93	0.000	0.00	PASS/合格

#：No leakage, No venting,No disassembly No rupture and no fire

#：无漏液、无漏气、无解体、无破裂以及无起火现象

Test T.5: External short circuit 外短路测试

Test method 测试方法:

The cell or battery to be tested shall be heated for a period of time necessary to reach a homogeneous stabilized temperature of 57 ± 4 °C, measured on the external case. This period of time depends on the size and design of the cell or battery and should be assessed and documented. If this assessment is not feasible, the exposure time shall be at least 6 hours for small cells and small batteries, and 12 hours for large cells and large batteries. Then the cell or battery at 57 ± 4 °C shall be subjected to one short circuit condition with a total external resistance of less than 0.1 ohm.

测试样品的外壳温度达到恒温 57 ± 4 °C 后，再进行外部短路。短路的时间取决于样品的尺寸和设计，并需被评估和记录。如果这个评估无法进行，那么小电芯和小电池短路时间至少 6 小时，大电芯和大电池短路时间至少 12 小时。然后样品在 57±4℃环境下经受一个阻值小于 0.1Ω的外部电路短路。

This short circuit condition is continued for at least one hour after the cell or battery external case temperature has returned to 57 ± 4 °C, or in the case of the large batteries, has decreased by half of the maximum temperature increase observed during the test and remains below that value.

样品温度到 57±4℃之后,短路时间需持续 1 小时，大型电池短路温度下降到最大温升的一半或低于 57±4℃。

Requirement 要求：

Cells and batteries meet this requirement if their external temperature does not exceed 170 °C and there is no disassembly, no rupture and no fire during the test and within six hours after the test.

要求样品外表面温度不超过170℃, 且试验后6 小时内无解体, 无破裂, 无起火。

Data数据：

No. 编号	Peak temperature(℃) 最高温度	No disassembly, No rupture and no fire 无解体、无破裂和无起火
B01	58.2	PASS/合格
B02	58.2	PASS/合格
B03	58.3	PASS/合格
B04	57.6	PASS/合格
B05	57.6	PASS/合格
B06	57.8	PASS/合格
B07	57.6	PASS/合格
B08	57.7	PASS/合格

Test T.6: Impact (applicable to cylindrical cells not less than 18 mm in diameter) / Crush (applicable to prismatic, pouch, coin/button cells and cylindrical cells 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)/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)

Test T.6: Impact (applicable to cylindrical cells not less than 18 mm in diameter) / Crush (applicable to prismatic, pouch, coin/button cells and cylindrical cells 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)/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)

Test procedure 测试程序– Impact撞击：

The sample cell or component cell is to be placed on a flat smooth surface. A 15.8 mm ± 0.1mm diameter, at least 6 cm long, or the longest dimension of the cell, whichever is greater, Type 316 stainless steel bar is to be placed across the Centre of the sample. A 9.1 kg ± 0.1 kg mass is to be 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 shall be oriented 90 degrees from the horizontal supporting surface.

The test sample is to be impacted with its longitudinal axis parallel to the flat surface and perpendicular to the longitudinal axis of the 15.8 mm ± 0.1mm diameter curved surface lying across the Centre of the test sample. Each sample is to be subjected to only a single impact.

将试验样品放在平坦光滑平面上，将一根长度不少于7cm的316型不锈钢棒横放在试样中心后，将一质量为9.1kg的物体从61±2.5cm 的高度落向样品。待测试电池纵轴与平面平行，与横放在试样中心的直径15.8±0.1 毫米弯曲表面的纵轴垂直。每个样品只经受一次撞击。

Test Procedure测试程序– Crush挤压：

A cell or component cell is to be crushed between two flat surfaces. The crushing is to be gradual with a speed of approximately 1.5 cm/s at the first point of contact. The crushing is to be continued until the first of the three options below is reached.

(a) The applied force reaches 13 KN ± 0.78 KN;

Example: The force shall be applied by a hydraulic ram with a 32 mm diameter piston until a pressure of 17 MPa is reached on the hydraulic ram.

(b) The voltage of the cell drops by at least 100 mV; or

(c) The cell is deformed by 50% or more of its original thickness.

Once the maximum pressure has been obtained, the voltage drops by 100 mV or more, or the cell is deformed by at least 50% of its original thickness, the pressure shall be released.

A prismatic or pouch cell shall be crushed by applying the force to the widest side. A button/coin cell shall be

crushed by applying the force on its flat surfaces. For cylindrical cells, the crush force shall be applied perpendicular to the longitudinal axis.

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：

(a)施加的力量达到13KN± 0.78KN；

(b)样品的电压下降至少100毫伏；

(c)样品变形达原始厚度的50%或以上。

棱柱形或袋装样品应从最宽的一面施压，纽扣/硬币形样品应从其平坦表面施压，圆柱形样品应从与纵轴垂直的方向施压。每个样品只经受一次挤压。

Requirement 要求:

Cells and component cells meet this requirement if their external temperature does not exceed 170 °C and there is no disassembly and no fire during the test and within six hours after this test.

要求样品的最高表面温度不超过170℃，且试验后6个小时之内试验样品无解体和无起火。

Data数据（Crush挤压）：

No.编号	Peak temperature 最高温度(℃)	No disassembly, No fire 无解体、无起火
C01	25.3	PASS/合格
C02	26.2	PASS/合格
C03	25.2	PASS/合格
C04	25.8	PASS/合格
C05	26.5	PASS/合格
C06	25.3	PASS/合格
C07	26.1	PASS/合格
C08	25.6	PASS/合格
C09	26.2	PASS/合格
C10	25.9	PASS/合格

Test T.7: Overcharge 过度充电

Test procedure 测试程序：

The charge current shall be twice the manufacturer's recommended maximum continuous charge current. The minimum voltage of the test shall be as follows:

(a) when the manufacturer's recommended charge voltage is not more than 18V, the minimum voltage of the test shall be the lesser of two times the maximum charge voltage of the battery or 22V.

(b)when the manufacturer's recommended charge voltage is more than 18V, the minimum voltage of the test shall be 1.2 times the maximum charge voltage.

Tests are to be conducted at ambient temperature. The duration of the test shall be 24 hours.

以2 倍制造厂推荐的最大持续充电电流对样品充电，本测试最小电压为:

(a)如果厂家推荐的充电电压不超过18V，本测试的最小充电电压应该小于两倍的厂家标定最大充电电压或者是22V

(b)如果厂家推荐的充电电压超过18V，本测试的最小充电电压应该1.2 倍的厂家标定最大充电电压20±5℃的环境温度下，试验持续24 小时。

Requirement 要求：

Rechargeable batteries meet this requirement if there is no disassembly and no fire during the test and within seven days after the test.

要求样品在试验中和试验后7 天内无解体和无起火。

Data数据:

No. 编号	No disassembly, No fire 无解体、无起火
B09	PASS/合格
B10	PASS/合格
B11	PASS/合格
B12	PASS/合格
B13	PASS/合格
B14	PASS/合格
B15	PASS/合格
B16	PASS/合格

Test T.8: Forced discharge (for cell)强制放电

Test procedure测试程序：

Each cell shall be forced discharged at ambient temperature by connecting it in series with a 12V D.C. power supply at an initial current equal to the maximum discharge current specified by the manufacturer.

The specified discharge current is to be obtained by connecting a resistive load of the appropriate size and rating in series with the test cell. Each cell shall be forced discharged for a time interval (in hours) equal to its rated capacity divided by the initial test current (in ampere).

20±5℃的环境温度下，将样品连接在12V 的直流电源上进行强制放电，此直流电源提供给每个试验样品初始电流为制造商指定的最大放电电流。

对于指定的放电电流则需要和测试样品串联一个匹配的电阻，每一个样品的强制放电时间等于额容量除以初始的测试电流。

Requirement要求

Primary or rechargeable cells meet this requirement if there is no disassembly and no fire during the test and within seven days after the test.

要求样品在试验中和试验后7 天内无解体和无起火。

Data数据：

No. 编号	No disassembly and no fire 无解体、无起火
C11	PASS/合格
C12	PASS/合格
C13	PASS/合格
C14	PASS/合格
C15	PASS/合格
C16	PASS/合格
C17	PASS/合格
C18	PASS/合格
C19	PASS/合格
C20	PASS/合格
C21	PASS/合格
C22	PASS/合格
C23	PASS/合格
C24	PASS/合格
C25	PASS/合格
C26	PASS/合格
C27	PASS/合格
C28	PASS/合格
C29	PASS/合格
C30	PASS/合格

Ⅳ、THE PHOTO OF SAMPLE 样品图片

Figure 1

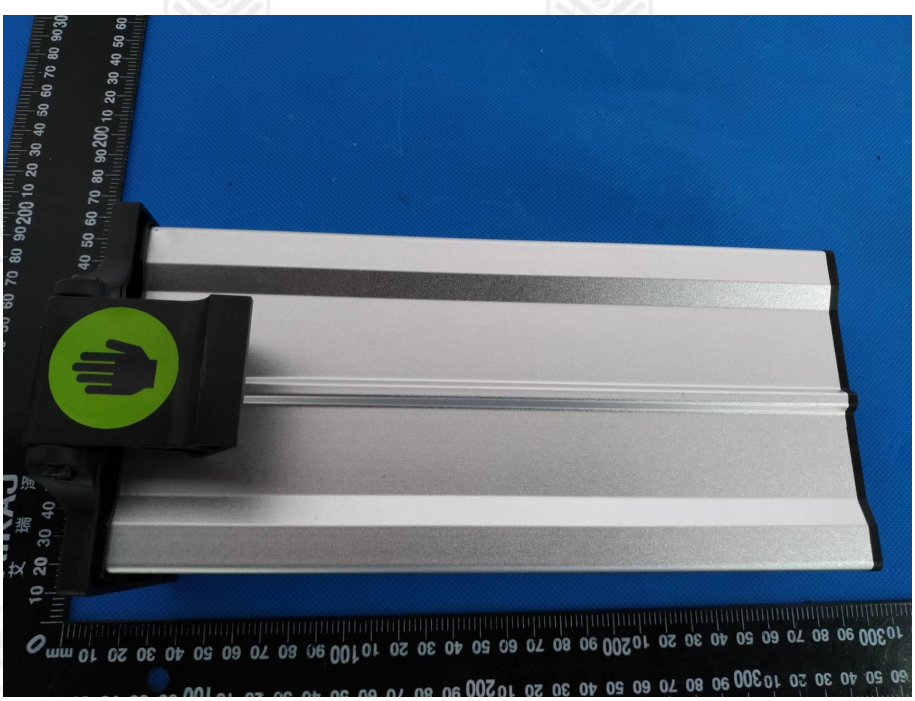


Figure 2

Figure 3

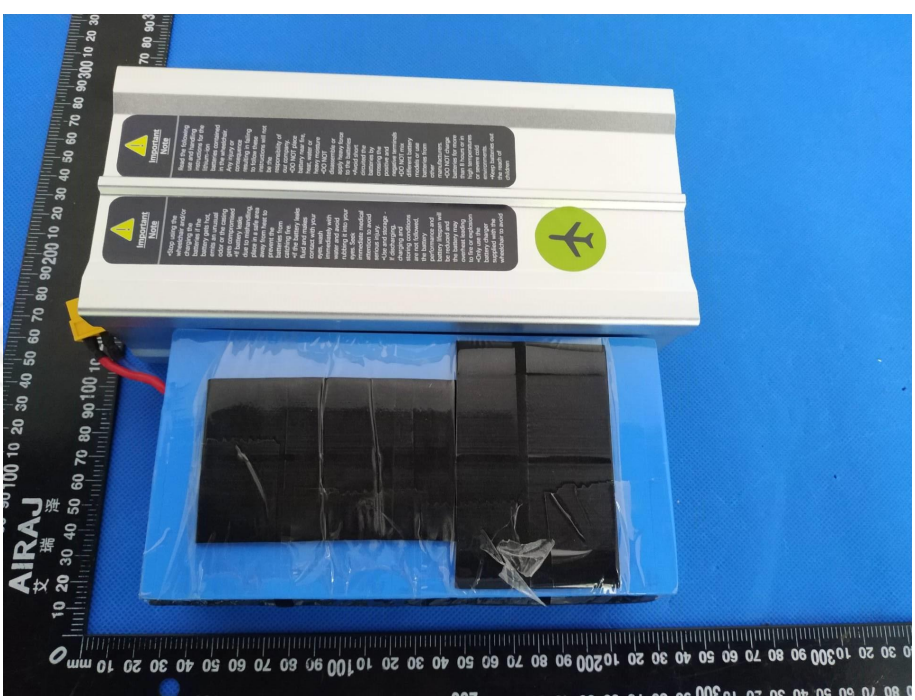


Figure 4

Figure 5

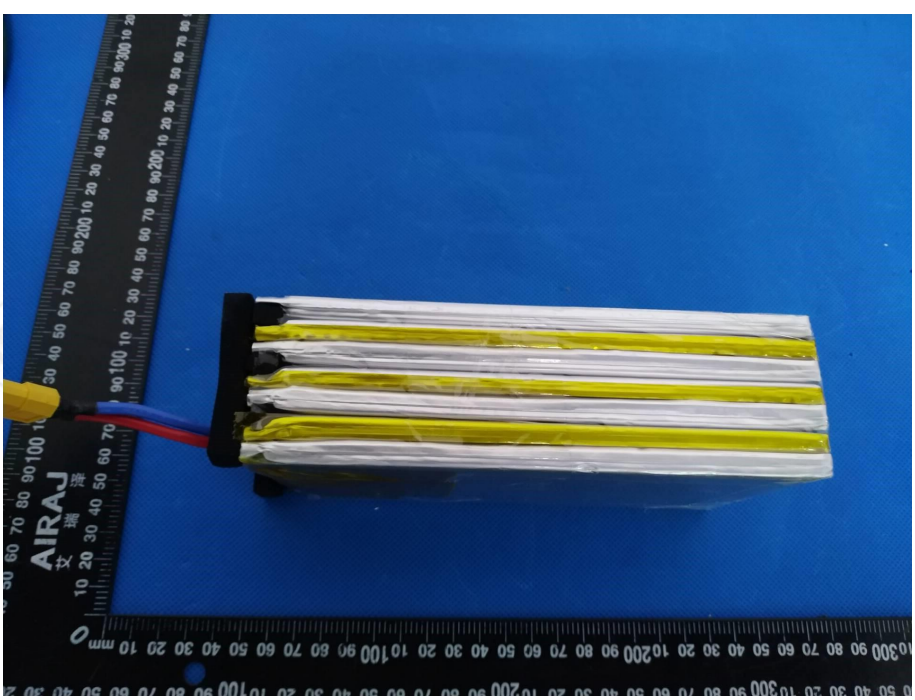


Figure 6

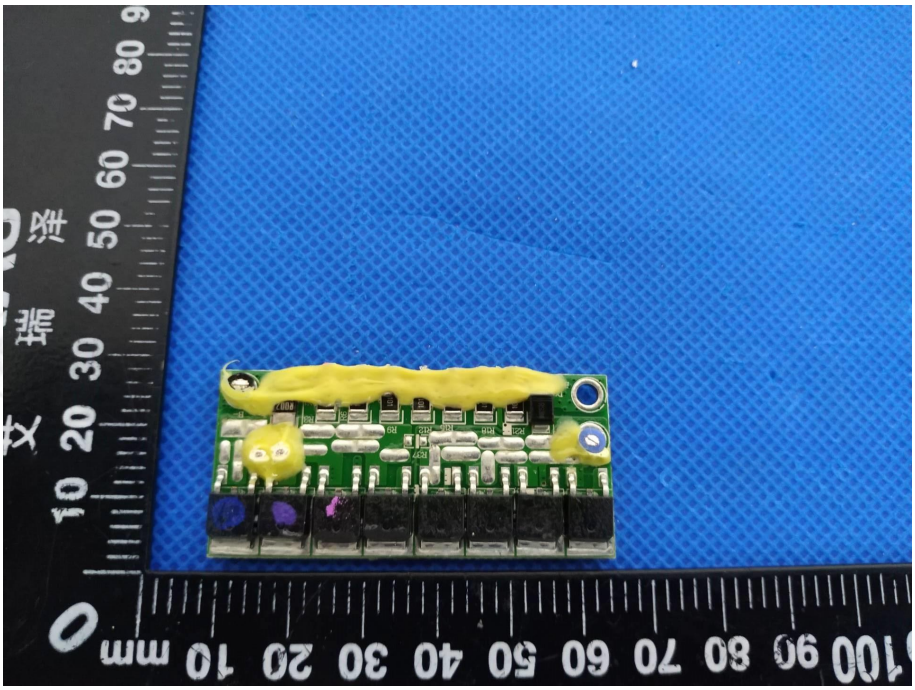


Figure 7

Figure 8

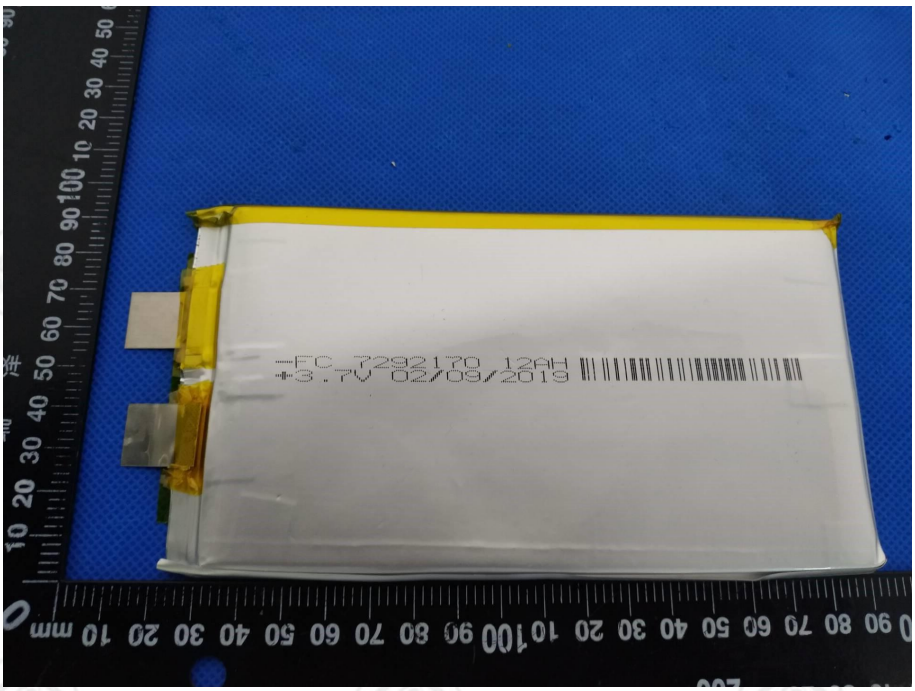


Figure 9

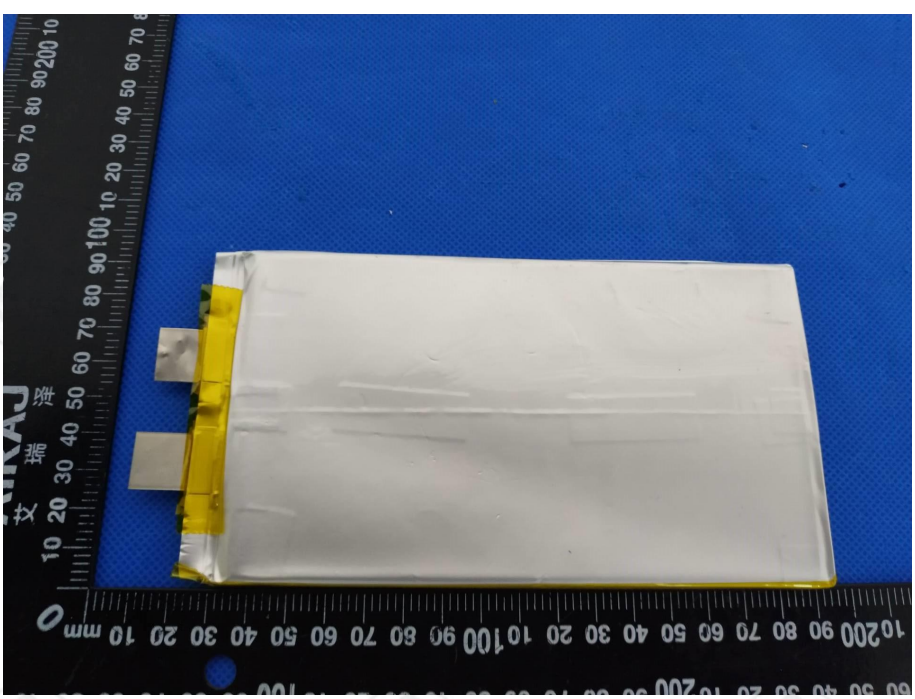


Figure 10

注意事项

Important Notice

1. The test report is invalid without the official stamp of LCS.

本报告书无LCS盖章无效。

2. The test report is invalid without the signatures of Ratifier, Reviewer and Testing engineer.

本报告书无批准人、审核人、及主检人签名无效。

3. Nobody is allowed to partly photocopy this test report without written permission of LCS.

未经LCS书面同意，不得部分地复制本报告书。

4. The report is invalid when anything of following happens – illegal transfer, reproduce, embezzlement, imposture, modification or tampering in any media form.

私自转让、复制、盗用、冒用、涂改、或以任何媒体形式篡改的报告书无效。

5. Product information and customer information provided by the applicant, we are not responsible for its authenticity.

产品信息和客户信息由申请人提供，我们不对其真实性负责。

6. The test report is valid for the tested samples only.

本报告仅对本次测试样品有效。

7. The Chinese contents in this report are only for reference.

本报告中的中文内容仅供参考。

8. Objections to the test report must be submitted to LCS within 15 days.

对报告书若有异议，应于收到报告之日起15天内向本公司提出。

End of report

中国认可
检验
INSPECTION
CNAS IB0078

危险物品
DANGEROUS GOODS

航空运输危险性鉴别报告

Identification and Classification Report for Air Transport of Goods

此报告本年度有效
有效期至2024年12月31日

报告编号：
Issued No.: PEKSZ202311299563FL200001

生效日期：
Effective Date: 2024.01.01

委托单位：常州丰宇新能源科技有限公司

Applicant: Changzhou Fengyu New Energy Technology Co., Ltd.

物品名称：电动轮椅 PL001（内置聚合物锂离子电池组 FY24-12 24V 12Ah 288Wh）

Name of Goods: POWER WHEELCHAIR PL001 (Containing Polymer Lithium ion Battery FY24-12 24V 12Ah 288Wh)

北京迪捷姆空运技术开发有限公司

Beijing DGM Air Transport Technology Development Co.,Ltd.

报 告 书 使 用 约 定

Terms of the Using of the Report

1. 本公司依据本年度国际航协《危险品规则》以及委托人（托运人或其代理人）提供的物品及其运输信息，确定物品的航空运输危险性并出具此报告书。
   The report is issued by DGM China according to IATA ***Dangerous Goods Regulations*** published in the current year and the information of the goods and the information of its shipping provided by the applicant (shipper or his agent).

2. 依据鉴别的需要，本公司要求委托人提供真实、完整的样品及资料。
   According to the demand of identification and classification, DGM China requires the applicant to provide true and exact sample and data of the goods.

3. 委托人保证申报的物品和/或提供的样品与交运的货物是同一种物质。
   The applicant guarantees that the declared goods and/or the sample who provides should be identical with the contents of cargo that is to be transported.

4. 本公司仅对委托方所提供样品的鉴别结果负责。
   DGM China is only responsible for the identification and classification of the sample provided by the applicant.

5. 本报告书经主检员、审核人和批准人签字并加盖本公司印章后生效。
   This report will be effective only after it is signed by the inspector, checker and approver, and stamped by DGM China.

6. 未经本公司书面批准，不得复制本报告书。
   The duplicating of this report is prohibited without the written approval of DGM China.

7. 私自转让、复制、盗用、冒用、涂改、或以任何媒体形式篡改的报告书无效。
   The report is invalid when anything of the following happens - illegal transfer, reproduce, embezzlement, imposture, modification or tampering in any media form.

8. 为适应国际航协《危险品规则》的年度变化，报告书仅在本年度内有效。
   This report is only valid within the year in which the IATA ***Dangerous Goods Regulations*** is effective.

地址：北京首都国际机场货运北路天竺综合保税区BGS货运楼249室　　邮编：101300

电话：010-69479673　　传真：010-69479621

网址：www.dgmchina.com.cn　　E-mail: test@dgmchina.com.cn

项目编号 Item No.		PEKSZ202311299563	签发日期 Issued Date	2023.12.13
鉴别目的 Identification Purpose		是否属于航空运输危险物品 Dangerous Goods or not restricted	鉴别日期 Identification Date	2023.12.07
鉴别依据 Identification Criteria		IATA DGR 65th, 2024		
物品名称 Name of Goods	中文 Chinese	电动轮椅 PL001（内置聚合物锂离子电池组 FY24-12 24V 12Ah 288Wh）		
	英文 English	POWER WHEELCHAIR PL001 (Containing Polymer Lithium ion Battery FY24-12 24V 12Ah 288Wh)		
生产厂家 Manufacturer		常州丰宇新能源科技有限公司 Changzhou Fengyu New Energy Technology Co., Ltd.		
件数 Pieces			注：本栏内容为托运人或其代理人在使用本报告书时候填写的运输信息，不属于鉴定内容。运输信息与报告书的关联性以及实际运输货物与报告书的一致性由托运人或其代理人保证，如发生任何不一致由托运人或其代理人承担全部责任。 （请认真填写本栏内容，并盖章） 负责人：　　联系方式：	
运单号 Air waybill No.				
目的港 Destination				
物品信息 Nature of the goods		该样品为银色长方体电池。 型号：FY24-12 尺寸：255.0×120.0×105.0 mm 每包装件中电池/电芯数量：1 每包装件中电池/电芯净重：2.24kg 该锂电池不属于召回电池，不属于废弃和回收电池，并按照DGR3.9.2.6.1(e)规定的质量体系进行制造 (注：该电池已经做好防意外启动措施。单块电池的重量约为2241.2g。该电池的UN38.3报告由深圳立讯检测股份有限公司出具，报告编号：LCSA080322116SA。每一设备内置电池一块。) This sample is silver cuboid battery. Model: FY24-12 Size: 255.0×120.0×105.0 mm Number of batteries / cells per package: 1 Net quantity of batteries/cells per package: 2.24kg The lithium batteries don't belong to batteries returned to the manufacturer for safety reasons, are not waste lithium batteries and not lithium batteries being shipped for recycling or disposal, are manufactured under a quality management program as described in 3.9.2.6.1(e).		

项目编号 Item No.		PEKSZ202311299563
物品名称 Name of Goods	中文 Chinese	电动轮椅 PL001（内置聚合物锂离子电池组 FY24-12 24V 12Ah 288Wh）
	英文 English	POWER WHEELCHAIR PL001 (Containing Polymer Lithium ion Battery FY24-12 24V 12Ah 288Wh)
鉴别结论 Conclusions		该物品为锂离子/聚合物电池，安装在设备上。额定瓦特小时为288Wh。已通过 UN38.3 测试。 参考有关资料，根据DGR有关规定，该物质分类识别为第9类（或项）危险品，UN3171。 This goods is lithium ion/polymer battery, contained in equipment. Watt-hour rating is 288Wh. Each battery is of a type proved to meet the Requirements of each test in the UN MANUAL OF TESTS AND CRITERIA, Part III, sub-section 38.3. According to IATA DGR this substance is classified as dangerous goods Class (or division) 9, UN3171.

运输危险性建议 Suggestion for Transport	UN/ID 编号 UN/ID No.	运输专用名称 Proper Shipping Name	类或项 Class or Div. (次要危险性) (Subsidiary Risk)	包装等级 Packing Group
	UN3171	Battery-powered vehicle	9	/

包装说明 Packing Inst.	客货机 Passenger and Cargo Aircraft	952
	仅限货机 Cargo Aircraft only	952
注意事项 Remarks	电池或电芯必须加以保护，防止短路。设备必须采取措施防止意外启动。 Batteries or cells must be protected so as to prevent short circuits, and the equipment must be equipped with an effective means of preventing accidental activation.	

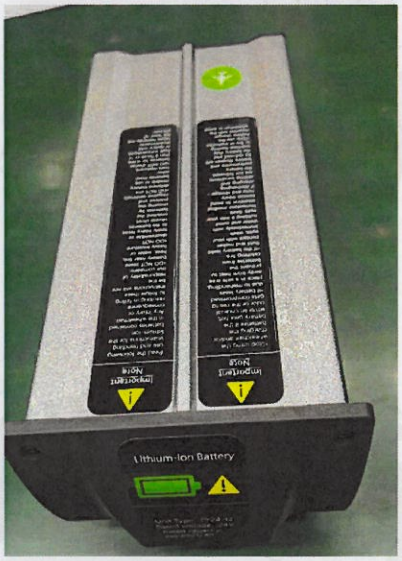
主检员 Prepared by: 曾平平　审核人 Checked by: 蒋晓芳　批准人 Approved by:

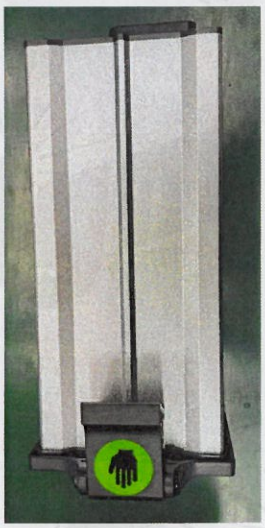
报告单位（盖章） Stamp

制单： 冯柳

电动轮椅 PL001（内置聚合物锂离子电池组 FY24-12 24V 12Ah 288Wh）

PEKSZ202311299563





锂电池 UN38.3 试验概要 Lithium Battery Test Summary

项目编号：PEKSZ202311299563

单位信息 Company Information	
委托单位 Consignor	常州丰宇新能源科技有限公司 Changzhou Fengyu New Energy Technology Co., Ltd. 江苏省常州市新北区乐山路 35 号 No. 35 Leshan Road, Xinbei District, Changzhou City, Jiangsu Province, China 电话/Tel：+86-519-83859198　　邮箱/Mail：269087008@qq.com 网址/Website:　www.jsczyj.cn
生产单位 Manufacturer	常州丰宇新能源科技有限公司 Changzhou Fengyu New Energy Technology Co., Ltd. 江苏省常州市新北区乐山路 35 号 No. 35 Leshan Road, Xinbei District, Changzhou City, Jiangsu Province, China 电话/Tel：+86-519-83859198　　邮箱/Mail：269087008@qq.com 网址/Website:　www.jsczyj.cn
测试单位 Test Lab	深圳立讯检测股份有限公司 Shenzhen LCS Compliance Testing Laboratory Ltd. 广东省深圳市宝安区沙井街道衙边学子围巨基工业园 A 栋 101、201，C 栋 301 Room 101, 201, Building A and Room 301, Building C, Juji Industrial Park, Yabianxueziwei, Shajing Street, Bao'an District, Shenzhen, Guangdong, China 电话/Tel：+(86) 0755-8259 1330　邮箱/Mail：webmaster@lcs-cert.com 网址/Website: http:// www.lcs-cert.com

电池信息 Battery Information			
名称 Name	聚合物锂离子电池组 Polymer Lithium-Ion Battery	电池/电芯类别 Battery/Cell Classification	锂离子电池 Li-ion Battery
型号 Type	FY24-12	商标 Trademark	/
额定电压 Normal Voltage	24V	额定容量 Rated Capacity	12Ah
额定能量 Watt-hour rating	288Wh	外观/Appearance	银色长方体 Silver Cuboid
质量/Mass	2241.2g	锂含量/Li Content	不适用 N/A

测试信息 Test Information					
测试报告编号 Test Report Number	LCSA080322116SA		测试报告签发日期 Date of Test Report	2022-08-16	
测试标准 Edition of UN Manual of Tests and Criteria Used	联合国《试验和标准手册》（第 7 版）38.3 节 UN "Manual of Tests and Criteria" ST/SG/AC.10/11/Rev.7/Subsection 38.3				
T.1：高度模拟 Altitude Simulation	通过 Pass	T.2：温度试验 Thermal Test	通过 Pass	T.3：振动 Vibration	通过 Pass
T.4：冲击 Shock	通过 Pass	T.5：外部短路 External Short Circuit	通过 Pass	T.6：撞击/挤压 Impact/Crush	通过 Pass
T.7：过度充电 Overcharge	通过 Pass	T.8：强制放电 Forced Discharge	通过 Pass	/	
UN38.3.3(f)	不适用 N/A		UN38.3.3(g)	不适用 N/A	
签名 Signatory 职务 Title	检验员		签发日期 Issued Date	2023-11-29	