NO.：202401100004-1
Date：2024-01-10

材料安全数据

Material Safety Data Sheet

样品名称：锂离子电芯

Sample name: Lithium-Ion Cell

公司名称:横店集团东磁股份有限公司

Company name: HENGDIAN GROUP DMEGC MAGNETICS CO.,LTD

材料安全数据表

Material Safety Data Sheet

1.化学品及企业标识 CHEMICAL PRODUCT AND COMPANY IDENTIFICATION	
样品名称 Sample Name	锂离子电芯 Lithium-Ion Cell
型号 Model	锂离子电芯 INR18650-26E 3.65V 2600mAh 9.49Wh Lithium-Ion Cell INR18650-26E 3.65V 2600mAh 9.49Wh
委托单位 Applicant	横店集团东磁股份有限公司 HENGDIAN GROUP DMEGC MAGNETICS CO.,LTD
委托单位地址 Applicant Address	浙江省东阳市横店镇西环路光伏园区 PV Zone.Xihuan Road ,Hengdian ,Dongyang,Zhejiang Province , China
生产单位 Manufacture	横店集团东磁股份有限公司 HENGDIAN GROUP DMEGC MAGNETICS CO.,LTD
生产单位地址 Manufacture Address	浙江省东阳市横店镇西环路光伏园区 PV Zone.Xihuan Road ,Hengdian ,Dongyang,Zhejiang Province , China
应急电话 Emergency telephone call	+86- 0579-86310263

Section 2. Composition/information on Ingredient
成分/组成信息

Chemical Name 化学品名称	ChemicalFormula 化学式	CAS No. CAS 号	Composition 成份 (in % by weight)(重量百分比)
Nickel-cobalt-manganese lithium 镍钴锰酸锂	$LiNiCoMnO_2$	346417-97-8	36.6
Graphite 石墨	C	7782-42-5	19.8
PVDF 聚偏氟乙烯	$(CH_2\text{-}CF_2)_n$	24937-79-9	0.4
CMC 羧甲基纤维素	$C_8H_{16}NaO_8$	9000-11-7	0.3
Acetylene black 乙炔黑	C	1333-86-4	0.9
Styrene-butadiene rubber 丁苯橡胶	$(C_8H_8.C_4H_6)x$	9003-55-8	0.4
PP 聚丙烯	$(C_3H_6)n$	9003-07-0	0.7
Lithium hexafluorophosphate 六氟磷酸锂	LiF_6P	21324-40-3	2.0
Ethvlene carbonate 碳酸乙烯酯	$C_3H_4O_3$	96-49-1	2.0
Ethyl methyl carbonate 碳酸甲乙酯	$C_4H_8O_3$	623-53-0	1.0
Dimethyl carbonate 碳酸二甲酯	$C_3H_6O_3$	616-38-6	6.8
Copper 铜	Cu	7440-50-8	7.6
Aluminum 铝	Al	7429-90-5	3.5
Nickel 镍	Ni	7440-02-0	0.7
Iron 铁	Fe	7439-89-6	17.3

3.危险性概述
Hazards Identification

爆炸危险性 Explosive risk	该物品不属于爆炸危险品 This article does not belong to the explosion dangerous goods
易燃危险性 Flammable risk	该物品不属于易燃危险品 This article does not belong to the flammable material
氧化危险性 Oxidation risk	该物品不属于氧化危险品 This article does not belong to the oxidation of dangerous goods
毒害危险性 Toxic risk	该物品不属于氧化危险品 This article does not belong to the toxic dangerous goods
放射危险性 Radioactive risk	该物品不属于放射危险品 This article does not belong to the radiation of dangerous goods
腐蚀危险性 Mordant risk	该物品不属于腐蚀危险品 This article does not belong to the corrosion of dangerous goods
其他危险性 other risk	This article is Cylindrical Lithium-ion Rechargeable Cell Watt hour rate 9.49Wh, which belong to the Li-ion batteries. 该物品为圆柱型锂离子电芯,瓦时率9.49Wh,属于锂离子电池。

4.急救措施
First aid measures

Eye: Flush eves with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid

眼睛:万一接触,立即用大量的清水冲洗至少 15 分钟,翻起上下眼睑,直到化学的残留物消失为止,迅速就医。

Skin: Remove contaminated clothes and rinse skin with plenty of water or shower for 15 minutes. Get medical aid.皮肤:万一接触,用大量水冲洗至少 15 分钟,同时除去污染的衣物和鞋子,迅速就医。

Inhalation: Remove from exposure and move to fresh air immediately. Use oxygen if available.

吸入:立即从暴露处移至空气清新处,如果呼吸困难给予输氧,立即就医。

Ingestion: Give at least 2 glasses of milk or water. Induce vomiting unless patient is unconscious.Call a physician 食入:饮用两杯牛奶或水。如果当事人仍然清晰可以采取催吐的方法,并且立即就医。

5.消防措施
Fire-fighting measures

Flash Point: N/A.

燃点:不适用

Auto-Ignition Temperature: N/A.

自燃温度:不适用

Extinguishing Media: Water, Co2

灭火介质:大量水(降温),二氧化碳

Special Fire-Fighting Procedures: Self-contained breathing apparatus

特殊灭火程序: 自给式呼吸器

Unusual Fire and Explosion Hazards: Cell may vent when subjected to excessive heat-exposing battery contents.

异常火灾或爆炸:当电芯暴露于过热的环境中时,安全阀可能会打开。

Hazardous Combustion Products: Carbon monoxide, carbon dioxide, lithium oxide fumes.

燃烧产生的危险物品:一氧化碳,二氧化碳,锂氧化物烟气

6.泄露应急处理
Accidental release measures

Steps to be taken in case Material is Released or Spilled If the battery material is released, remove personnel from area until fumes dissipate. Provide maximum ventilation to clear out hazardous gases Wipe it up with a cloth, and dispose of it in a plastic bag and put into a steel can. The preferred response is to leave the area and allow the battery to cool and vapors to dissipate. Provide maximumventilation. Avoid skin and eve contact or inhalation of vapors. Remove spilled liquid with absorbent and incinerate.为防止电池材料泄露或释放采取的措施如果电池内部材料泄露,试验人员应立刻撤离试验区直到烟气消散。将通风设备打开吹散危险性气体。用抹布擦净试验区,清除溢出的液体,将泄露电池放进塑料袋中,然后放进钢制容器。避免皮肤和眼睛接触或吸入有害气体。

Waste Disposal Method: It is recommended to discharge the battery to the end, to use up the metal lithium inside the battery. and to bury the discharged battery in soil..废弃物处置方法: 建议将电池完全放电,消耗电池内部的锂金属,并且深埋于土壤中。

7.操作处置和储存
Handling and storage

The battery should not be opened, destroyed or incinerate, since they may leak or rupture and release to the environment the ingredients that they contain in the hemetically sealed container. Do not short circuit terminals, or over charge the battery, forced over-discharge, throw to fire. Do not crush or puncture the battery. or immerse in liquids.

禁止打开、毁坏或焚烧电池,因为电池有可能在这些处理过程中发生爆炸、破裂或泄露等事故。禁止将电池短路、过充、强制放电或扔入火中。禁止挤压刺穿电池或将电池浸入溶液中。

Precautions to be taken in handling and storing Avoid mechanical or electrical abuse. Storage preferably in cool, dry and ventilated area, which is subject to little temperature change. Storage at high temperatures should be avoided. Do not place the battery near heating equipment, nor expose o direct sunlight for long periods.

操作处置和储存中的防范措施禁止物理或电滥用,禁止高温储存,最好将电池储存在阴凉、干燥、通风及温度变化较小的环境中。禁止将电池接触加热设备或将电池直接暴露与阳光中。

Other Precautions The battery may explode or cause burns, if disassembled, crushed or exposed to fire or high temperatures. Do not short or install with incorrect polarity

其他要注意的防范措施拆解、挤压、直接放入火中或高温条件下,电池可能发生爆炸和燃烧。禁止短接或将电池正负极错误的安装在设备中。

8.接触控制/个人防护
Exposure controls/personal protection

Respiratory Protection In case of battery venting, provide as much ventilation as possible. Avoio confined areas with venting cell cores. Respiratory Protection is not necessary under conditions of normal use

呼吸防护当电池排气阀打开时,应尽量使通风设备开至最大,避免将打开排气阀的电芯局限在某一狭窄空间内。正常操作条件下,呼吸保护是不必要的。

Ventilation Not necessary under conditions of normal use

通风条件正常使用条件下不必考虑。

Protective Gloves Not necessary under conditions of normal use.

防护手套正常使用条件下不必考虑。

Other Protective Clothing or Equipment Not necessary under conditions of normal use

其他防护服装或设备正常使用条件下不必考虑。

Personal Protection is recommended for venting battery Respiratory Protection, Protective Gloves, Protective Clothing and safety glass with side shields.

电池开阀试验时应做好个人防护呼吸防护,防护手套,防护服装和有护边的安全玻璃罩都是要准备的。

9.物理和化学特性

Physical and chemical properties

外形：圆筒形。
Appearance: cylindrical
气味：泄漏时，有醚的气味。
Odors: If leaking, smells of medical ether.
酸碱度：不适用。
pH: Not applicable as supplied.
燃点：除单个电芯暴露实验外其他不适用。
Flash Point: Not applicable unless individual components exposed.
可燃性：除单个电芯暴露实验外其他不适用。
Flammability: Not applicable unless individual components exposed.
相对密度：除单个电芯暴露实验外其他不适用。
Relative density: Not applicable unless individual components exposed.
溶解性（水溶性）：除单个电芯暴露实验外其他不适用。
Solubility (water): Not applicable unless individual components exposed.
溶解性（其他）：除单个电芯暴露实验外其他不适用。
Solubility (other): Not applicable unless individual components exposed.
编号：01051900000263-1(E)
Certification Ref, No.: 01051900000263-1(E)

10.稳定性和反应活性
Stability and reactivity

稳定性：产品在第7节所述的条件下稳定。
Stability: Product is stable under conditions described in Section 7.
应避免的条件：加热70℃以上或焚烧、变形、烧毁、粉碎、拆卸、过充电、短路。
在潮湿的条件下长时间暴露
Conditions to Avoid: Heat above 70℃ or incinerate. Deform. Mutilate. Crush. Disassemble. Overcharge. Short circuit. Expose over a long period to humid conditions.
应避免的材料：氧化剂、碱、水。
Materials to avoid: Oxidising agents, alkalis, water.
危险分解物：有毒烟雾，并可能形成过氧化物。
Hazardous Decomposition Products: Toxic Fumes, and may form peroxides.
聚合危害：不适用。
Hazardous Polymerization: N/A.
如果发生泄漏，避免与强氧化剂，无机酸，强碱，卤代烃接触。
If leaked, forbidden to contact with strong oxidizers, mineral acids, strong alkalies, halogenated Hydrocarbons.

11、毒理学资料
Toxicological information

标志及症状：无，除非电池破裂。
Signs & symptoms: None, unless battery ruptures.
内部物质暴露的情况下，蒸汽烟雾可能对眼睛和皮肤的刺激性。
In the event of exposure to internal contents, vapour fumes may be very irritating to the eyes and skin.
吸入：对非有刺激性。
Inhalation: Lung irritant.

皮肤接触：对皮肤有刺激性。
Skin contact: Skin irritant.
眼睛接触：对眼睛有刺激性。
Eye contact: Eye irritant
食入：吞下中毒。
Ingestion: Poisoning if swallowed.
下列状况下健康会恶化：万一发生与内部材料接触的事故，轻微或严重的刺激，都可能使皮肤出现干燥和灼烧的感觉，并且损毁靶器官（肝脏，肾脏）的神经。
Medical conditions generally aggravated by exposure: In the event of exposure to internal contents, moderate to server irritation, burning and dryness of the skin may occur, Target Organs nerves, liver and kidneys.

12.生态学资料
Ecological information

对哺乳动物的影响：目前未知。
Mammalian effects: None known at present.
生态毒性：目前未知。
Eco-toxicity: None known at present.
生物体内积累：慢慢地生物降解。
Bioaccumulation potential: Slowly Bio-degradable.
环境危害：目前没有未知的环境危害。
Environmental fate: None known environmental hazards at present.

13.废弃处置
Disposal consideration

不要焚烧或将电池置于超过 70°C 的温度下，这样会导致密封泄漏损失和/或电池爆炸。按照当地有关规定处理。
Do not incinerate, or subject cells to temperature in excess of 70°C, Such abuse can result in loss of seal leakage, and/or cell explosion. Dispose of in accordance with appropriate local regulations.

14.运输信息
Transport information

Label for conveyance: Lithium Battery Labell
运输标签:锂电池标签
UN Number: UN3480 or UN3481
UN编号: UN3480或3481
Packaging Group: Not Applicable
包装等级:不适用
Marine pollutant: No
海洋污染物:无
Only Lithium Battery during Transport：
锂电池单独运输:
The product has passed the test items of UN Model Regulations, Manual of Test and Criteria Section38.3and UNModel Regulations，SP188, 1.2m drop test. The total net weight of the Lithium batteries is less than 10 kg.
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(2023Edition)：
RID/ADR(2023版):
The product is not subject to the other provisions of RID/ADR according to special provision 188.
根据RID/ADR 特殊规定 188，运输时不受本规则其它规定限制。
According to2.2.9.1.7(g)of RID/ADR(2023 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 I I I, sub-section 38.3 paragraph 38.3.5.
根据RID/ADR(2023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(65Edition):
IATA DGR(65版）:
Hazard Class:9
危险性类别:9
UN Number: UN3480
UN编号:UN3480
Hazard Label: Miscellaneous
包装标识:杂项
Proper Shipping Name: Lithium ion batteries
运输名称:锂离子电池组
The product shall meet the General Requirements and section IB of Packaging Instruction965.
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。
According to 3.9.2.6.1(g) of IATA DGR (65" 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 Ill, sub-section38.3,paragraph 38.3.5.
根据IATA DGR (65版)的3.9.2.6.1(g)，2003年06月30日之后生产的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(2022Edition):
IMO IMDG CODE(2022版):
The product is not subject to the other provisions of IMO IMDG Code according to special provision188.
根据特殊规定188，运输时不受本规则其它规定限制。
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.
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。

15.法规信息
Regulation information

法规信息：
Law information
《危险物品规则》
《Dangerous Goods Regulations 》
《对危险货物运输的有关规定的建议》
《Recommendations on the Transport of Dangerous Goods Model Regulations 》
《国际海运危险货物规则》

《International Maritime Dangerous Goods 》
《危险品安全运输技术指令》
《Technical Instructions for the Safe Transport of Dangerous Goods》
《危险货物分类和品名编号》
《Classification and code of dangerous goods 》
《职业安全卫生法》
《Occupational Safety and Health Act》 (OSHA)
《有毒物质控制法》
《Toxic Substance Control Act 》(TSCA)
《消费产品安全法》
《Consumer Product Safety Act 》(CPSA)
《联邦环境污染控制法》
《Federal Environmental Pollution Control Act》 (FEPCA)
《石油污染法案》
《The Oil Pollution Act》 (OPA)
《超级基金修正案和再授权法案III(302/311/312/313) 》
《Superfund Amendments and Reauthorization Act Title III(302/311/312/313)》 (SARA)
《资源保护及恢复法案》
《Resource Conservation and Recovery Act》 (RCRA)
《安全应用水法》
《Safety Drinking Water Act 》(CWA)
《加州65提案》
《California Proposition 65》
《美国联邦法规》
《Code of Federal Regulations》 (CFR)
根据所有联邦、州和地方法律。
In accordance with all Federal State and local laws.
International Regulations:
国际法规:
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.
欧盟指令(EU)2023/1542 及 2013/56/EU: 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。
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，PI968)are forbidden for carriage on passenger aircraft.
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，PI965)和锂金属电池(芯)(UN 3090，PI968)货物禁止使用客机运输。
2. Unless be approved according to ICAO TI, Lithium ion cells/batteries(UN 3480，PI965)must be offered for transport at a state of charge (SoC) not exceeding 30% of their rated design capacity.

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%。

16. 其他信息
Other Information

Preparation Date: 2024-01-10
编制日期: 2024年01月10日
Preparation Department: Hengdian Group DMEGC Magnetics CO.,LTD.
编制部门:横店集团东磁股份有限公司
Users should read this file carefully, and use the batteries in correct method.
Hengdian Group DMEGC Magnetics CO.,LTD. doesn't assume responsibility for any damage or loss because of misuse of batteries.
用户应仔细阅读此文件，并按照正确的方法使用电池，如因电池使用不当造成的损害或损失，横店集团东磁股份有限公司不承担任何责任。
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