REPORT No.: KEYLAB2411028K22

化学品安全技术说明书

MSDS Report

申请商 **APPLICANT**	:	纳恩博（常州）科技有限公司 Ninebot (Changzhou) Tech Co.,Ltd.
样品名称 **SAMPLE NAME**	:	锂离子电池组 Li-ion Battery Pack
型号 **MODEL NAME**	:	NZBF4810A
发布日期 **ISSUE DATE**	:	2025-01-01

深圳市众凯检测技术有限公司

Shenzhen Keylab Technology Co., Ltd.

NOTE: This report is issued by Shenzhen Keylab. The test report shall not be reproduced except in full without prior written permission of the company. The test results apply only to the particular sample(s) tested and to the specific tests carried out which is available on request for validation and information confirmed at our website.

Shenzhen Keylab Technology Co., Ltd. 深圳市众凯检测技术有限公司
3F, Electronic Testing Building B, Shigu Road, Xili, Nanshan District, Shenzhen, Guangdong Province, P. R. China, 518055
Tel.: +86 755 8670 8050 E-mail: Info@keylab.cn Website: www.keylab.cn

1. Chemical Product and Company Identification

化学品及企业标识

Product Name 产品名称	锂离子电池组 Li-ion Battery Pack
Model No. 型号	NZBF4810A
Nominal Voltage 标称电压	46.8V
Nominal Capacity 额定容量	10200mAh
Watt-hour Rating 额定瓦时	477.36Wh
Factory 生产工厂	纳恩博（常州）科技有限公司 Ninebot (Changzhou) Tech Co.,Ltd.
Factory Address 生产工厂地址	常州市武进区常武中路 18 号常州科教城创研港 3 号楼 A 座 16、17 层 16F-17F, Block A, Building 3, Changwu Mid Road 18#, Wujin Dist., Changzhou, Jiangsu
Emergency Telephone Number 紧急联系电话	0519-69657964

2. Hazards Identification

危险性概述

Preparation hazards and classification 制备危害和分类	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. 当电池处于极压变形、高温环境、过载、短路状态或拆卸电池时，可能会发生火灾和化学燃烧的危险。
Carcinogenicity 致癌性	NTP: None IARC Monograph: None OSHA Regulated: None NTP：无。IARC 论著：无。OSHA 管控：无。

Primary Route(s) of Exposure 暴露的主要途径	These chemicals are contained in a sealed stainless steel enclosure. Risk of exposure occurs only if the cell is mechanically, thermally or electrically abused to the point compromising the enclosure. If this occurs, exposure to the electrolyte solution contained within can occur by inhalation, ingestion, Eye contact and Skin contact. 这些化学物质都包含在一个密封的不锈钢外壳中。只有当电芯机械的、热的或电的被滥用到危及外壳的分裂点时，才会发生外泄接触风险。如果发生这种情况，暴露的电解质溶液，可能通过吸入、摄入、眼睛接触和皮肤接触而发生。
Potential Health Effects 潜在的健康危害	**ACUTE (short term):** see Section 8 for exposure controls in the event that this battery has been ruptured, the electrolyte solution contained within the battery would be corrosive and can cause burns. 急性（短期）：见第8节暴露在该电池已破裂的情况下，电池内的电解质溶液将有腐蚀性，并可能导致烧伤。 **Inhalation:** A battery volatilizes no gas unless it was damaged. Damaged battery will volatilize little gas may stimulate the respiratory tract or cause an anaphylaxis in serious condition. 吸入：电池不挥发气体除非它被损坏。损坏的电池会挥发少气会刺激呼吸道或导致病情严重的过敏反应。 **Ingestion:** Swallowing battery will be Damaged to the respiratory tract and Cause chemical burns to the stomach; in serious conditions it will cause Permanent damage. 摄入：吞咽电池会损坏呼吸道，导致化学烧伤胃，在严重的情况下，会造成永久性的损害。 **Skin:** 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. 皮肤：在正常情况下，电池与皮肤之间的接触不会造成任何伤害。与损坏的电池接触可能会导致皮肤过敏或化学烧伤。 **Eye:** 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. 眼睛：在正常情况下，电池和眼睛之间的接触不会造成任何伤害。然而，从损坏的电池挥发的气体，可能会对眼睛有害。

3. Composition/Information on Ingredients

成份/组成信息

化学成份 Chemical composition	分子式 Molecular Formula	CAS 号 CAS No.	EC号 EC No.	重量百分比 in % by weight
钴酸锂Lithium Cobalt Oxide	$LiCoO_2$	12190-79-3	235-362-0	29
石墨Graphite	C	7782-42-5	231-955-3	17
炭黑Carbon black	C	1333-86-4	215-609-9	4
碳酸甲乙酯Carbonate methyl ethyl	$C_4H_8O_3$	623-53-0	NA	10
六氟磷酸锂 Phosphate(1-),hexafluoro-,lithium	F_6LiP	21324-40-3	244-334-7	9
铜 Copper	Cu	7440-50-8	231-159-6	16
镍Nickel	Ni	7440-02-0	231-111-4	4
铝Aluminum	Al	7429-90-5	231-072-3	11

4. First Aid Measures

急救措施

The following first aid measures are required only in case of exposure to interior battery components after damage of the external battery casing. 在外部电池外壳损坏后，暴露内部电池组件时，才需要进行以下的急救措施。	
Skin contact 皮肤接触	If skin contact with contents of open battery occurs, as quickly as possible remove contaminated clothing, shoes and leather goods. Immediately flush with lukewarm, gently flowing water for at least 30 minutes. If irritation or pain persists, seek medical attention. Completely decontaminate clothing, shoes and leather goods before reuse or discard. 如果皮肤接触到打开电池的内部材料，尽快清除污染的衣服，鞋和皮革制品。立即用温水冲洗，轻轻地流动至少30分钟。如果刺激或疼痛持续，寻求医疗帮助。衣服、鞋和皮革制品在使用前或丢弃前须完全净化。
Eye contact	If eye contact with contents of an open battery occurs, immediately flush the

眼睛接触	contaminated eye(s) with lukewarm, gently flowing water for at least 30 minutes while holding the eyelids open. Neutral saline solution may be used as soon as it is available. If necessary, continue flushing during transport to emergency care facility. Take care not to rinse contaminated water into the unaffected eye or onto face. Quickly transport victim to an emergency care facility. 如果眼睛与打开的电池内部材料接触，立即用温水冲洗受污染的眼睛，轻轻地使用流动的水冲洗至少30分钟，同时保持眼皮睁开。尽可能使用中性盐水溶液。如果必要的话，在转移至急救护理设施的过程中继续冲洗。小心不要将受污染的水冲洗到不受影响的眼睛或脸上。快速运输受害者到紧急护理设施/区域。
Inhalation 吸入	If contents of an opened battery are inhaled, remove source of contamination or move victim to fresh air. Obtain medical advice 如果一个打开的电池的材料被吸入，去除污染源或移动受害者新鲜空气中。获取医疗帮助。
Ingestion 摄入	If ingestion of contents of an open battery occurs, never give anything by mouth if victim is rapidly losing consciousness, or is unconscious or convulsing. Have victim rinse mouth thoroughly with water. Call a physician. 如果一个打开电池材料被摄入时，如果受害者正在迅速失去意识，或无意识或抽搐，则不要从口中喂入任何东西。将受害者口腔用清水彻底冲洗。打电话给医生。

5. Fire Fighting Measures

消防措施

Flammable Properties 易燃特性	In the event that this battery has been ruptured, the electrolyte solution contain within the battery would be flammable. Like any sealed container, battery cells may rupture when exposed to excessive heat; this could result in the release of flammable or corrosive materials. 在该电池已破裂的情况下，电解质溶液将是易燃的。与任何密封的容器一样，当电池暴露在过热的情况下，电池可能会破裂，这可能会导致易燃或腐蚀性物质的释放。
Suitable extinguishing Media 合适的灭火介质	Cold water and dry powder in large amount are applicable. 可用大量冷水和干粉。 Use metal fire extinction powder or dry sand if only few cells are involved. 使用金属灭火粉末或干沙，如果只有少数电芯起火。
Specific Hazards arising from the chemical 化学物质产生的特定	May form hydrofluoric acid if electrolyte comes into contact with water. 如果电解质与水接触可能会形成氢氟酸。 In case of fire, the formation of the following flue gases cannot be excluded: Hydrogen fluoride (HF), Carbon monoxide and carbon dioxide.

危险	在火灾的情况下，下面的气体不能被排除：氟化氢（氟化氢），一氧化碳和二氧化碳。
Protective Equipment and precautions for firefighters 消防人员防护装备和预付措施	As for any fire, evacuate the area and fight the fire from a sate distance. 对于任何火灾，疏散人员，从一个安全距离灭火。 Wear a pressure-demand, self-contained breathing apparatus and full protective gear. 穿戴自给式呼吸装置和全防护装置。 Fight fire from a protected location or a safe distance. 从受保护的位置或安全距离扑救火灾。

6. Accidental Release Measures

泄漏应急处理

Personal Precautions, protective equipment, and emergency procedures 个人防护用品、防护设备和应急程序	Restrict access to area until completion of clean-up. Do not touch the spilled material. Wear adequate personal protective equipment as indicated in Section 8 限制进入区域直到完成清理。不要碰溢出的材料。穿戴适当的个人防护设备，如第8节中的说明
Environmental Precautions 环境注意事项	Prevent material from contaminating soil and from entering sewers or waterways. 防止污染的物料进入土壤和进入下水道或河道。
Methods and materials for containment 盛放方法和材料	Stop the leak if safe to do so. Contain the spilled liquid with dry sand of earth. Clean up spills immediately. 在安全情况下停止泄漏。使用干砂遏制溢液。立即清理泄漏。
Methods and materials for cleaning up 清理的方法和材料	Absorb spilled material with an inert absorbent (dry and earth), Scoop contaminated absorbent into an acceptable waste container. Collect all contaminated absorbent and dispose of according to directions in section 13. Scrub the area with detergent and water; collect all contaminated wash water for proper disposal. 用惰性吸收剂（干燥和土）吸收溢出的材料，将被污染的吸收剂吸收到一个可接受的废物容器中。收集所有被污染的吸收剂，并按照在第13部分的方向处理。用清洁剂和水擦洗该地区；收集所有受污染的水，进行适当的处理。

7. Handling and Storage

操作处置与储存

Handing 操作处置	Do not dismantle open or shred secondary Lithium Ion Battery; 不要拆开或切碎二次锂离子电池 Don't handing Lithium Ion Battery with metalwork. 不要把锂离子电池与金属制品一起操作。 Do not open, dissemble, crush or burn battery. 不打开，掩饰，挤压或燃烧电池。 Do not use any chargers other than those recommended by the manufacturer. 不要使用制造商推荐之外的任何充电器。 Ensure good ventilation/exhaustion at the workplace. 确保工作场所良好的通风/排气。 Prevent formation of dust. 防止形成粉尘。 Information about protection against explosions and fires: Keep ignition sources away-Do not smoke. 关于防止爆炸和火灾的信息：保持火源远离、不吸烟。
Storage	If the Lithium Ion Battery is subject to storage for such a long term as more than 3 months, it is recommended to recharge the Lithium Ion Battery periodically. 如果锂离子电池的储存期限为3个月以上，建议定期对锂离子电池进行充电。 3 months: 0℃~+40℃, 45 to 85% RH 3个月：0℃~+40℃, 45 to 85% RH And recommended at 0℃~+35℃ for long period storage. 推荐的长时间存储温度是0℃~+35℃。 The capacity recovery rate in the delivery state (50% capacity of fully charged) after storage is assumed to be 80% or more. 存储后的交付状态（50%容量）的容量恢复率在80%或以上。 Do not storage Lithium Ion Battery haphazardly in a box or drawer where they may short-circuit each other or be short-circuited by other metal objects. 不要储存锂离子电池在一箱或抽屉里：那些他们可能短路对方或与其他金属物体短路。 Keep out of reach of children. 保持远离儿童。 Do not expose Lithium Ion Battery to heat of fire. 不要将锂离子电池暴露在热源中 Avoid storage in direct sunlight.避免阳光直射。 Do not store together with oxidizing and acidic materials. 不要与氧化和酸性物质储存在一起。

8. Exposure Controls/Personal Protection

接触控制/个体防护

Hazard Characterization 危险特征描述

Ingredient 成份	Risk Codes 风险代码	Safety Description 安全描述	Hazard 危险性
Lithium Cobalt Oxide 钴酸锂	R22; R43; R50/53	S24; S37; S60; S61	Xn (Harmful) N (Dangerous for the environment)
Carbon 石墨	R36/37/38, R36/37 R20, R10	S22; S24/25	F(Highly Flammable) Xn (Harmful) Xi (Irritant)
Ethylene carbonate 碳酸次乙酯	R41	S26; S39	Xi (Irritant)
Dimethyl carbonate 碳酸二甲酯	R11	S16; S9	F(Highly Flammable)
Copper 铜	R11 R36 R37 R38	S5,S26,S16,S61,S36/37	F(Highly Flammable) N (Dangerous for the environment) Xn (Harmful) Xi (Irritant)
Aluminum 铝	R17, R15, R36/38, R10, R67, R65, R62, R51/53, R48/20, R38, R1	S7/8,S43,S26,S62,S61, S36/37,S33,S29,S16,S9	F(Highly Flammable) Xn (Harmful) Xi (Irritant)
Phosphate(1-), hexafluoro-, lithium 六氟磷酸锂	R22; R24; R34	S26; S28A; S36/37/39; S45	T(Toxic)

Safeguard procedures 防护程序

Engineering Controls 工程控制	Use local exhaust ventilation or other engineering controls to control sources of dust, mist, fumes and vapor. 使用局部排气通风或其他工程控制来控制灰尘，雾，烟雾和蒸气。 Keep away from heat and open flame. 远离热源和火源。

	Store in a cool, dry place. 在阴凉干燥处存放。
Personal Protective Equipment 个人防护装置	Respiratory Protection: Not necessary under normal conditions. 呼吸防护：在正常情况下不需要。 Skin and body Protection: Not necessary under normal conditions, 皮肤和身体防护：在正常情况下不需要。 Wear neoprene or nitride rubber gloves if handing an open or leaking battery. 如果操作泄漏的电池：穿氯丁橡胶或氮化物橡胶手套。 Hand protection: Wear neoprene or natural rubber material gloves if handing an open of leaking battery. 手防护：如果处理泄漏电池，穿氯丁橡胶或天然橡胶材质手套。 Eye Protection: Not necessary under normal conditions, Wear safety glasses if handing an open or leaking battery. 眼睛保护：在正常情况下不需要，如果处理打开或泄漏的电池，戴上安全眼镜
Other Protective Equipment 其它防护装置	Have a safety shower and eye wash fountain readily available in the immediate work area. 在直接工作区内有一个安全的淋浴和洗眼喷泉。
Hygiene Measures 卫生措施	Do not eat, drink, or smoke in work area. 不要在工作区域饮食或抽烟。 Maintain good housekeeping. 保持良好的内务管理。

9. Physical and Chemical Properties

理化特性

Physical State 物理状态	Form: Rectangle shape 形状：矩形
	Color: silvery, black, red, yellow 颜色：银色、黑色、红色、黄色
	Odour: Monotony 气味：无味
Change in condition 环境变化	Not available 不适用
PH, with indication of the concentration PH 值	Not available 不适用
Melting point/freezing point 熔点/凝固点	Not available 不适用
Boiling Point, initial boiling point and boiling range 沸点及沸点范围	Not available 不适用
Flash Point 闪点	Not available 不适用
Upper/Lower flammability or explosive limits 上限/下限可燃或爆炸极限	Not available 不适用
Density/relative density 密度/相对密度	Not available 不适用
Solubility in Water 水溶性	Insoluble 不溶
Auto-ignition temperature 自燃温度	Not available 不适用
Decomposition temperature 分解温度	Not available 不适用

Flammability (soil, gas)可燃性	Not available 不适用
Viscosity 黏性	Not available 不适用

10.Stability and Reactivity

稳定性和反应活性

Stability稳定性	The product is stable under normal conditions. 该产品在正常情况下是稳定的。
Conditions to avoid 避免接触条件	Do not subject Lithium Ion Battery to mechanical shock. 不要将锂离子电池做机械冲击。 Vibration encountered during transportation does not cause leakage, fire or explosion. 运输过程中遇到的振动不会引起泄漏、火灾或爆炸。 Do not disassemble, crush, short or install with incorrect polarity. 不要拆卸，粉碎，短路或安装不正确的极性。 Avoid mechanical or electrical abuse. 避免机械或电气滥用。
Incompatible materials 不相容材料	Not Available不适用
Hazardous decomposition products 危险品分解	This material may release toxic fumes if burned or exposed to fire 如果被烧毁或暴露在火中，这种物质可能会释放有毒的烟雾
Possibility of Hazardous Reaction 危险反应的可能性	Not Available不适用

11.Toxicological Information

毒理学资料

Irritation刺激性	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. 刺激发生的风险，只有当电芯是机械的，热或电的损害的情况下可能发生。如果发生这种情况，对皮肤、眼睛和呼吸道的刺激可能会发生。
Sensitization 过敏性	Not Available不适用
Neurological Effects 神经系统影响	Not Available不适用
Teratogenicity 畸形影响	Not Available不适用
Reproductive Toxicity 生殖毒性	Not Available不适用
Mutagenicity (Genetic Effects) 遗传效应	Not Available不适用
Toxicologically Synergistic Materials 毒理学协同材料	Not Available不适用

12.Ecological Information

生态学资料

General note一般说明	Water hazard class 1 (Self- assessment): slightly hazardous for water. 水危险等级1（自我评价）：对水有轻微的危险。
Anticipated behavior of a chemical product in environment/possible environmental impace/ecotoxicity 在环境/可能的环境影响/毒性化学产品的预期行为	Not Available不适用
Mobility in soil 在土壤中的移动性	Not Available不适用
Persistence and Degradability 持久性和降解性	Not Available不适用
Bioaccumulation potential富集电位	Not Available不适用

Other Adverse Effects其他不良影响	Not Available不适用

13.Disposal Considerations

废弃处置

Disposal of the battery should be performed by permitted, professional disposal firms knowledgeable in Federal, State or Local requirements of hazardous waste treatment and hazardous waste transportation.

电池的处置应在联邦、州或地方的危险废物处置和危险废物运输的要求的知识前提下，专业的处置。

California regulated debris 加州规定

RCRA Waste Code/RCRA 废弃物代码: Non-regulated 无要求

Dispose of according to all federal, state, and local regulations.根据所有联邦、州和地方的规定处理。

Contaminated Packaging/受污染的包装：Dispose of in accordance with local regulations.按照地方规定处置。

California Hazardous Waste Codes / 加州有害废弃物代码： 141

Washington State Waste Codes / 华盛顿州废弃物代码： WT02

Connecticut Waste Codes /康涅狄格州废弃物代码： CR05

Product Waste Information / 产品废弃物信息

US EPA Waste Number	D004 D006 D008	US EPA Waste Hazard	Toxic
Alabama Waste Code	Not required	Alabama Waste Hazards	Toxic
Alaska Waste Code	Not required	Alaska Waste Hazards	Toxic
Arkansas Waste Code	Not required	Arkansas Waste Hazard	Toxic
Arizona Waste Codes	Not required	Arizona Waste Hazards	Toxic
California Hazardous Waste Codes	141	California Waste Hazards	Toxic Toxic Waste oils
Colorado Waste Code	Not required	Colorado Waste Hazards	Toxic
Connecticut Waste Codes	CR05	Connecticut Waste Hazards	Toxic Waste Oil
Delaware Waste Codes	Not required	Delaware Waste Hazards	Toxic
Florida Waste Codes	Not required	Florida Waste Hazards	Toxic
Georgia Waste Codes	Not required	Georgia Waste Hazards	Toxic
Hawaii Waste Codes	Not required	Hawaii Waste Hazards	Toxic
Idaho Waste Codes	Not required	Idaho Waste Hazards	Toxic

Iowa Waste Codes	Not required	Iowa Waste Hazards	Toxic
Illinois Waste Codes	Not required	Illinois Waste Hazards	Toxic
Indiana Waste Codes	Not required	Indiana Waste Hazards	Toxic
Kansas Waste Codes	Not required	Kansas Waste Hazards	Toxic
Kentucky Waste Codes	Not required	Kentucky Waste Hazards	Toxic
Louisiana Waste Codes	Not required	Louisiana Waste Hazards	Toxic
Massachusetts Waste Codes	Not required	Massachusetts Waste Hazards	Toxic
Maryland Waste Codes	Not required	Maryland Waste Hazards	Toxic
Maine Waste Codes	Not required	Maine Waste Hazards	Toxic
Michigan Waste Codes	Not required	Michigan Waste Hazards	Toxic Oil
Minnesota Waste Codes	Not required	Minnesota Waste Hazards	Toxic Oil
Missouri Waste Codes	Not required	Missouri Waste Hazards	Toxic Oil
Mississippi Waste Codes	Not required	Mississippi Waste Hazards	Toxic
Montana Waste Codes	Not required	Montana Waste Hazards	Toxic
North Carolina Waste Codes	Not required	North Carolina Waste Hazards	Toxic
North Dakota Waste Codes	Not required	North Dakota Waste Hazards	Toxic
Nebraska Waste Codes	Not required	Nebraska Waste Hazards	Toxic
New Hampshire Waste Codes	Not required	New Hampshire Waste Hazards	Toxic Oil
New Hampshire Waste Codes	Not required	New Hampshire Waste Hazards	Toxic Oil
New Jersey Waste Codes	Not required	New Jersey Waste Hazards	Toxic
New Mexico Waste Codes	Not required	New Mexico Waste Hazards	Toxic
Nevada Waste Codes	Not required	Nevada Waste Hazards	Toxic
New York Waste Codes	Not required	New York Waste Hazards	Toxic
Ohio Waste Codes	Not required	Ohio Waste Hazards	Toxic
Oklahoma Waste Codes	Not required	Oklahoma Waste Hazards	Toxic
Oregon Waste	Not required		

Codes-WM			
Oregon Waste Codes	Not required	Oregon Waste Hazards	Toxic
Pennsylvania Waste Codes	Not required	Pennsylvania Waste Hazards	Toxic
Rhode Island Waste Codes-Original	Not required	Rhode Island Waste Hazards- Original	Extremely Hazardous Toxic
Rhode Island Waste Codes- WM	Not required		
Rhode Island Waste Codes	Not required	Rhode Island Waste Hazards	Extremely Hazardous Toxic
South Carolina Waste Codes	Not required	South Carolina Waste Hazards	Toxic
South Dakota Waste Codes	Not required	South Dakota Waste Hazards	Toxic
Tennessee Waste Codes	Not required	Tennessee Waste Hazards	Toxic
Texas Waste Codes	Not required	Texas Waste Hazards	Toxic
Utah Waste Codes	Not required	Utah Waste Hazards	Toxic
Virginia Waste Codes	Not required	Virginia Waste Hazards	Toxic
Vermont Waste Codes-Original	Not required	Vermont Waste Hazards-Original	Do not use with federal code. Contains Vermont Hazardous Waste Toxic
Vermont Waste Codes	Not required	Vermont Waste Hazards	Toxic
Washington State Waste Codes	WT02	Washington Waste Hazards	Toxic
Wisconsin Waste Codes	Not required	Wisconsin Waste Hazards	Toxic
West Virginia Waste Codes	Not required	West Virginia Waste Hazards	Toxic
Wyoming Waste Codes	Not required	Wyoming Waste Hazards	Toxic

14.Transport Information

运输信息

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

关于运输方面，下列规定被引用和考虑：

- The International Maritime Dangerous Goods (IMDG) Code by International Maritime Organization (IMO), Dangerous Goods Regulations (DGR) by International Air Transport Association (IATA) and Technical Instructions for the Safe Transport of Dangerous Goods by Air (TI) by International Civil Aviation Organization (ICAO). These regulations are based on the UN Recommendations on the Transport of Dangerous Goods, Manual of Tests and Criteria.

IMDG 国际海运危险货物规则、国际民航组织《技术细则》、国际航空运输协会《危险品规则》、联合国《关于危险货物运输的建议书 — 试验和标准手册》。

- The International Civil Aviation Organization (ICAO) Technical Instructions, Packing Instruction 952， PI965-967 Section I or IA.

国际民航组织《技术细则》，包装规范PI952, PI965-967第I or IA部分

- The International Air Transport Association (IATA) Dangerous Goods Regulations, Packing Instruction952, 965-967 Section I or IA (66th Edition, 2025). For batteries, the Watt-hour rating is greater than 100Wh. Watthour rating must be marked on the outside of the battery case.

国际航空运输协会《危险品规则》，包装规范PI952,PI965-967第I or IA部分（2025第66版本）。对于电池，额定瓦时超过100Wh。额定瓦时需要标示在电池外壳外部。

- The International Maritime Dangerous Goods (IMDG) Code (Amdt 42-24), [Special provision 961 or 962]

国际海运危险货物规则 IMDG CODE（Amdt 42-24），特别要求961或962。

EmS No. / EmS 编号：F-A, S-I.

-The UN classification number: Class 9 3480 / 3481/ 3171

联合国分类号：第9类，3480 / 3481/3171

-运输专用名称Proper Shipping Name（PSN）：

UN3480，Lithium ion batteries

UN3481，Lithium ion batteries packed with equipment

UN3171，Battery-powered vehicle

- The UN Recommendations on the Transport of Dangerous Goods, Manual of Tests and Criteria 38.3 Lithium batteries, Rev.8 or Rev.7or Rev.7, Amend.1 and Rev.6.

联合国《关于危险货物运输的建议书 — 试验和标准手册》第38.3节锂电池，第8版本或者第7版本及第7版本修订1和第6版本。

15.Regulatory Information

法规信息

EU regulatory information欧盟监管信息

Marking consideration标记

According to Directive 2012/19/EU, the batteries have to be marked with the crossed wheel bin symbol.

根据 2012/19/EU 指令，电池必须用交叉的车轮箱标志标记。

According to Dangerous Goods Regulations, the battery packs have to be marked with the Watt-hour rating.

根据危险品规定，电池组必须标明额定瓦时。

U.S. Regulations 美国规则

National Inventory TSCA 国家规定

All of the components are listed on the TSCA inventory. 所有的组件在 TSCA 清单列出。

SARA

To the best of our knowledge this product contains no toxic chemicals subject to the supplier notification requirements of Section 313 of the Superfund Amendments and Reauthorization Act(SARA/EPCRA) and the requirements of 40 CFR Part 372.

据我们所知，本产品不含有毒化学物质。

16.Other Information

其它信息

The information contained in this Safety data sheet is based on the present state of knowledge and current legislation.

本安全数据表中包含的信息是基于目前的知识和目前的立法状态。

This safety data sheet provides guidance on health, safety and environmental aspects of the product and should not be construed as any guarantee of technical performance or suitability for particular applications.

该安全数据表对产品的健康、安全和环境方面提供了指导，不应被解释为技术性能或特定应用的适用性的任何保证。

DISCLAIMER 声明

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. We make no warranty of merchantability or any other warranty express or implied, with respect to such information, and we assume no liablity resulting from its use. Users should make their own investigation to determine the suitability of the information for their particular purposes. In no way shall we be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental consequential or exemplary damages, howsoever arising from using the above information.

上述信息被认为是正确的，但并不意味着是全纳的，其仅应该作为一个指南。我们不做任何适销性或任何其他明示或暗示的保证，对于这样的信息，我们不承担任何责任。用户应自行调查，以确定其特定用途的信息的适用性。我们决不承担任何索赔责任、损失或任何第三方的损失或利润损失或任何特殊的、间接的、附带性或惩戒性的损害赔偿。

Checked by 主检：Tang Jinlan　　Approved by 审批：Sun Jumei

Tang Jinlan　　Sun Jumei

******* End of MSDS *******