

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

项目编号: PEKSZ202312055880

单位信息 Company Information					
委托单位 Consignor	征途科技有限公司/ZENDURE TECHNOLOGY CO., LIMITED 香港九龙观塘鲤鱼门道二号新城工商中心 517 室内/RM 517, NEW CITY CENTRE, 2 LEI YUE MUN ROAD, KWUN TONG, KOWLOON. HK				
生产单位 Manufacturer	东莞市铂泰电子有限公司/DONGGUAN PLATINTEK ELECTRONICS CO., LTD 广东省东莞市大岭山镇大岭山拥军路 136 号 5 栋 103 室 301 室/Room 103, Room 301, Building 5, No. 136, Yongjun Road, Dalingshan Town, Dongguan, Guangdong Province, China 电话/Tel: +86-13534254553 邮箱/Mail: kang.xiong@zendure.com				
测试单位 Test Lab	深圳诺测检测技术有限公司/Shenzhen NCT Testing Technology Co., Ltd. 广东省深圳市宝安区福海街道新田社区富桥六区 B2A101, B2A201, B2A202/B2A101/B2A201/B2A202, Fuqiao 6th Area, Xintian, Fuhai Subdistrict, Bao'an District, Shenzhen, Guangdong, China 电话/Tel: +86-755-27790922 邮箱/Mail: sales@nct-testing.com 网址/Website: http://www.ncttesting.cn				
电池信息 Battery Information					
名称 Name	AIO 2400 储能电源 AIO 2400 Power Station	电池/电芯类别 Battery/Cell Classification		锂离子电池 Li-ion Battery	
型号 Type	ZDAIO2400	商标 Trademark		/	
额定电压(V) Normal Voltage(V)	48V	额定容量(Ah) Rated Capacity(Ah)		50Ah	
额定能量(Wh) Watt-hour rating (Wh)	2400Wh	外观/Appearance		黑色近长方体 Approximate Black Cuboid	
质量(kg)/Mass(kg)	30.7kg	锂含量(g)/Li Content(g)		不适用 N/A	
测试信息 Test Information					
测试报告编号 Test Report Number	NCT230472168XB1-1	测试报告签发日期 Date of Test Report	2023-11-30		
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 修订 1) 38.3 节 UN "Manual of Tests and Criteria" ST/SG/AC.10/11/Rev.7/Amend.1/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	曾平 检验员		签发日期 Issued Date	2023.12.5	

化学品安全技术说明书 (MSDS)

委托方 Client	征途科技有限公司 ZENDURE TECHNOLOGY CO., LIMITED
委托方地址 Add. of Client	香港九龙观塘鲤鱼门道二号新城工商中心 517 室内 RM 517, NEW CITY CENTRE, 2 LEI YUE MUN ROAD, KWUN TONG, KOWLOON. HK
样品名称 Description	AIO 2400 储能电源 AIO 2400 Power Station
型号规格 Model/Type	ZDAIO2400
额定容量 Rated Capacity	50Ah
额定能量 Rated Energy	2400Wh
制造厂 Manufacturer	征途科技有限公司 ZENDURE TECHNOLOGY CO., LIMITED
制造厂地址 Add. Of Manufacturer	香港九龙观塘鲤鱼门道二号新城工商中心 517 室内 RM 517, NEW CITY CENTRE, 2 LEI YUE MUN ROAD, KWUN TONG, KOWLOON. HK
技术依据 Reference documents	ISO 11014:2009 化学品安全技术说明书—内容和项目顺序 ISO 11014:2009 Safety data sheet for chemical products-Content and order of sections GB/T 16483-2008 化学品安全技术说明书 内容和项目顺序 GB/T 16483-2008 Safety data sheet for chemical products-Content and order of sections 国际航空运输协会《危险品规则》(第 65 版) IATA Dangerous Goods Regulation (65 th) 国际海事组织《国际海运危险货物规则》(第 41-22 版) IMO International Maritime Dangerous Goods Code (41-22 edition)

出版日期 Date of Receipt	2023 年 12 月 20 号
生效日期 Effective Date	2024 年 01 月 01 号



编写: 王培川

审核: 马芳琴



一. 样品信息 Sample information

样品名称 Sample Name	AIO 2400 储能电源 AIO 2400 Power Station	样品型号 Type	ZDAIO2400
额定能量 Rated Energy	2400Wh	额定容量 Rated capacity	50Ah
样品外观 Shape	棱柱型 Prismatic		

二. 内容与说明 Content and instructions
1. 化学品及企业标识 Chemical product and company identification

化学品的名称 Name of chemical product		AIO 2400 储能电源 AIO 2400 Power Station
制造商 Manufacturer	名称 Name	征途科技有限公司 ZENDURE TECHNOLOGY CO., LIMITED
	地址 Address	香港九龙观塘鲤鱼门道二号新城工商中心 517 室内 RM 517, NEW CITY CENTRE, 2 LEI YUE MUN ROAD, KWUN TONG, KOWLOON. HK
	电话 Telephone number	+86-13534254553
	应急电话 Emergency telephone number	+86-13534254553
	电子邮件 E-mail address	kang.xiong@zendure.com

这份 MSDS 报告由东莞市中认联科检测技术有限公司签发;

This MSDS was prepared by Dongguan ZRLK Testing Technology Co., Ltd.

2. 危险性概述 Hazards identification
1) 主要的物理及化学危险性 Important Physical and chemical hazards

在强压变形、拆解、短路时有起火爆炸与化学烧伤等危险，在高温环境或放置于火焰环境中、超负荷使用时有起火爆炸危险。

When the battery is in extreme pressure deformation, high-temperature environment, overload, short-circuit condition, or disassemble the battery, an explosion of fire and chemical burn hazards may occur.

2) 对人体健康影响 Effects of the human health.

眼睛 Eyes

正常使用下无危害性，但在拆解、弯曲、短路可能会引起电池起火爆炸伤害眼睛。破损时挥发出气体会对眼睛产生刺激。

In normal condition, contact between the battery and eyes will not cause any harms. However, the gas Volatilize from a damaged battery may be harmful to eyes.

皮肤 Skin

正常情况下接触无对皮肤危害性。在电池破损情况下接触有可能引起化学烧伤或皮肤过敏发炎症状。

In normal condition, contact between the battery and skin will not cause any harms. Contact with a damaged battery may cause skin allergies or chemical burns.

吸入 Inhalation

完好电池并无挥发出可供吸入气体情况。破损时会挥发出微量气体会刺激呼吸道，严重者可能引起过敏反应。

A battery volatilizes no gas unless it was damaged. Damaged battery will volatilize little gas that may stimulate the respiratory tract or cause an anaphylaxis in serious condition.

食入 Ingestion

食入会对呼吸道产生伤害、对肠胃产生烧伤，严重会造成永久性损害

Swallowing battery will be damaged to the respiratory tract and cause chemical burns to the stomach; in serious conditions it will cause Permanent damage.

3. 成分/组成信息 Composition/information on ingredients

Hazardous Ingredients (Chemical Name)	Concentration or concentration ranges (%)	CAS Number
磷酸铁锂 Lithium Iron Phosphate	41.72	15365-14-7
聚偏氟乙烯 PVDF	0.89	24937-79-9
铝 Aluminium	4.12	7429-90-5
石墨 Graphite	21.42	7782-42-5
聚丙烯酸 Acrylic acid Polymers	4.78	9003-01-4
羧甲基纤维素 Carboxymethylcellulose	0.28	9000-11-7
铜 Copper	6.42	7440-50-8



镍 Nickel	0.06	7440-02-0
六氟磷酸锂 Lithium Hexafluorophosphate	2.55	21324-40-3
聚乙烯 Polyethylene	2.40	9002-88-4
尼龙 Nylon	0.25	24937-16-4

4. 急救措施 First-aid measures

眼睛 Eyes

如有接触损坏电池，立即用清水清洗眼睛 15 分钟以上直至刺痛/刺激感消失为止，并及时去就医。

If your eyes contact with a damaged battery, flush with copious amount of water for at least 15 minutes until the stinging and irritation subside, and Seek immediate medical attention.

皮肤 Skin

如有接触，立即脱下被污染衣服并用大量清水冲洗皮肤或淋浴，如灼伤感持续立刻去就医。

If your skin contact with a damaged battery, immediately take off contaminated clothing and flush your skin with copious amount of water or have a shower. Seek immediate medical attention if burning sensation continues.

吸入 Inhalation

立刻转移到空气新鲜环境下呼吸新鲜空气，休息。如出现呼吸困难或头晕头痛等症状立刻请人陪同去就医。

Remove to fresh air immediately and have a rest, If you feel dyspnea, dizziness or headache, seek immediate medical attention.

食入 Ingestion

如果食入电池，不要催吐且不要再吃下食物或喝饮料，立刻就医

If battery or open battery is ingested, do not induce vomiting or give food or drink. Seek medical attention immediately.

5. 消防措施 Fire-fighting measures

适当的灭火剂 Suitable Extinguishing Media: 可用水幕和普通泡沫灭火剂灭火。Suitable: Water spray or regular foam.

化学品产生的具体危险 Specific Hazards Arising from the Chemical: 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。May decompose upon combustion to generate irritating, corrosive or toxic fumes. Fumes may cause dizziness or suffocation.

消防人员的特别防护行动 Special Protective Action for Fire-fighters: 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里接触。在上风处灭火。不相关人员疏散至安全区域；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.

此产品在强压弯曲或短路等情况下容易起火并冒出大量烟雾，应正确使用并置于阴凉环境下，避免放置于高温、日光照射及受重压的地方。如发生起火，戴上防毒面具在条件允许情况下洒水或用灭火器让毗邻的未起火电池降温避免火势蔓延并用工具把起火电池和其他电池分离，让其自然熄灭；或用大量的水灭火，

但起火电池一般都会在内部化学物质反应完后火才熄灭下来。如果有电池起火火势较大，立刻报火警并疏散人员到安全地方。

This battery can get fire easily and made a lot of smoke under the forced bending and short-circuit condition, so it should be properly used and placed in a cool environment and Avoid placing the battery package under heat, pressure and direct sunlight. In the event of fire, wear gas masks and cool the adjacent batteries and control the spread of fire with water or extinguishers, separate the fire batteries with other batteries as conditions permit, let the fire naturally extinguished, otherwise put out the fire with lots of water. In normal condition the fire is not extinguished until the reactions that between the chemicals contained in the battery are completed. In the event of a big fire, report the fire immediately and evacuate to a safe place.

6. 泄漏应急处理 Accidental release measures

将溢漏物与电池清扫，并放进干燥可密闭的金属容器或材质不易燃的容器中，交由电池回收企业进行环保处理。避免电池弃扔到自然环境中。

Clean the spills and batteries, place them in a dry sealed metal container or nonflammable material container, and bring them to battery recycling companies to deal with environmental protection. Do not throw away the damaged batteries or waste batteries.

7. 操作处置与储存 Handling and storage

操作 Handling

不能擅自组装拆解电池或短路，不能让电池接近火源。运输电池应避免暴力装卸电池货物、避免电池受到挤压或剧烈振动。

Do not assemble and disassemble a battery, battery short-circuit is not allowed too. Keep the battery away from the fire. When transporting these batteries, the battery should be careful handling to avoid the battery being squeezed or excessive vibration.

储存 Storage

长时间存储前先充满电。电池应储存于阴凉环境中。

The battery should be fully charged before long term storage. The battery should be stored in a cool environment.

8. 接触控制和个体防护 Exposure controls/Personal Protection

工程控制 Engineering control

选择合理的通风设备，足够量的防毒面具灭火器及水源，配备存放泄漏电池的金属容器。配备洗浴设备。

Choose the suitable ventilation equipment; provide sufficient quantity of fire extinguishers, gas mask and water; equip with metal storage containers and bathing equipments.

呼吸系统防护 Respiratory protection

正常情况下无必要作防护 Normally there is no need to do protection.

眼睛防护 Eye protection

正常情况下无必要作防护 Normally there is no need to do protection.

身体和皮肤防护 The body and skin protection

正常情况下无必要作防护 Normally there is no need to do protection.

9. 理化特性 Physical and chemical properties

物品外观与形状 Object appearance and shape	棱柱型固体 Prismatic Solid.
气味 Odor	无 None
气味阈值 Odor threshold	不适用 Not Applicable
pH 值 pH Value	不适用 Not Applicable
熔点/凝固点 Melting point/Freezing Point	不适用 Not Applicable
初始沸点和沸腾范围 Boiling Point, Initial Boiling Point and Boiling	不适用 Not Applicable
闪点 Flash point	不适用 Not Applicable
蒸发速率 Density/Relative Density	不适用 Not Applicable
易燃性(固态、气态) Flammability (Solid, Gas)	不适用 Not Applicable
上下易燃极限或爆炸极限 Lower/Upper Explosion Limit/Flammability Limit	不适用 Not Applicable
蒸汽压力 Vapor Pressure	不适用 Not Applicable
蒸汽密度 Vapor Density	不适用 Not Applicable
相对密度 Relative Vapor Density	不适用 Not Applicable
可溶性 Solubility	部分溶于水 Partial soluble in water
分配系数: n-辛醇/水 Partition Coefficient N-Octanol/Water(Log Value)	不适用 Not Applicable
自动点火温度 Autoignition Temperature	不适用 Not Applicable
分解温度 Decomposition Temperature	不适用 Not Applicable

10. 稳定性和反应性 Stability and reactivity

反应性 Reactivity: 无资料 No data available.

化学稳定性 Chemical Stability: 常温常压下稳定 Stable under normal temperatures and pressures.

危险反应的可能性 Possibility of Hazardous Reactions: 无资料 No data available.

应避免的条件 Conditions to Avoid: 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 Avoid misoperation, exposure to heat and open flame. Avoid mechanical or electrical abuse and overcharge. Prevent short circuits and short circuits caused by movement.

不相容材料 Incompatible Materials: 强氧化剂、易燃物和腐蚀品 Strong oxidizing agents, combustible materials and corrosives.

危害性分解产物 Hazardous Decomposition products: 碳的氧化物、金属氧化物等 Carbon oxides, metal oxides, etc.

11. 毒理学信息 Toxicological information

正常情况下接触电池无毒性作用。

In normal condition, contact with the battery is non-toxic.

12. 生态学信息 Ecological information

正常处理电池不会对生态环境产生影响。

Proper disposal of battery does not present ecological hazard.

13. 废弃处置 Disposal considerations

交由电池回收企业进行回收处置, 不能随意丢弃于环境中。具体参照有关国家相关法规。

It needs to be referred to the waste battery recycling companies for recycling disposal, cannot arbitrarily discarded in the environment. Specific conditions reference to the relevant national laws and regulations.

14. 运输信息 Transport information

该电池样品为 AIO 2400 储能电源, 该电池型号已通过 UN38.3 测试。

This battery sample is AIO 2400 Power Station and This battery type is proved to meet the Requirements tests in the UN *Manual of Tests and Criteria*, Part III, subsection 38.3.

根据 IMO IMDG CODE 特殊规定 188, 230 运输时不受本规则其它规定限制。根据 IMO IMDG CODE(2022 版) 的 2.9.4.7, 锂电池或电池组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。

The product is not subject to IMO IMDG Code according to special provision 188 and 230. according to 2.9.4.7 of IMO IMDG Code(2022 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, subsection 38.3, paragraph 38.3.5.

联合国危险编号 UN No.: UN3480

运输专用名称 Proper shipping name/Description (technical name): 锂离子电池组 Lithium ion batteries

危险类别 Class or Div.(Sub Hazard): Class 9

包装组别 Packing groups: II

海洋污染物 Marine pollutant: 否 No

用户需要遵守的特殊防范措施 Special precautions for user: 不适用 Not Applicable

备注 Remark: 锂离子电池组必须在荷电状态 (SoC) 不超过其额定容量的 30% 状态下进行运输; Lithium-ion

cells and batteries must be transported in a state of SoC not exceeding 30% of their rated capacity;

15. 法规信息 Regulatory Information

《危险品规则》 Dangerous Goods Regulations

《国际海运危险货物规则》 IMO International Maritime Dangerous Goods Code relevant regulations.

参照联合国, 国家, 地方性法规。

Refer to U. N., national, local regulations.

16. 其他信息 Other information

编制日期 Preparation Date: 2023 年 12 月 20 日

编制部门 Preparation Department: 东莞中认联科检测技术有限公司 DONGGUAN ZRLK TESTING TECHNOLOGY CO., LTD

电话 Tel: 0769-26621775

修改信息 Revision : 无 none.

上述信息是基于现有的数据信息, 是我们目前所掌握的最佳资料。然而, 不对此类信息做出适当性担保或任何其他明示或默示担保, 我们也不承担使用此类信息所产生的任何责任。用户应自行调查, 以确定信息是否适合其特定目的。虽然在编制本报告所载的数据时采取了合理的预防措施, 但仅供你参考、考虑和调查。这份材料安全数据表为安全处理和使用本产品提供了指导方针; 它没有也不能就所有可能的情况提出建议; 因此, 应该评估你对本产品的具体使用情况, 以确定是否需要采取额外的预防措施。本文件所载的数据/资料已根据本文件不含受出口管制资料的情况加以审查并核准予以普遍公布。

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.

The data/information contained herein has been reviewed and approved for general release on the basis that this document contains no export controlled information.