



UN38.3 试验概要

UN38.3 Test Summary

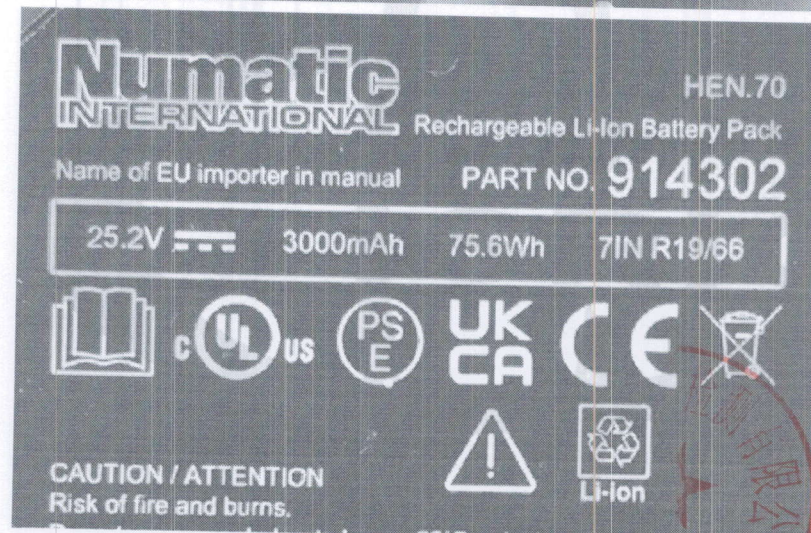


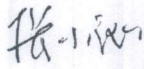
812100600061630

单位信息 Company information			
委托单位 Consignor	莱克电气股份有限公司 Kingclean Electric Co., Ltd. 苏州高新区向阳路 1 号 xiangyang roadsuzhou new distric jiangsu 0512-68767114 zongshibanrenzheng@kingclean.com /		
生产单位 Manufacturer	莱克电气股份有限公司 Kingclean Electric Co., Ltd. 苏州高新区向阳路 1 号 xiangyang roadsuzhou new distric jiangsu 0512-68767114 zongshibanrenzheng@kingclean.com /		
测试单位 Test lab	上海化工院检测有限公司 Shanghai Institute of Chemical Industry Testing Co., Ltd. 中国.上海.普陀区云岭东路 345 号, 200062 No.345 East Yunling Road, Putuo, Shanghai, China 200062 86-21-31765555 battery@ghs.cn www.ghs.cn		
电池信息 Battery information			
名称 Name	锂电池包 Lithium battery	品牌 Brand	/
型号 Type	HEN.70	原始测试型号 Original tested type	PD601
标称电压(V) Nominal voltage	25.2	容量/能量 Capacity/energy	3000mAh 75.6Wh
描述 Description	可充电锂离子电池组 Rechargeable Li-ion battery	锂含量(g) Li content	/
质量(kg) Mass	0.517	外观 Appearance	黑色, 红色双色塑胶外壳 black and red plastics cement shell
测试信息 Test information			
原报告编号 Original test report No.	1121070304	测试报告日期 Date of test report	2021-08-24
测试标准 Test standard	联合国《试验和标准手册》第 38.3 章 UNITED NATIONS Manual of Tests and Criteria 38.3 ST/SG/AC.10/11/Rev.7		
T.1 高度模拟 Altitude simulation	合格 Passed	T.2 温度测试 Thermal test	合格 Passed
T.3 振动测试 Vibration	合格 Passed	T.4 冲击测试 Shock	合格 Passed
T.5 外部短路 External short circuit	合格 Passed	T.6 撞击 Impact	合格 Passed
T.7 过度充电 Overcharge	合格 Passed	T.8 强制放电 Forced discharge	合格 Passed
38.3.3 (f)	/	38.3.3 (g)	/



样品图片 Sample Picture

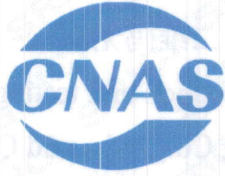


<p>结论 Conclusion</p>	<p>测试样品符合联合国《试验和标准手册》ST/SG/AC.10/11/Rev.738.3 标准要求。The tested samples meet the requirements of test items of the UNITED NATIONS Manual of Tests and Criteria ST/SG/AC.10/11/Rev.7 38.3</p>	
<p>备注 Remark</p>	<p>/</p>	
<p>签名 Signature 职务 Title</p>	<p> 张小沁 副总工程师 Vice chief engineer</p>	<p>签发日期 Issued date</p> <p>2021-09-15</p>

-验证码:401285-

报告结束





中国认可
检验
INSPECTION
CNAS IB0071



NO.2622020099

安全技术说明书 (SDS)

中文名称: 锂电池包: HEN. 70 电压: 25. 2V, 容量:
3000mAh, 75. 6Wh

英文名称: Lithium battery: HEN. 70, voltage: 25. 2V, capacity:
3000mAh, 75. 6Wh

生效日期: 2022年03月03日

编制人: 陈雨霜

审核人: 刘琳琳

批准人: 张一凡

上海化工院检测有限公司



莱克电气股份有限公司

安全技术说明书

SDS

锂电池包：HEN. 70 电压：25. 2V, 容量：3000mAh, 75. 6Wh

第一部分 化学品及企业标识

中文名称：锂电池包：HEN. 70 电压：25. 2V, 容量：3000mAh, 75. 6Wh
英文名称：lithium battery: HEN. 70, voltage: 25. 2V, capacity: 3000mAh, 75. 6Wh
企业名称：莱克电气股份有限公司
地址：苏州新区向阳路2号
邮编：215011
E-mail: zongshibanrenzheng@kingclean.com
传真号码：86-512-68256261
应急咨询电话：86-512-68767114
化学品的推荐用途和限制用途：/
技术说明书编码：2622020099
生效日期：2022年03月03日

第二部分 危险性概述

本品不在GHS体系涵盖的范围内。

主要危险性：

火灾或爆炸危险：

当锂离子电池损坏或处理不当（机械损伤或过度充电），其内部的易燃液态电解质在温度高于150℃时会泄露、着火和产生火花；该类物品可能迅速燃烧并伴有闪燃；可能会引燃邻近的其他电池。

健康危害：

电池的电解质会刺激皮肤、眼睛和黏膜组织。燃烧可能产生刺激性、腐蚀性和/或毒性气体。烟雾可能导致头晕或窒息。

第三部分 成分/组成信息

化学品名称：锂电池包：HEN. 70 电压：25. 2V, 容量：3000mAh, 75. 6Wh

成份	含量	CAS NO.	EC NO.
金属氧化物（保密）	20-50%	/	/
碳（保密）	10-30%	7440-44-0	231-153-3
电解液（保密）	10-20%	/	/
铝箔	2-10%	7429-90-5	231-072-3

铜箔	2-10%	7440-50-8	231-159-6
聚偏氟乙烯	<5%	24937-79-9	607-458-6
不锈钢, 镍和惰性组分	余量	-/7440-02-0/-	-/231-111-4/-

第四部分 急救措施

皮肤接触:	若接触到电池内的物质, 脱去受污染的衣物和鞋袜, 立即用流动清水冲洗20分钟以上。如刺激持续, 就医。
眼睛接触:	若接触到电池内的物质, 立即提起眼睑, 立即用流动清水冲洗20分钟以上。如刺激持续, 就医。
吸入:	若吸入电池内的物质, 立即脱离现场至空气新鲜处。若呼吸困难, 给氧; 若呼吸停止, 人工呼吸。就医。
食入:	若食入电池内的物质, 禁止催吐。立即就医。
最重要的急性和延迟症状/影响:	无资料。
必要时注明立即就医及所需的特殊治疗:	无资料。

第五部分 消防措施

适当的灭火剂:	可用水幕和普通泡沫灭火剂灭火。
化学品产生的具体危险:	燃烧可能产生刺激性、腐蚀性和或毒性气体。烟雾可能导致头晕或窒息。
消防人员的特别防护行动:	消防员应戴自给正压式呼吸器, 穿消防防护服以防止皮肤和眼睛接触。在上风处灭火。不相关人员疏散至安全区域。

第六部分 泄漏应急处理

个人防护措施、防护设备和应急程序:	使用个人防护设备。确保足够的通风。确保人群远离泄露区或处于泄露区上风向。不相关人员禁止进入。移除所有点火源。
环境防护措施:	避免泄露物进入地表、沟渠或水域。清洗废水避免直接释放至环境中。
控制和清洁的方法和材料:	如电解液泄漏, 用土、沙或其他不可燃材料吸附, 漏损的电池和污浊的吸附物应放入金属容器。

第七部分 操作处置与储存

安全操作的防护措施:	操作人员应经过培训, 严格遵守操作规程。建议操作人员穿一般作业防护服, 戴安全手套。远离火种、热源。避免高温。工作场所严禁吸烟。工作场所应有通风系统和设备。避免随意拆卸电池和弄错正负极。须牢固固定在内包装中, 以有效防止短路和防止可导致短路的移动。万一电池内的物质泄漏, 避免眼睛、皮肤直接接触, 避免吸入。应与强氧化剂、易燃物和腐蚀品分开存放。
安全储存的条件, 包括一切不相容性:	储存于阴凉、通风及干燥的库房内。远离火种、热源。避免高温。应与强氧化剂、易燃物和腐蚀品分开存放。须牢固在内包装中, 以有效防止短路和防止可导致短路的移动。储存区配备相应品种和数量的消防器材、泄漏应急处理设备和合适的收容材料。

第八部分 接触控制/个体防护

控制参数:	GBZ 2.1-2019 《工作场所所有害因素职业接触限值 化学有害因素》: 铜: 铜尘 PC-TWA 1mg/m ³ ; 铜烟 PC-TWA 0.2mg/m ³ 铝金属、铝合金粉尘: PC-TWA 3mg/m ³ (总尘) 镍: 金属镍与难溶性镍化合物 PC-TWA 1mg/m ³ (备注: G2B) (金属和合金) ACGIH: 铜: TLV-TWA 1 mg(Cu)/m ³ , 粉尘, 烟雾 TLV-TWA 0.2 mg(Cu)/m ³ 烟雾 铝: TLV-TWA: 1mg/m ³ 镍: TLV-TWA 1 mg/m ³
适当的工程控制:	有通风系统和设备。提供安全淋浴和洗眼设备。
个体防护措施:	
眼/面部防护:	若需要, 戴安全防护眼镜。
皮肤防护:	手防护: 戴安全手套。 身体防护: 穿一般作业防护服。
呼吸系统防护:	若需要, 戴管理部门认可的面罩。
高温危害:	无资料。
其他防护:	工作现场严禁吸烟、进食和饮水。工作后, 淋浴更衣。

第九部分 理化特性

外观:	黑色塑胶外壳
气味:	无臭
pH 值:	8-9
溶解性:	部分溶于水
熔点/凝固点:	>300°C
沸点、初始沸点和沸程:	无资料
闪点(闭杯):	无资料
密度/相对密度:	无资料
运动黏度:	无资料
燃烧上下极限或爆炸极限:	无资料
蒸气压:	无资料
相对蒸气密度:	无资料
n-辛醇/水分配系数(对数值):	无资料
自燃温度:	无资料
分解温度:	无资料
颗粒特征:	无资料
易燃性(固体、气体):	无资料

第十部分 稳定性与反应活性

反应性:	无资料。
化学稳定性:	常温常压下稳定。
危险反应的可能性:	无资料。

应避免的条件:	误操作, 明火, 高温, 机械滥用, 过充电, 防止短路和防止可导致短路的移动。
不相容材料:	强氧化剂、易燃物和腐蚀品。
危害性分解产物:	碳的氧化物、金属氧化物等。

第十一部分 毒理学资料

急性毒性:	无资料。
皮肤腐蚀/刺激:	电池内的电解液对皮肤有刺激性。
严重眼损伤/眼刺激:	电池内的电解液对眼睛有刺激性。
呼吸致敏:	无资料。
皮肤致敏:	无资料。
生殖细胞致突变性:	无资料。
致癌性:	无资料。
生殖毒性:	无资料。
特定目标器官毒性-单次接触:	无资料。
特定目标器官毒性-重复接触:	无资料。
吸入危险:	无资料。

第十二部分 生态学资料

毒性:	无资料。
持久性和降解性:	无资料。
潜在的生物累积性:	无资料。
在土壤中的流动性:	无资料。
其他有害效应:	无资料。

第十三部分 废弃处理

废弃处置方法:	废弃电池的处置应符合《中华人民共和国固体废物污染环境防治法》、《废电池污染防治技术政策》等有关法律、法规、政策和标准的要求。建议交给具有资格的化学废物处理部门处置。对于用过的而且将被运送去销毁或回收的电池, 在运输前应对其仔细检查, 以确保每节电池都是完好无损而且适合运输的。
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第十四部分 运输信息

锂电池单独运输:	通过联合国《关于危险货物运输的建议书 试验和标准手册》UN38.3试验和《规章范本》SP188的1.2m跌落测试。锂电池总净重<10kg。
RID/ADR(2021版):	根据RID/ADR特殊规定188, 运输时不受本规则其它规定限制。 根据RID/ADR(2021版)的2.2.9.1.7(g), 锂电池或电池组的制造商和出厂后的销售商应提供联合国《试验和标准手册》第III部分第38.3小节第38.3.5段规定的UN38.3试验概要。

- IATA DGR (63版):** 危险性类别: 9
UN编号: UN3480
包装标识: 杂项
运输名称: 锂离子电池组
本品应满足IATA DGR包装说明965的基本要求和第IB部分的规定。
根据IATA DGR(63版)的3.9.2.6.1(g), 2003年06月30日之后生产的锂电池或电池组的制造商和出厂后的销售商应提供联合国《试验和标准手册》第III部分第38.3小节第38.3.5段规定的UN38.3试验概要。
- IMO IMDG CODE (2020版):** 根据IMO IMDG CODE特殊规定188, 运输时不受本规则其它规定限制。
根据IMO IMDG CODE(2020版)的2.9.4.7, 锂电池或电池组的制造商和出厂后的销售商应提供联合国《试验和标准手册》第III部分第38.3小节第38.3.5段规定的UN38.3试验概要。

**锂电池同真空吸尘器包装
在一起运输:**

通过联合国《关于危险货物运输的建议书 试验和标准手册》UN38.3试验和《规章范本》SP188的1.2m跌落测试。锂电池总净重<5kg。

- RID/ADR (2021版):** 根据RID/ADR特殊规定188, 运输时不受本规则其它规定限制。
根据RID/ADR(2021版)的2.2.9.1.7(g), 锂电池或电池组的制造商和出厂后的销售商应提供联合国《试验和标准手册》第III部分第38.3小节第38.3.5段规定的UN38.3试验概要。

- IATA DGR (63版):** 本品应满足IATA DGR包装说明966基本要求和第II部分的规定。
根据IATA DGR(63版)的3.9.2.6.1(g), 2003年06月30日之后生产的锂电池或电池组的制造商和出厂后的销售商应提供联合国《试验和标准手册》第III部分第38.3小节第38.3.5段规定的UN38.3试验概要。

- IMO IMDG CODE (2020版):** 根据IMO IMDG CODE特殊规定188, 运输时不受本规则其它规定限制。
根据IMO IMDG CODE(2020版)的2.9.4.7, 锂电池或电池组的制造商和出厂后的销售商应提供联合国《试验和标准手册》第III部分第38.3小节第38.3.5段规定的UN38.3试验概要。

第十五部分 法规信息

国内法规:

锂电池单独运输:

《危险货物道路运输规则》(JT/T 617-2018): 联合国编号为: 3480, 中文名称和描述: 锂离子电池。
该型号锂电池通过联合国《关于危险货物运输的建议书 试验和标准手册》UN38.3试验, 根据特殊规定188, 运输时不受限制。

《危险货物品名表》(GB12268-2012): (GB)联合国编号为: 3480, 名称和说明: 锂离子电池组, 包装类别: II。
该型号锂电池通过联合国《关于危险货物运输的建议书 试验和标准手册》UN38.3试验, 根据特殊规定188, 运输时不受限制。

《铁路危险货物品名表》(2009版): 编号为: 91013, 品名: 锂电池组。

锂电池同设备包装在一起运输:

《危险货物道路运输规则》(JT/T 617-2018): 联合国编号为: 3481, 中文名称和描述: 与设备合装在一起的锂离子电池。
该型号锂电池通过联合国《关于危险货物运输的建议书 试验和标准手册》UN38.3试验, 根据特殊规定188, 运输时不受限制。

《危险货物品名表》(GB12268-2012): (GB)联合国编号为: 3481, 名称和说明: 同设备包装在一起的锂离子电池组, 包装类别: II。
该型号锂电池通过联合国《关于危险货物运输的建议书 试验和标准手册》UN38.3试验, 根据特殊规定188, 运输时不受限制。

《铁路危险货物品名表》(2009版): 编号为: 91014, 品名: 同设备包装在一起的锂电池组。

国际法规:

欧盟指令2006/66/EC及 2013/56/EU: 电池的标记, 处置, 回收等应满足欧盟指令2006/66/EC及2013/56/EU中的规定。

ICAO TI:

1. 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. 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%。
3. 在任何一票货物中, 按照包装说明965第II节或968第II节要求运输的锂电池货物包装件不得超过一个。每个集合包装中所装的按照包装说明965第II节或968第II节要求运输的锂电池货物包装件不得超过一个。
4. 按照包装说明965或968第II节要求运输的锂电池货物包装件或集合包装必须与其它货物分开交运, 且在交运前不得装入集装箱。

第十六部分 其他信息**编制日期:**

2022年03月03日

编制部门:

上海化工院检测有限公司

电话(传真): +86-21-52815377/31765555

修改信息:

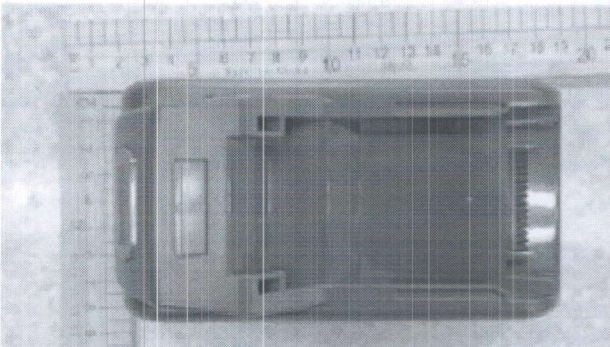
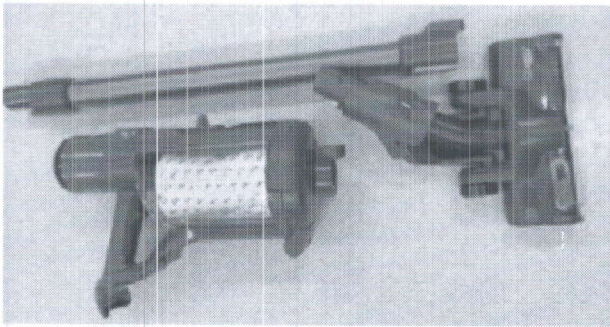
第0次修订

缩略语和首字母缩写:

CAS: 美国化学文摘社 EC: 欧盟委员会 ACGIH: 美国政府工业卫生学家委员会 PC-TWA: 时间加权平均容许浓度 TLV-TWA: 时间加权平均阈限值 G2B: 可疑人类致癌物 ADR: 关于国际公路运输危险货物的欧洲协议 RID: 国际铁路运输危险货物规则 IMO IMDG CODE: 国际海事组织 国际海运危险货物规则 IATA DGR: 国际航空运输协会 危险货物规则 EU: 欧洲联盟 ICAO TI: 国际民用航空组织 危险物品安全航空运输技术细则 PI: 包装说明

其他信息:

本SDS根据申请单位提供的成分含量等信息和我司现有知识编写, 仅作为指导使用。本SDS的使用者必须对内容的正确性与完整性做出独立判断, 根据实际情况决定其适用性, 并对使用后果承担相关法律责任。



Numatic Model: HEN.70
 Rechargeable Li-Ion Battery Pack
 Chard, Somerset, TA20 2GB, UK
 Name of EU importer in manual

PART NO. 914302
 SERIAL NO. 000000000

25.2V --- 3000mAh 75.6Wh 71N R19/66








CAUTION / ATTENTION

Risk of fire and burns.
 Do not open, crush, heat above +60°C or incinerate.
 Follow manufacturing instructions. Read instructions before use.
 Charge only with Numatic specified charger ZD024M300120.
 Do not charge below 5 °C Max charge current 1.2A.
 Max charge voltage 29.4V. May cause heat, explosion and fire.

Risque d'incendie et de brûlures. Ne pas ouvrir, écraser, chauffer au-dessus de +60°C ou incinérer. Suivez les instructions de fabrication. Lire les instructions avant utilisation. Chargez uniquement avec le chargeur spécifié par Numatic. Ne pas charger en dessous de 5 °C Courant de charge max 1.2A. Tension de charge maximale 29.4V. Peut provoquer de la chaleur, une explosion et un incendie.

Designed & Tested in the UK by Numatic International.
 Manufacturer: Kingclean Electric Co., Ltd. Made in PRC.





中国认可
检验
INSPECTION
CNAS IB0071



NO.2622020099

SAFETY DATASHEET

Product Name: lithium battery: HEN. 70, voltage:
25. 2V, capacity: 3000mAh, 75. 6Wh

Effective Date: 2022-03-03

Compiler: *Chen Yushuang*

Checker: *Liu Limin*

Approver: *Zhangxiaojin*



Shanghai Institute of Chemical Industry Testing Co., Ltd.



KINGCLEAN ELECTRICT CO.,LTD.

SAFETY DATA SHEET

lithium battery: HEN.70, voltage: 25.2V,capacity: 3000mAh,75.6Wh

SECTION1 PRODUCT AND COMPANY IDENTIFICATION

Product name: lithium battery: HEN.70, voltage: 25.2V, capacity: 3000mAh, 75.6Wh
Company: KINGCLEAN ELECTRICT CO.,LTD.
Address: No.2, Xiang Yang Road, Suzhou New District, Jiangsu, 215011, P. R. China
Email: zongshibanrenzheng@kingclean.com
Fax: 86-512-68256261
Emergency Phone: 86-512-68767114
Recommend use of the chemical and restrictions on use: /

SDS Number: 2622020099
Effective Date: 2022-03-03

SECTION2 HAZARDS IDENTIFICATION

The product is outside of the scope of GHS system.

Main Hazards:

Fire or Explosion Hazards:

Lithium ion battery contains flammable liquid electrolyte that may vent, ignite and produce sparks when subjected to high temperatures (>150°C), when damaged or abused (e.g., mechanical damage or electrical overcharging). May burn rapidly with flare-burning effect. May ignite other batteries in close proximity.

Health Hazards:

Contact with the electrolyte of battery may be irritating to skin, eyes and mucous membranes. Fire will produce irritating, corrosive and/or toxic gases. Fumes may cause dizziness or suffocation.

SECTION3 INFORMATION ON INGREDIENTS

Product name: lithium battery: HEN.70, voltage: 25.2V, capacity: 3000mAh, 75.6Wh

Ingredient	Concentration	CAS No.	EC No.
Metal oxide (proprietary)	20-50%	/	/

Carbon (proprietary)	10-30%	7440-44-0	231-153-3
Electrolyte (proprietary)	10-20%	/	/
Aluminum foil	2-10%	7429-90-5	231-072-3
Copper foil	2-10%	7440-50-8	231-159-6
Polyvinylidene fluoride(PVDF)	<5%	24937-79-9	607-458-6
Steel, nickel and inert components	Remainder	-/7440-02-0/-	-/231-111-4/-

SECTION4 FIRST-AID MEASURES

Skin Exposure:

If in contact with the internal materials of battery, remove the contaminated clothing, shoes and socks, immediately flush with plenty of water for at least 20 minutes. Call a physician.

Eye Exposure:

If in contact with the internal materials of battery, lift your eyelids immediately and rinse them with running water for more than 20 minutes. Call a physician.

Inhalation Exposure:

If the internal materials of battery are inhaled, immediately remove to fresh air. If breathing is difficult give oxygen. If not breathing, give artificial respiration. Call a physician.

Oral Exposure:

Do not induce vomiting if the internal materials of battery are swallowed. Call a physician immediately.

Most Important Symptoms/Effects, Acute and Delayed:

No data available.

Indication of Immediate Medical Attention and Special Treatment Needed, if Necessary:

No data available.

SECTION5 FIRE FIGHTING MEASURES

Suitable Extinguishing Media:

Suitable:Water spray or regular foam.

Specific Hazards Arising from the Chemical:

May decompose upon combustion to generate irritating, corrosive or toxic fumes. Fumes may cause dizziness or suffocation.

Special Protective Action for Fire-fighters:

Protective Equipment: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes. Fire-extinguishing work is done from the windward. Uninvolved persons should evacuate to a safe place.

SECTION6 ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures:

Use personal protective equipment. Ensure adequate ventilation. Keep people away from and upwind of spill/leak. Entry to noninvolved personnel should be controlled around the leakage area by roping off.Remove all sources of ignition.

Environmental Precautions:

Avoid leakage getting into the earth, ditches or waters. Avoid directly releasing the washing waste-water into the environment.

Methods and Materials for Containment and Cleaning up:

If the electrolyte leaks, use soil, sand or other non-combustible materials to absorb. The leaked batteries and dirty adsorbents should be placed in metal containers.

SECTION 7 HANDLING AND STORAGE**Precautions for Safe Handling:**

Operators should be trained and strictly abide by operating procedures. Wear appropriate protective clothing and safety gloves. Keep away from ignition sources, heat and flame. No smoking at working site. Handling is performed in a well ventilated place. Avoid disassembling the battery at will and reversing battery polarity within the battery assembly. The battery must be firmly packed in inner packaging so as to effectively prevent short circuits and short circuits caused by movement. If the electrolyte leaks, avoid directly contacting with eyes and skin. Avoid inhalation. Incompatibilities: Strong oxidizing agents, combustible materials and corrosives.

Conditions for Safe Storage, Including Any Incompatibilities:

Store in a cool, dry, and well-ventilated area. Keep away from ignition sources, heat and flame. Incompatibilities: Strong oxidizing agents, combustible materials and corrosives. The battery must be firmly packed in inner packaging so as to effectively prevent short circuits and short circuits caused by movement. Storage place should be equipped with appropriate varieties and quantities of fire fighting equipment and leakage emergency treatment equipment.

SECTION 8 EXPOSURE CONTROL/PPE**Control Parameters:**

GBZ 2.1-2019 Occupational Exposure Limits for Hazardous Agents in the Workplace - Part 1: Chemical Hazardous Agents:

Copper: Copper dust PC-TWA $1\text{mg}/\text{m}^3$; Copper smoke PC-TWA $0.2\text{mg}/\text{m}^3$

Aluminum metal and aluminum alloy dust: PC-TWA $3\text{mg}/\text{m}^3$ (total dust)

Nickel: Metallic nickel and insoluble nickel compounds: PC-TWA $1\text{mg}/\text{m}^3$ (Remark: G2B) (Metals and alloys) ACGIH:

Copper: TLV-TWA $1\text{mg}(\text{Cu})/\text{m}^3$, dust, mist TLV-TWA $0.2\text{mg}(\text{Cu})/\text{m}^3$, fume

Aluminum: TLV-TWA: $1\text{mg}/\text{m}^3$

Nickel: TLV-TWA $1\text{mg}/\text{m}^3$

Appropriate Engineering Controls:

Mechanical exhaust required. Safety shower and eye bath.

Individual Protection Measures:**Eye/Face Protection:**

Wear chemical safety glasses if needed.

Skin Protection:

Hand Protection: Wear safety gloves.

Body Protection: Wear appropriate protective clothing.

Respiratory Protection:

Wear government approved respirator if needed.

Thermal Hazards:

No data available.

Other Protect:

No smoking, drinking and eating at working site. Wash thoroughly after handling.

SECTION9 PHYSICAL/CHEMICAL PROPERTIES

Appearance:	Black plastics cement shell
Odor:	Odorless
pH Value:	8-9
Solubility:	Partial soluble in water
Boiling Point, Initial Boiling Point and Boiling Range:	No data available
Melting Point/Freezing Point:	>300°C
Flash Point (Closed Cup):	No data available
Density/Relative Density:	No data available
Kinematic Viscosity:	No data available
Lower/Upper Explosion Limit/Flammabili ty Limit:	No data available
Vapour Pressure:	No data available
Relative Vapor Density:	No data available
Partition Coefficient	No data available
N-Octanol/Water(Log Value):	No data available
Autoignition Temperature:	No data available
Decomposition Temperature:	No data available
Particle Characteristics:	No data available
Flammability (Solid, Gas):	No data available

SECTION10 STABILITY AND REACTIVITY**Reactivity:**

No data available.

Chemical Stability:

Stable under normal temperatures and pressures.

Possibility of Hazardous Reactions:

No data available.

Conditions to Avoid:

Avoid misoperation, exposure to heat and open flame. Avoid mechanical or electrical abuse and overcharge.
Prevent short circuits and short circuits caused by movement.

Incompatible Materials:

Strong oxidizing agents, combustible materials and corrosives.

Hazardous Decomposition Products:

Carbon oxides, metal oxides, etc.

SECTION11 TOXICOLOGICAL INFORMATION

Acute Toxicity:

No data available.

Skin Corrosion/Irritation:

The electrolyte in the battery causes skin irritation.

Serious Eye Damage/Irritation:

The electrolyte in the battery causes eye irritation.

Respiratory Sensitization:

No data available.

Carcinogenicity:

No data available.

Skin Sensitization:

No data available.

Germ Cell Mutagenicity:

No data available.

Reproductive Toxicity:

No data available.

Specific Target Organ Toxicity -Single Exposure:

No data available.

Specific Target Organ Toxicity -Repeated Exposure:

No data available.

Aspiration Hazard:

No data available.

SECTION12 ECOLOGICAL INFORMATION

Toxicity:

No data available.

Persistence and Degradability:

No data available.

Bioaccumulative Potential:

No data available.

Mobility in Soil:

No data available.

Other Adverse Effects:

No data available.

SECTION13 DISPOSAL CONSIDERATION

Disposal Methods:

The disposal of discarded battery shall comply with the requirements of relevant laws, regulations, policies and standards such as the "Law of the People's Republic of China on the Prevention and Control of Environmental Pollution by Solid Waste" and "Technical Policy for the Prevention and Control of Waste Battery Pollution". Contact a licensed professional waste disposal service to dispose of wastes. Used battery being transported for disposal or reclamation should be carefully checked prior to shipment to ensure the integrity of each battery and its suitability for transport.

SECTION14 TRANSPORT INFORMATION

**Only Lithium
Battery during
Transport:**

The product has passed the test items of UN Model Regulations, Manual of Test and Criteria Section 38.3 and UN Model Regulations, SP188, 1.2m drop test. The total net weight of the Lithium batteries is less than 10 kg.

**RID/ADR (2021
Edition):**

The product is not subject to the other provisions of RID/ADR according to special provision 188.

According to 2.2.9.1.7 (g) of RID/ADR(2021 Edition), Manufacturers and subsequent distributors of cells or batteries manufactured shall make available the test summary as specified in the Manual of Tests and Criteria, Part III, sub-section 38.3, paragraph 38.3.5

**IATA DGR (63rd
Edition):**

Hazard Class: 9

UN Number: UN3480

Hazard Label: Miscellaneous

Proper Shipping Name: Lithium ion batteries

The product shall meet the General Requirements and section IB of Packaging Instruction 965.

According to 3.9.2.6.1(g) of IATA DGR(63rd Edition), Manufacturers and subsequent distributors of cells or batteries manufactured after 30 June 2003 shall make available the test summary as specified in the Manual of Tests and Criteria, Part III, sub-section 38.3, paragraph 38.3.5.

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

**IMO IMDG
CODE (2020
Edition):**

According to 2.9.4.7 of IMO IMDG CODE(2020 Edition), Manufacturers and subsequent distributors of cells or batteries manufactured shall make available the test summary as specified in the Manual of Tests and Criteria, Part III, sub-section 38.3, paragraph 38.3.5.

**Lithium Battery
Packed with
Vacuum Cleaner
during Transport:**

The product has passed the test items of UN Model Regulations, Manual of Test and Criteria Section UN 38.3 and UN Model Regulations, SP188, 1.2m drop test. The total net weight of the lithium batteries is less than 5 kg.

**RID/ADR (2021
Edition):**

The product is not subject to the other provisions of RID/ADR according to special provision 188.

According to 2.2.9.1.7 (g) of RID/ADR(2021 Edition), Manufacturers and subsequent distributors of cells or batteries manufactured shall make available the test summary as specified in the Manual of Tests and Criteria, Part III, sub-section 38.3, paragraph 38.3.5.

**IATA DGR (63rd
Edition):**

The product shall meet the General Requirements and section II of Packaging Instruction 966.

According to 3.9.2.6.1(g) of IATA DGR(63rd Edition), Manufacturers and subsequent distributors of cells or batteries manufactured after 30 June 2003 shall make available the test summary as specified in the Manual of Tests and Criteria, Part III, sub-section 38.3, paragraph 38.3.5.

**IMO IMDG
CODE(2020
Edition):**

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

According to 2.9.4.7 of IMO IMDG CODE(2020 Edition), Manufacturers and subsequent distributors of cells or batteries manufactured shall make available the test summary as specified in the Manual of Tests and Criteria, Part III, sub-section 38.3, paragraph 38.3.5.

SECTION15 REGULATORY INFORMATION**Domestic Regulations:****Only Lithium Battery during Transport:****Regulations Concerning Road Transportation of Dangerous Goods(JT/T 617-2018):**

UN Number: UN3480

Name and Description: Lithiumion batteries

The product has passed the test items of UN Model Regulations, Manual of Test and Criteria Section 38.3.

The product is not subject to JT/T 617-2018 according to special provision 188.

List of Dangerous Goods(GB 12268-2012):

UN Number: UN3480

Shipping Name: Lithium ion batteries

Packing Group: II

The product has passed the test items of UN Model Regulations, Manual of Test and Criteria Section 38.3.

The product is not subject to GB 12268-2012 according to special provision 188.

List of Dangerous Goods by Rail(2009 Edition):

Number: 91013

Name of product: Lithium batteries

Lithium Battery Packed with the Equipment during Transport:**Regulations Concerning Road Transportation of Dangerous Goods(JT/T 617-2018):**

UN Number: UN3481

Name and Description: Lithiumion batteries packed with equipment

The product has passed the test items of UN Model Regulations, Manual of Test and Criteria Section 38.3.

The product is not subject to JT/T 617-2018 according to special provision 188.

List of Dangerous Goods(GB 12268-2012):

UN Number: UN3481

Shipping Name: Lithium ion batteries packed with equipment

Packing Group: II

The product has passed the test items of UN Model Regulations, Manual of Test and Criteria Section 38.3.

The product is not subject to GB 12268-2012 according to special provision 188.

List of Dangerous Goods by Rail(2009 Edition):

Number: 91014 Name of product: Lithium batteries packed with equipment

International Regulations:**Directive 2006/66/EC and 2013/56/EU:**

The label, disposal and recycling of the battery shall meet the requirements of EU Directive 2006/66/EC and 2013/56/EU.

ICAO TI:

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.
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.
3. A shipper is not permitted to offer for transport more than one (1) package prepared according to Section II of PI 965 and PI 968 in any single consignment. Not more than one (1) package prepared in accordance with Section II of PI 965 and PI 968 may be placed into an overpack.
4. Packages prepared according to Section II of PI 965 and PI 968 must be offered to the operator separately from other cargo and must not be loaded into a unit load device (ULD) before being offered to the operator.

SECTION16 OTHER INFORMATION**Preparation Date:**

2022-03-03

Preparation Department:

Shanghai Research Institute of Chemical Industry Testing Co., Ltd.
Tel (Fax) : +86-21-52815377/31765555

Revision:

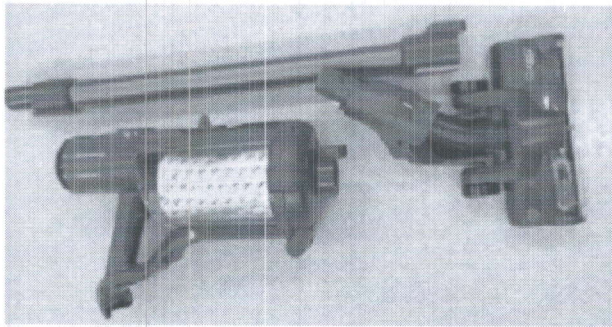
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Abbreviations and Acronyms:

CAS: Chemical Abstracts Service EC: European Commission ACGIH: American Conference of Governmental Industrial Hygienists PC-TWA: Permissible concentration-time weighted average TLV-TWA: Time weighted average threshold limit G2B: Possibly carcinogenic to humans ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road RID: Regulations concerning the International Carriage of Dangerous Goods by Rail IMO IMDG CODE: International Maritime Organization International Maritime Code for Dangerous Goods IATA DGR: International Air Transport Association Dangerous Goods Regulations EU: European Union ICAO TI: International Civil Aviation Organization Technical Instructions for the Safe Transport of Dangerous Goods by Air PI:Packaging Instruction

Other Information:

This SDS is compiled based on the information such as ingredients provided by the applicant and our current knowledge. This SDS shall be used only as a guide. The users of this SDS must make independent judgments on the correctness and completeness and then decide its suitability according to the actual situation. The users should take the relevant legal responsibilities for the consequences of use.



Numatic Model: HEN.70
 Rechargeable Li-Ion Battery Pack
 Chard, Somerset, TA20 2GB, UK
 Name of EU importer in manual

PART NO. 914302
 SERIAL NO. 000000000

25.2V 3000mAh 75.6Wh 71N R19/66





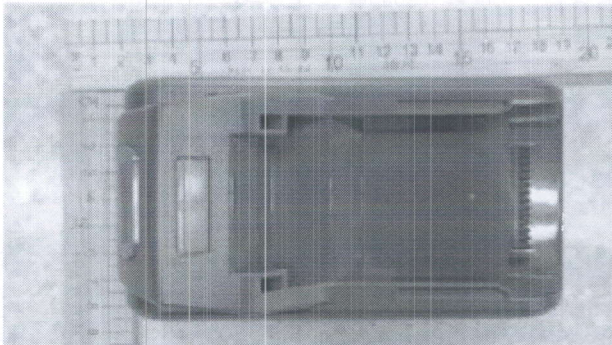


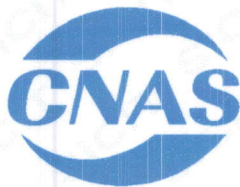

CAUTION / ATTENTION

Risk of fire and burns.
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 Charge only with Numatic specified charger ZD024M300120.
 Do not charge below 5 °C. Max charge current 1.2A.
 Max charge voltage 29.4V. May cause heat, explosion and fire.

Risque d'incendie et de brûlures. Ne pas ouvrir, écraser, chauffer au-dessus de +60°C ou incinérer. Suivez les instructions de fabrication. Lisez les instructions avant utilisation. Chargez uniquement avec le chargeur spécifié par Numatic. Ne pas charger en dessous de 5 °C. Courant de charge max 1.2A. Tension de charge maximale 29.4V. Peut provoquer de la chaleur, une explosion et un incendie.

Designed & Tested in the UK by Numatic International.
 Manufacturer: Kingclean Electric Co., Ltd. Made in PRC.





中国认可
检测
TESTING
CNAS L0748



170014233963



NO.1121070304

检 测 报 告

Test Report

样品名称： 锂电池包 PD601 25.2V 3000mAh 75.6Wh

Name of Sample: Lithium battery PD601 25.2V 3000mAh 75.6Wh

委托单位： 莱克电气股份有限公司

Consignor: KINGCLEAN ELECTRIC CO., LTD



上海化工院检测有限公司

Shanghai Institute of Chemical Industry Testing Co., Ltd.

上海化工院检测有限公司
检测报告

Shanghai Institute of Chemical Industry
Testing Co., Ltd. Test Report

NO. 1121070304

1/11

样品名称 Name of Sample	中文 Chinese	锂电池包 PD601 25.2V 3000mAh 75.6Wh	
	英文 English	Lithium battery PD601 25.2V 3000mAh 75.6Wh	
样品编号 Sample No.	1121070304		
委托单位 Consignor	莱克电气股份有限公司 KINGCLEAN ELECTRIC CO., LTD		
生产单位 Manufacturer	莱克电气股份有限公司 KINGCLEAN ELECTRIC CO., LTD		
检测方法 Test method	联合国《试验和标准手册》 ST/SG/AC.10/11/Rev.7 38.3 UN Manual of Tests and Criteria ST/SG/AC.10/11/Rev.7 Section 38.3		
判定标准 Criterion	联合国《试验和标准手册》 ST/SG/AC.10/11/Rev.7 38.3 UN Manual of Tests and Criteria ST/SG/AC.10/11/Rev.7 Section 38.3		
样品外观 Appearance	黑色, 红色双色 塑胶外壳 Black and red Plastics cement shell		
样品接受日期 Accepted Date	2021-07-12	检测起迄日期 Test Date	2021-07-15 ~ 2021-08-23
检测项目 Test Items	高度模拟;热测试;振动;冲击;外短路;撞击;过充电;强制放电 Altitude simulation, Thermal test, Vibration, Shock, External short circuit, Impact, Overcharge, Forced discharge		
检测结论 Conclusion	经检测, 该样品符合联合国《试验和标准手册》ST/SG/AC.10/11/Rev.7 38.3标准要求。 The sample has passed the test items of UN Manual of Tests and Criteria ST/SG/AC.10/11/Rev.7 Section 38.3 生效日期(Date): 2021-08-24		
备注 Comment	可充电锂电池组Rechargeable Lithium Battery./		
委托单位地址 Consignor Address	/		邮政编码 Post Code 215009

批准
Approver:
职务
Title:

王宗

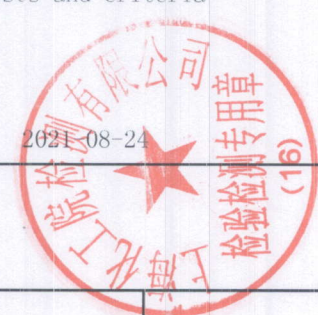
副总工程师(Vice chief engineer)

审核
Checker:

陆建峰

编制
Compiler:

傅佳



上海化工院检测有限公司 检测报告

Shanghai Institute of Chemical Industry
Testing Co., Ltd. Test Report

NO. 1121070304

2/11

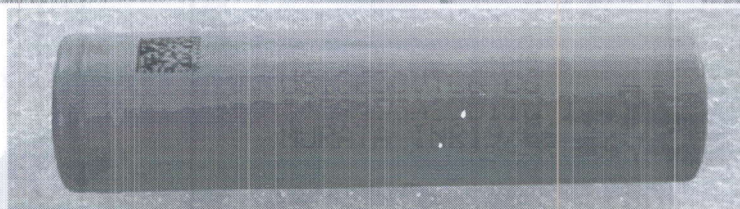
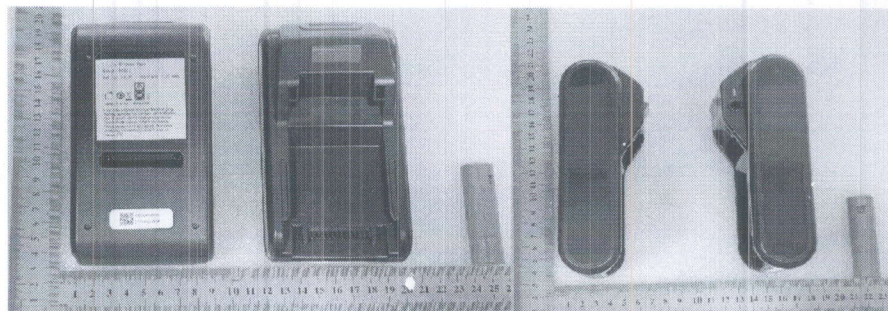
序号 No.	检测项目名称 Name of Test Items	标准要求或标准条款号 Standard requirement or The Clause Number of Standard	检测结果 Test Result	本项结论 Conclusion	备注 Remark	
1	高度模拟 Altitude simulation	联合国《试验和标准手册》ST/SG/AC.10/11/Rev.7 38.3 试验T1 UN Manual of Tests and Criteria ST/SG/AC.10/11/Rev.7 Section 38.3 Test T1	见附表 1 See Appendix 1	合格 Passed	/	
2	热测试 Thermal test	联合国《试验和标准手册》ST/SG/AC.10/11/Rev.7 38.3 试验T2 UN Manual of Tests and Criteria ST/SG/AC.10/11/Rev.7 Section 38.3 Test T2	见附表 2 See Appendix 2	合格 Passed	/	
3	振动 Vibration	联合国《试验和标准手册》ST/SG/AC.10/11/Rev.7 38.3 试验T3 UN Manual of Tests and Criteria ST/SG/AC.10/11/Rev.7 Section 38.3 Test T3	见附表 3 See Appendix 3	合格 Passed	/	
4	冲击 Shock	联合国《试验和标准手册》ST/SG/AC.10/11/Rev.7 38.3 试验T4 UN Manual of Tests and Criteria ST/SG/AC.10/11/Rev.7 Section 38.3 Test T4	见附表 4 See Appendix 4	合格 Passed	/	
5	外短路 External short circuit	联合国《试验和标准手册》ST/SG/AC.10/11/Rev.7 38.3 试验T5 UN Manual of Tests and Criteria ST/SG/AC.10/11/Rev.7 Section 38.3 Test T.5	见附表 5 See Appendix 5	合格 Passed	/	
6	撞击 Impact	联合国《试验和标准手册》ST/SG/AC.10/11/Rev.7 38.3 试验T6 UN Manual of Tests and Criteria ST/SG/AC.10/11/Rev.7 Section 38.3 Test T.6	见附表 6 See Appendix 6	合格 Passed	/	
7	过充电 Overcharge	联合国《试验和标准手册》ST/SG/AC.10/11/Rev.7 38.3 试验T7 UN Manual of Tests and Criteria ST/SG/AC.10/11/Rev.7 Section 38.3 Test T.7	见附表 7 See Appendix 7	合格 Passed	/	
8	强制放电 Forced discharge	联合国《试验和标准手册》ST/SG/AC.10/11/Rev.7 38.3 试验T8 UN Manual of Tests and Criteria ST/SG/AC.10/11/Rev.7 Section 38.3 Test T.8	见附表 8 See Appendix 8	合格 Passed	/	
检测环境条件 Test Environment Condition		环境温度:20℃-23℃;环境湿度:/% Ambient temperature:20℃-23℃;Ambient humidity:/%				
分包检验情况 Subcontracted Test Condition		检测项目 Test Item	/			
		分包实验室 Subcontracted Laboratory	名称 Name	/	邮编 Post Code	/
			地址 Address	/	电话 Tel	/

上海化工院检测有限公司
 检测报告-附表8
 Shanghai Institute of Chemical Industry
 Testing Co., Ltd. Test Report—Appendix 8

NO. 1121070304

10/11

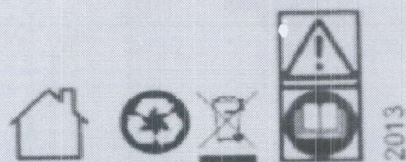
序号 No.	8	检测项目名称 Name of Test Items	强制放电 Forced discharge
样品编号 Sample No.	样品状态 Sample Status	其他现象 Other Event	
027	1CYC完全放电 1CYC Fully discharged		O
028	1CYC完全放电 1CYC Fully discharged		O
029	1CYC完全放电 1CYC Fully discharged		O
030	1CYC完全放电 1CYC Fully discharged		O
031	1CYC完全放电 1CYC Fully discharged		O
032	1CYC完全放电 1CYC Fully discharged		O
033	1CYC完全放电 1CYC Fully discharged		O
034	1CYC完全放电 1CYC Fully discharged		O
035	1CYC完全放电 1CYC Fully discharged		O
036	1CYC完全放电 1CYC Fully discharged		O
037	25CYC完全放电 25CYC Fully discharged		O
038	25CYC完全放电 25CYC Fully discharged		O
039	25CYC完全放电 25CYC Fully discharged		O
040	25CYC完全放电 25CYC Fully discharged		O
041	25CYC完全放电 25CYC Fully discharged		O
042	25CYC完全放电 25CYC Fully discharged		O
043	25CYC完全放电 25CYC Fully discharged		O
044	25CYC完全放电 25CYC Fully discharged		O
045	25CYC完全放电 25CYC Fully discharged		O
046	25CYC完全放电 25CYC Fully discharged		O
备注: D-解体 F-起火 O-无解体、无起火。 Note: D-Disassembly F-Fire O-No Disassembly & No Fire.			



Li-ion Battery Pack

Model: PD601

Rating: 25.2V / 3000 mAh / 75.6Wh



code: X X XX - XXXXXX

Use only original charger for charging.
Safety advices for Lithium-Ion batteries:
Don't crush. Don't heat or incinerate.
Don't short circuit. Don't dismantle.
Don't immerse in any liquid. Respect
charging instructions. Don't charge
below 5°C.

1121070304 (16)



报告结束