

# 安全数据表 *Safety Data Sheet*

Report No. 20240103004

版本号: 0 Version number 0	发行日期 03-01-2024 Issue Date 03-Jan-2024
产品名称: WA3644 锂电池组 Product name: WA3644 Lithium Battery Pack	修订日期 N/A Revision date N/A

## 第一部分: 化学品及企业标识

### SECTION 1: Product and Company Identification

产品型号 Product name	WA3644 锂电池组 WA3644 Lithium Battery Pack
产品推荐和限制用途 Identified uses	请咨询生产商 Please consult manufacture
安全数据表供应商的详细信息 Details of the supplier of the safety data sheet	
企业名称 Supplier	宝时得科技(中国)有限公司 Positec Technology (China) Co.,Ltd.
企业地址 Address	江苏省苏州市工业园区东旺路 18 号 No.18 DongWang Road ,Suzhou Industrial Park
邮编 Postcode	215123
电子邮箱 E-mail	email@positecgroup.com
联系电话 Tel	+86-512-65152888
传真 Fax	+86-512-65152885
企业应急电话 Emergency telephone number	+86-512-65152888

## 第二部分: 危险性概述

### SECTION 2: Hazards identification

紧急情况 Emergency situation	警告,不可拆卸电池、不可暴露于明火中、不要混合使用不同型号和类型的电池、不要在火中暴露和燃烧、不要短路、挤压、燃烧或拆卸电池。 Warning, do not open and disassemble it, and do not exposed to fire or open flame; Don't mix put batteries with different models and different types. It will expose and burn when in fire; Do not short circuit, extrusion, burning or remove the battery.
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## 第三部分: 成份 / 组成信息

### SECTION 3: Composition/information on ingredients

锂电池组 WA3644 化学的成份。 Battery Pack WA3644 dangerous components.		
化学名称 Chemical Name	CAS 编号 CAS-No	材料组成 Material Composition
Nickel	7440-02-0	2.20%
PA6	107-10-8	21.95%
glass fibre	65997-17-3	6.59%
EVA	24937-78-8	0.33%
Iron	7439-89-6	12.62%
Carbon	7440-44-0	11.08%
Copper	7440-50-8	5.52%
Lithium nickelate	12031-65-1	9.60%
Aluminium	7429-90-5	7.20%

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Lithium manganese oxide	12057-17-9	0.10%
dimethyl carbonate	616-38-6	0.10%
cobalt lithium dioxide	12190-79-3	2.12%
Polyethylene	9002-88-4	1.80%
Oxygen	7782-44-7	1.61%
1,3-Dioxolan-2-one	96-49-1	2.40%
lithium hexafluorophosphate(1-)	21324-40-3	1.20%
Ethyl methyl carbonate	623-53-0	4.20%
Polypropyllene	9003-07-04	0.76%
1-Propene homopolymer	9003-07-0	0.62%
Polyethylene terephthalate	25038-59-9	3.60%
Carbon black	1333-86-4	0.39%
Polyvinylidene fluoride	24937-79-9	2.40%
lithium carbonate	554-13-2	0.33%
2-Propenoic acid polymer with butyl 2-propenoate, ethenyl acetate and 2-ethylhexyl 2-propenoate	35239-19-1	0.30%
4-Fluoro-1,3-dioxolan-2-one	114435-02-8	0.20%
Carboxyl Methyl Cellulose	9004-32-4	0.12%
Butanedinitrile	110-61-2	0.10%
Octadecylcarbamic acid ethenyl ester homopolymer	36671-85-9	0.07%
Styrene, butadiene copolymer	9003-55-8	0.07%
titanium dioxide	13463-67-7	0.07%
Talc (Mg3H2(SiO3)4)	14807-96-6	0.07%
2-Methyl-2-propenoic acid methyl ester polymer with 1,3-butadiene, ethenylbenzene and 2-propenenitrile	9010-94-0	0.05%
2-Methyl-2-propenoic acid polymer with 1,3-butadiene and ethenylbenzene	9010-93-9	0.05%
Fatty acids, coco polymers with benzoic acid, pentaerythritol and phthalic anhydride	68604-67-1	0.05%
poly(1,4-butylene terephthalate)	24968-12-5	0.05%
lithium tetrafluoroborate, anhydrous	14283-07-9	0.02%
2-Propenenitrile polymer with 1,3-butadiene and ethenylbenzene	9003-56-9	0.02%
1,3-Bis(2,4,6-trioxoperhydropyrimidin-5-ylidene)isoindoline	36888-99-0	0.02%
Magnesium	7439-95-4	0.02%

## 第四部分: 急救措施

### SECTION 4: First aid measures

材料从电池内部泄漏 For the material leaked from battery interior	
眼睛接触 Eye contact	如果接触,用清水冲洗至少 15 分钟,上下眼睑翻动,直到化学残留物消失,然后立即就医。 if contact, rinse with clean water for at least 15mins, turns upper and lower eyelid until the chemical residue gone, then go to see doctor immediately.
皮肤接触 Skin contact	如果接触,用肥皂水冲洗。同时脱掉被污染的衣服和鞋子。如果化学烧伤或持续刺激,请立即就医。 if contact, rinse with suds. Meanwhile take off the polluted clothes and shoes. If chemical burns or continual stimulates, please go to see a doctor immediately.
吸入 Inhalation	立即就医 go to see a doctor immediately
吸入 Inhalation	移至空气新鲜处,保持呼吸道畅通,如有不适,立即就医 remove him to the area that with the clean air immediately, provide him

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	artificial respiration if can not breathe, don't use mouth-to-mouth breath method.
如有呼吸困难, 给予氧气以克服呼吸困难。马上去看医生。	
If has difficulty to breathe, given oxygen to overcome breathing problem. Go to see a doctor immediately.	

## 第五部分: 消防措施

### SECTION 5: Fire fighting measures

灭火介质 Extinguishing media	
合适的灭火介质 Suitable extinguishing agents	雾状水、抗溶性泡沫、干粉、二氧化碳、砂土 CO2, dry chemical powder, water spray.
不合适的灭火介质 Unsuitable extinguishing agents	无资料 No information available.
源于此物质或混合物的特别危害 Special hazards arising from the substance or mixture	无资料 Not flammable.
对消防人员的建议 Advice for firefighters	消防员应穿戴适当的呼吸器和防护装备 Fire-fighters should wear appropriate breathing apparatus and protective equipment

## 第六部分: 泄漏应急处理

### SECTION 4: First aid measures

作业人员防护措施 Personal precautions	使用个人防护装备。避免接触皮肤、眼睛和衣物。避免吸入烟雾和气体。 Use personal protective clothing. Avoid contact with skin, eyes and clothing. Avoid breathing fume and gas.
环境保护措施 Environmental precautions	不排入排水、地面水、地下水 Do not discharge into the drains/surface waters/groundwater
清理/占用的方法 Methods for cleaning up/taking up	机械收起并送去处置 Take up mechanically and send for disposal.

## 第七部分: 操作处置和储存

### SECTION 7: Handling and storage

处理 Handling	
安全处理须知 Advice on safe handling	避免电池短路。避免电池的机械损坏。不要打开或拆卸 Avoid short circuiting the battery. Avoid mechanical damage of the battery. Do not open or disassemble.
防火防爆须知 Advice on protection against fire and explosion	远离明火、热表面和火源 Keep away from open flames, hot surfaces and sources of ignition.
存储 Storage	
仓库和容器的要求 Requirements for storage rooms and vessels	在室温下存储。20-60%的额定容量, 保存在封闭的容器中。 Storage at room temperature (approx. 20°C) at approx. 20 60% of the nominal capacity Keep in closed original container.

## 第八部分: 暴露控制和个体防护

### SECTION 8: Exposure controls/personal protection

工程控制	选择合适的通风和温度控制设备, 应配备眼睛清洁和淋浴设备。使用
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Engineering Control	本地设备, 暴露的浓度在限定范围内。 Select the appropriate ventilation and temperature control equipment, which should be equipped with eye cleaning and shower equipment. Use local equipment to ensure its concentration under the limitation.
眼睛防护 Eye protection	在正常使用下不需要。如果要处理泄漏或电池破裂的情况, 请戴有侧面护罩的护目镜。 Not necessary under normal use. Wear safety goggles or glasses with side shields if handling a leaking or ruptured battery.
手部防护 Hand protection	在正常使用下不需要。处理泄漏或破裂的电池时, 应戴上橡胶手套。 Not necessary under normal use. Wear rubber gloves if handling a leaking or ruptured battery.
皮肤和身体防护 Skin protection	在正常使用下不需要。在处理泄漏或破裂的电池时, 请穿防护服。 Not necessary under normal use. Wear protection suit in case of handling a leaking or ruptured battery
呼吸防护 Respiratory protection	在正常使用下不需要。处理泄露或电池破裂时需要保持空气流通, 不要在狭窄的地方处理它。 Not necessary under normal use. Keep the air circulation in case of handling a leaking or ruptured battery. Do not use it in a narrow place in this case.

**第九部分: 理化特性**

**SECTION 9: Physical and chemical properties**

电池组型号 Battery pack model	WA3644
物理状态 Physical state	固体
颜色 Color	黑色
气味 Smell	无
电芯 Cell mode	ICR18650-2000(TENPOWER)
电压 Voltage	18V
重量 Weight	655g
容量 Capacity	4.0Ah
电池包瓦时 Watt-hours of Battery	72Wh
水溶性 Solubility in water	不溶于水 Does not dissolve in water

**第十部分: 稳定性和反应性**

**SECTION 10: Stability and reactivity**

稳定性 Stability	在正常储存和使用的情况下, 应保持稳定 It should be stable under the condition of normal storage and operation.
避免接触的条件	过热、暴露于潮湿条件下、机械振动

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Conditions to avoid	Overheat; Exposure to humid conditions; Mechanical vibration
禁配物 Taboo materials	强氧化剂。 strong oxidant
危险的分解产物 Hazardous decomposition products	在燃烧的条件下可能产生有害的分解产物 Under the condition of burning may produce harmful decomposition products
有害的聚合反应 Hazardous polymerization reaction	无 N/A

**第十一部分:毒理学信息**

**SECTION 11: Toxicological information**

急性毒性 Acute toxicity	无资料 No data available
皮肤腐蚀/刺激 Skin corrosion/irritation	没有刺激性作用 No irritant effect
严重眼损伤/刺激 Serious eye damage/irritation	没有刺激性作用 No irritating effect
呼吸道或皮肤致敏 Respiratory or skin sensitization	无致敏作用 No sensitizing effects known
特定靶器官系统毒性 Specific target organ system toxicity	无资料 No information available
毒物动力学、代谢和分布 Toxicokinetics, metabolism and distribution	无资料 No information available
吸入危害 Aspiration hazard	无资料 No information available
CMR 效应(致癌性、诱变性和生殖毒性) CMR effects (carcinogenity, mutagenicity and toxicity for reproduction)	无资料 No information available

**第十二部分:生态学信息**

**SECTION 12: Ecological information**

在正常使用条件下, 无生态损害。不要冲入水或下水道系统 There are no ecological injuries under normal usage. Do not flush into water or sanitary sewer system
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**第十三部分: 废弃处置**

**SECTION 13: Disposal considerations**

建议处理: 关于回收请咨询制造商, 按当地规定处置。 Advice on disposal: For recycling consult manufacturer. Disposal in accordance with local regulations
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**第十四部分:运输信息**

**SECTION 14: Transport information**

附录中所述的可充电锂离子电池组符合国际航空运输协会(IATA)危险品法规包装指令 965 的最新版 II 的要求, 可以作为非限制(非危险/非危险)货物运输。 关于运输, 引用和考虑了下列规定: -国际民用航空组织(ICAO)技术指导书, 包装指导书 965,IB 节(2023-2024 版),	The rechargeable Lithium-Ion battery pack as stated in Appendix are made in compliance to the requirements stated in the latest edition of the IATA Dangerous Goods Regulations Packing Instruction 965 section II such that they can be transported as a NOT RESTRICTED (non-hazardous/non-dangerous) goods. With regard to transport, the following regulations are cited and considered:
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-国际航空运输协会(IATA)危险品规则, 包装指示 965,IB 节(第 65 版, 2024) -《国际海事危险货物规则》(第 41 2022 版), -美国有害材料法规 49 CFR(联邦法规法典) 第 173-185 条锂电池和电池, -联合国关于危险货物运输的建议, 试验和标准手册 38.3 锂电池, Rev.7	- The International Civil Aviation Organization (ICAO) Technical Instructions, Packing Instruction 965, Section IB (2023-2024 Edition), - The International Air Transport Association (IATA) Dangerous Goods Regulations, Packing Instruction 965, Section IB (64th Edition, 2023) - The International Maritime Dangerous Goods (IMDG) Code (41th 2022 Edition), - US Harzardous Materials Regulations 49 CFR (Code of Federal Regulations) Sections 173-185 Lithium batteries and cells, - The UN Recommendations on the Transport of Dangerous Goods, Manual of Tests and Criteria 38.3 Lithium batteries, Rev.7
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**DOT**

正确运输名称 Proper Shipping Name	锂离子电池 Lithium ion batteries
危险等级 Hazard Class	9
应急响应指南 Emergency Response Guide	147
UN 号 UN number	3480

**TDG**

不受管制  
Not regulated

**MEX**

不受管制  
Not regulated

**ICAO (air)**

按包装说明 965 第 IB 部分要求办理。  
The goods are packaged according to the Packaging Instraction 965 section IB

正确运输名称 Proper Shipping Name	锂离子电池 Lithium ion batteries
危险等级 Hazard Class	9
UN 号 UN number	3480
锂电池净重 Net weight of lithium battery	不超过 10Kg Not exceed 10Kg

**IATA**

按包装说明 965 第 IB 部分要求办理。  
The goods are packaged according to the Packaging Instraction 965 section IB

正确运输名称 Proper Shipping Name	锂离子电池 Lithium ion batteries
危险等级 Hazard Class	9
UN 号 UN number	3480



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锂电池净重  
Net weight of lithium battery

不超过 10Kg  
Not exceed 10Kg

IMDG

根据特殊规定 188, 该物品不受 IMO IMDG Code 其他条款限制  
The article is not subject to other provisions of IMO IMDG Code according to special provisions 188.

正确运输名称  
Proper Shipping Name

危险等级  
Hazard Class

UN 号  
UN number

应急表号  
EmS-No.

锂离子电池  
Lithium ion batteries

9

3480

F-A, S-I

RID

不受管制  
Not regulated

ADR

根据特殊规定 188, 本条不限于 ADR 其他条款限制  
The article is not subject to other provisions of ADR according to special provisions 188.

正确运输名称  
Proper Shipping Name

危险等级  
Hazard Class

UN 号  
UN number

应急表号  
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锂离子电池  
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3480

F-A, S-I

不受管制  
Not regulated

<p>我们的产品经过适当的分类、描述、包装、标记和标签, 并根据所有适用的国际和国家政府法规处于适当的运输条件, 但不限于上述规定。我们进一步证明, 所附产品已按照联合国《危险货物运输示范条例》建议 (T1-T8) 和《试验和标准手册》进行了试验, 并符合可被视为“非危险货物”的要求和条件。</p>	<p>Our products are properly classified, described, packaged, marked, and labeled, and are in proper condition for transportation according to all the applicable international and national governmental regulations, not limited to the above mentioned. We further certify that the enclosed products have been tested and fulfilled the requirements and conditions in accordance with UN Recommendations (T1 – T8) on the Transport of Dangerous Goods Model Regulations and the Manual of Tests and Criteria that can be treated as “Non-Dangerous Goods”.</p>
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试验和标准手册 UN38.3锂电池 Manual of Test and Criteria (UN 38.3 Lithium battery)		测试结果 Test Results	备注 Remarks
序号 No.	测试项目 Test item		
T1	高空模拟 Altitude Simulation	P	--
T2	热冲击 Thermal Test	P	--
T3	振动 Vibration	P	--
T4	冲击 Shock	P	--

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T5	外部短路 External Short Circuit	P	--
T6	重物撞击 Impact/挤压 Crush	P	--
T7	过充 Overcharge	P	--
T8	强制放电 Forced Discharge	P	--

## 第十五部分: 法规信息

### SECTION 15: Regulatory information

特定于物质的安全、健康和环境法规 Safety, health and environmental regulations/legislation specific for the substance	
美国或欧盟法规 USA or EU Regulation	USA or EU Regulation
授权 Authorizations	无资料 No information available.
授权使用限制 Restrictions on use	无资料 No information available.

## 第十六部分: 其他信息

### SECTION 16: Other information

这一信息是基于我们现有的知识, 但不构成对具体产品特性的保证, 不构成具有法律效力的合同关系。	This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.
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## 免责声明

### Disclaimer

本材料安全数据表中提供的信息在发布之日就我们所知和所信是正确的。所提供的信息仅用于指导安全搬运、使用、加工、储存、运输、处置和放行, 不应视为保修或质量规范。该信息仅与指定的特定材料有关, 对于与任何其他材料结合使用或在任何过程中使用的此类材料可能无效, 除非文中另有规定。	he information provided in this Material Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.
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Author	Reviewer	Approval
Bin Sun 03-Jan-2024	Yanping Yan 03-Jan-2024	Allen Ding 03-Jan-2024

----安全数据表结束----  
----End of Safety Data Sheet----