



安全技术说明书 (SDS)

锂电池包: B05-3640G, 电压: 36V, 容量:

中文名称: 4.0Ah, 144Wh

lithium battery: B05-3640G, voltage: 36V,

英文名称: capacity: 4.0Ah, 144Wh

生效日期: 2024年01月04日

编制人: 凝水双

审核人: 刘城柳

批准人: 董学性

上海化工院检测有限公司



莱克电气绿能科技(苏州)有限公司

安全技术说明书

SDS

锂电池包: B05-3640G, 电压: 36V, 容量: 4.0Ah, 144Wh

第一部分 化学品及企业标识

中文名称:

锂电池包: B05-3640G, 电压: 36V, 容量: 4.0Ah, 144Wh

英文名称:

lithium battery: B05-3640G, voltage: 36V, capacity: 4.0Ah, 144Wh

企业名称:

莱克电气绿能科技(苏州)有限公司

地址:

苏州高新区浒关分区石林55号

邮编:

215009

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Yulan. Gao@kingclean.com

传真号码:

86-512-66575101

应急咨询电话:

86-512-69583708

化学品的推荐用途和限制用途: /

技术说明书编码: 2624010767

生效日期:

2024年01月04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: B05-3640G, 电压: 36V, 容量: 4.0Ah, 144Wh

成份	含量	CAS NO.	EC NO.
金属氧化物	25-35%	/	/
铜	10-20%	7440-50-8	231-159-6
石墨 (碳)	12-17%	7782-42-5	231-955-3
有机电解液	5-15%	/	/



铝

3-5%

7429-90-5

231-072-3

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,

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

匸呼吸。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

无资料。

所需的特殊治疗:

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

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 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漏区上风向。不相关

和应急程序:

动:

料:

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

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。

切不相容性:

安全储存的条件,包括一储存于阴凉、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 《工作场所有害因素职业接触限值 化学有害因素》:

铜: 铜尘 PC-TWA 1mg/m³; 铜烟 PC-TWA 0.2mg/m³ 铝金属、铝合金粉尘: PC-TWA 3mg/m³(总尘)

石墨粉尘 PC-TWA 4 mg/m³(总尘); PC-TWA 2 mg/m³(呼尘)

ACGIH:

铜: TLV-TWA 1 mg(Cu)/m³, 粉尘, 烟雾 TLV-TWA 0.2 mg(Cu)/m³ 烟雾

铝: TLV-TWA 1 mg/m³ 石墨: TLV-TWA 2 mg/m3 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, 白色双色塑胶外壳

气味:

无臭

pH值:

8-9

溶解性:

部分溶于水

熔点/凝固点:

>300℃

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

无资料

限:

蒸气压:

无资料

相对蒸气密度:

无资料

n-辛醇/水分配系数(对数无资料

值):

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。

牛殖毒件:

无资料。

特定目标器官毒性-单次 无资料。

接触:

特定目标器官毒性-重复 无资料。

接触:

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。

第十四部分 运输信息

锂电池单独运输:

通过联合国《试验和标准手册》UN38.3试验。锂电池总净重<35kg。

RID/ADR (2023版):

危险性类别:9

UN编号: UN3480

运输名称: 锂离子电池组

根据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 (65版):

危险性类别:9

UN编号: UN3480

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IA部分的规定。

根据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II00II138.3 3试验概

要。

IMO IMDG CODE (2022版): 危险性类别: 9

UN编号: UN3480

运输名称: 锂离子电池组

EmS编号: F-A, S-I

根据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 联合国编号为:3480,中文名称和描述:锂离子电池。则》(JT/T 617-2018):

《危险货物品名表》(GB联合国编号为:3480,名称和说明:锂离子电池组,包装类别:Ⅱ。 12268-2012):

《铁路危险货物品名表》编号为: 91045, 品名: 锂离子电池组。 (TB/T 30006-2022):

国际法规:

欧盟指令(EU)2023/1542 电池的标记,处置,回收等应满足欧盟指令(EU) 2023/1542及2013/56/EU中的规定。**及2013/56/EU:**

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%。

第十六部分 其他信息

编制日期:

2024年01月04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 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报告仅针对电池。报告内容是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。如果电池被用于其它产品中的组件,本SDS报告的信息可能不适用。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。



报告结束

Don't short curcuit. Don't dismantle.

Don't immerse in any liquid. Respect charging instructions.





SAFETYDATASHEET

lithium battery: B05-3640G, voltage:

Product Name: 36V, capacity: 4.0Ah, 144Wh

Effective Date: 2024-01-04

Compiler: He Xiaoshuang

Checker: Liu Wangong

Approver: Dongxuesheng

Shanghai Institute of Chemical Industry Testing Co., Ltd.



KINGCLEAN ELECTRIC GREEN TECHNOLOGY(SUZHOU)CO.LTD

SAFETY DATA SHEET

lithium battery: B05-3640G, voltage: 36V, capacity: 4.0Ah, 144Wh

SECTION1 PRODUCT AND COMPANY IDENTIFICATION

Product name:

lithium battery: B05-3640G, voltage: 36V, capacity: 4.0Ah, 144Wh

Company:

KINGCLEAN ELECTRIC GREEN TECHNOLOGY (SUZHOU) CO. LTD

Address:

No. 55 Shilin, Huguan District, High-tech Zone, Suzhou, 215009, P. R. China

Email:

Yulan. Gao@kingclean.com

Fax:
Emergency Phone:

86-512-66575101 86-512-69583708

Recommend use of the chemical and restrictions on use:

SDS Number:

2624010767

Effective Date:

2024-01-04

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: B05-3640G, voltage: 36V, capacity: 4.0Ah, 144Wh

Ingredient Concentration CAS No. EC No.

Metal oxide 25-35% / /

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Copper	10-20%	7440-50-8	231-159-6
Graphite (Carbon)	12-17%	7782-42-5	231-955-3
Organic electrolyte	5-15%	/	/
Aluminum	3-5%	7429-90-5	231-072-3

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.

SECTIONS 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.

SECTION7 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.

SECTIONS 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 1mg/m³; Copper smoke PC-TWA 0.2mg/m³ Aluminum metal and aluminum alloy dust: PC-TWA 3mg/m³ (total dust)

Graphite: Graphite dust PC-TWA 4mg/m³ (total dust) PC-TWA 2mg/m³ (respirable dust)

ACGIH:

Copper: TLV-TWA 1 mg(Cu)/m³, dust, mist TLV-TWA 0.2 mg(Cu)/m³, fume

Aluminum: TLV-TWA 1 mg/m³
Graphite: TLV-TWA 2 mg/m³

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 and white plastics cement shell

Odor:

Odorless

pH Value:

8-9

Solubility:

Partial soluble in water

Boiling Point,

No data available

Initial Boiling
Point and Boiling

Range:

Melting

>300℃

Point/Freezing

Point:

Flash Point

No data available

(Closed Cup):

Density/Relative

No data available

Density:

Kinematic

No data available

Viscosity:

Lower/Upper

No data available

Explosion

Limit/Flammabili

tv Limit:

Vapour Pressure:

No data available

Relative Vapor

No data available

Density:

Partition

No data available

Coefficient

N-Octanol/Water(

Log Value):

Autoingnition

No data available

Temperature:

Decomposition

No data available

Temperature:

Particle

No data available

Characteristics:

Flammability

No data available

(Solid, Gas):

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 Manual of Tests and Criteria Section 38.3. The total net weight of the Lithium batteries is less than 35 kg.

RID/ADR (2023

Hazard Class: 9

Edition):

UN Number: UN3480

Proper Shipping Name: Lithium ion batteries

According to 2.2.9.1.7 (g), 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 (65th Edition):

Hazard Class: 9 UN Number: UN3480

Proper Shipping Name: Lithium ion batteries

The product shall meet the General Requirements and section IA of Packaging Instruction

965.

According to 3.9.2.6.1(g), 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

Hazard Class: 9 (2022 Edition) :UN Number: UN3480

Proper Shipping Name: Lithium ion batteries

EmS Number: F-A, S-I

According to 2.9.4.7, 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: Lithium ion batteries

List of Dangerous Goods (GB 12268-2012):

UN Number: UN3480

Proper Shipping Name: Lithium ion batteries

Packing Group: II

List of Dangerous Goods by Rail (TB/T 30006-2022):

Number: 91045

Name of Product: Lithium ion batteries

International Regulations:

Directive (EU) 2023/1542 and 2013/56/EU:

The label, disposal and recycling of the battery shall meet the requirements of EU Directive (EU) 2023/1542 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.

SECTION16 OTHER INFORMATION

Preparation Date:

2024-01-04

Preparation Department:

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

Revision:

0

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 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 only compiled for battery and based on the information such as ingredients provided by the applicant and our current knowledge. This SDS shall be used only as a guide. If the battery is used as a component in another product, the information in this SDS may not be applicable. 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.



END OF REPORT