

宁波江北瑞利特电子有限公司  
NingBo JiangBei Run Leader Electronics Co.,Ltd

# 材料安全数据表

## Material Safety Data Sheet

锂锰电池  
Li-Mn button cell

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(Linda)

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产品名称: 锂锰电池

客户编号/Client No.: NM74JBR

修订日期: 2018 年 11 月 19 日 版本: 1.0

Product name: Li-Mn button cell

MSDS No.: N74.181.115.002.JBR

Revision date: Nov. 19, 2018 Version: 1.0

### 第一部分 产品及企业标识

#### Section 1 - Product and Company Identification

##### 1.1. 产品标识

###### Product Identification

产品名称: 锂锰电池

Product name: Li-Mn button cell

型号: CR2430、CR2450、CR2032、CR2050

Model No.: CR2430, CR2450, CR2032, CR2050

HS 编码: 8506500000

HS code: 8506500000

##### 1.2. 物质或混合物的相关用途标识及限制用途

###### Relevant identified uses of the substance or mixture and uses advised against

推荐用途: 供电

Identified uses: Power supply

限制用途: 无

Use advised against: None

##### 1.3. 制造商或申请商的详细信息

###### Details of the manufacturer or applicant

制造商: 宁波江北瑞利特电子有限公司

Manufacturer: NingBo JiangBei Run Leader Electronics Co.,Ltd

地址: 浙江省宁波市江北区洪塘工业 C 区银海路 228 号

Address: NO 228 Yin Hai Road, Hongtang Industrial Zone C,

Jiangbei District, Ningbo City, Zhejiang Province, China

电话: +86-18106211831

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邮件: weichao8286@163.com

E-mail: weichao8286@163.com

邮编: 315033

Post code: 315033

**1.4. 应急电话**

Emergency telephone number

应急电话: +86-592-5188190

Emergency call: +86-592-5188190

**第二部分 危险性概述****Section 2 - Hazard Description**

适用于从电池内部泄露出的物质, 在正常使用下无害。

Apply to leak out of the material from inside the products, harmless under normal use.

按照联合国 GHS (第七修订版) 规定, 该产品所属危险性类别及标签要素如下:

Hazard class and label elements of the product according to GHS (the 7th revised edition):

**2.1. GHS 危险性类别/GHS Hazard Class**

急性毒性-经口	类别 4
Acute toxicity-Oral	Category 4
急性毒性-吸入	类别 4
Acute toxicity-Inhalation	Category 4
皮肤刺激或腐蚀	类别 2
Skin corrosion/irritation	Category 2
严重眼损伤/眼刺激	类别 2A
Serious Eye Damage/ Irritation	Category 2A
生殖毒性	类别 1B
Reproductive toxicity	Category 1B

**2.2. GHS 标签要素/GHS Label Elements**

Address: 3F, E Block, Huaide Building, Fuyong, Bao'an Dist, Shenzhen, Guangdong 518000

| Tel: 0086-755-32957866 | E-mail: report@tuv-lab.com | Website: <http://www.tuv-lab.com> |

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象形图/ Pictogram(s)	
信号词/ Signal Word	危险/Danger
<b>2.3. 危险性说明/ Hazard Statements</b>	
H302	吞咽有害。
H302	Harmful if swallowed.
H315	造成皮肤刺激。
H315	Causes skin irritation.
H319	造成严重眼刺激。
H319	Causes serious eye irritate.
H332	吸入有害。
H332	Harmful if inhaled.
H360	可能会损害生育能力或胎儿。
H360	May damage fertility or the unborn child.
<b>2.4. 防范说明/ Precautionary Statements</b>	
预防措施/Prevention	
P201	使用前获得特别指示说明。
P201	Obtain special instructions before use.
P202	不处理, 直到所有安全防范措施已阅读并理解了。
P202	Do not handle until all safety precautions have been read and understood.
P261	避免吸入粉尘/烟/气体/烟雾/蒸汽/喷雾。
P261	Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
P264	作业后彻底清洗。
P264	Wash thoroughly after handling.
P270	使用本产品时不要吃东西, 喝水或吸烟。
P270	Do not eat, drink or smoke when working.
P272	受污染的工作服不应该带出工作场所。

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P272	Contaminated work clothing should not be allowed out of the workplace.
P280	戴防护手套/穿防护服/戴防护眼罩/戴防护面具。
P280	Wear protective gloves/protective clothing/eye protection/face protection.
事故响应/ Response	
P312	如果你感到不适, 呼叫解毒中心/医生。
P312	Call a POISON CENTER or doctor/physician if you feel unwell.
P330	漱口。
P330	Rinse mouth.
P301+P312	如误吞咽: 立即呼叫解毒中心/医生。
P301+P312	IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
P302+P352	如沾染皮肤: 用大量肥皂和水清洗。
P304+P340	IF ON SKIN: Wash with plenty of soap and water.
P304+P340	如果吸入: 将受害人移到空气新鲜处, 在呼吸舒适的地方休息。
P304+P340	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P308+P313	如接触到或相关暴露: 求医/就诊。
P308+P313	IF exposed or concerned: Get medical advice/attention.
P332+P313	如发生皮肤刺激: 求医/就诊。
P332+P313	If eyes irritation occurs: Get medical advice/attention.
P337+P313	如果发生眼刺激: 求医/就诊。
P337+P313	If eye irritation persists: Get medical advice/attention.
P362+P364	脱掉受污染的衣服, 清洗后方可重新使用。
P362+P364	Take off contaminated clothing and wash before reuse.
P303+P361+P353	如沾染皮肤(或头发): 立即去除/脱掉所有污染的衣服。用水清洗皮肤/淋浴。
P303+P361+ P353	IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P305+P351+P338	如进入眼睛: 用水小心冲洗几分钟。如戴隐形眼镜并可方便地取出, 取出隐形眼

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	镜。继续冲洗。
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
安全储存/Storage	
P405	存放处须加锁。
P405	Store locked up.
废弃处置/Disposal	
P501	将内容物/ 容器处理到得到批准的废物处理厂。
P501	Dispose of contents/container to the approval of the waste treatment plant.

#### 第三部分 成分/组成信息

#### Section 3 - Composition / Ingredient Data

物质/ Material	√混合物/ Mixture		
成分名称/Ingredient name	CAS No.	EC No.	含量% /wt%
不锈钢/Stainless Steel	12597-68-1	N/A	53.6
二氧化锰/Manganese dioxide	1313-13-9	215-202-6	26.8
乙二醇二甲醚/1,2-Dimethoxyethane	110-71-4	203-794-9	7.5
碳酸丙烯酯/Propylene carbonate	108-32-7	203-572-1	4.5
隔离层, 黑胶料/ Fiberglass septum, Acetylene black	N/A	N/A	2.4
石墨/Graphite	7782-42-5	231-955-3	2.2
锂/Litium	7439-93-2	231-102-5	2.1
高氯酸锂/Lithium perchlorate	7791-03-9	232-237-2	0.9

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#### 第四部分 急救措施

#### Section 4 - First Aid Measures

急救(适用于从电池内部泄露出的物质)/ First aid (Apply to leak out of the material from inside the battery):

4.1. 一般建议: 向到现场的医生出示此材料安全数据表。接受急救措施后, 必要时送往医院治疗。

General advice: Show this safety data sheet to the doctor in attendance. After receiving the first-aid measure required, consult a physician if necessary.

4.2. 皮肤接触: 立即去除污染的衣物和鞋子。用肥皂和大量的水洗掉。如化学烧伤或皮肤持续刺激, 立即就医。

Skin contact: Remove contaminated clothing and shoes immediately. Wash off with soap and plenty of water. If chemical burns or skin sustained stimulation, consult a physician immediately.

4.3. 眼睛接触: 检查并删除任何隐形眼镜。得到医学关注。保持眼睑张开, 立即用清水冲洗眼睛至少30分钟, 直到残留的化学残留物为止。提供一种方便洗眼设备和快速安全淋浴。不要用手揉眼睛。

Eyes contact: Check for and remove any contact lenses. Get medical attention. Immediately flush eyes with running water for at least 30 minutes, disappear until the chemical residues so far, keeping eyelids open. Provide a readily-accessible eyewash facility and quick-drench safety shower. Do not rubbing eyes with hand.

4.4. 吸入: 将患者移动到新鲜的空气处。保持人员温暖并休息。如果呼吸停止或者呼吸不规则, 由经过训练的人员提供人工呼吸或者供氧。提供嘴对嘴的人工复苏可能是危险的。如果不利健康影响依然存在或是严重的, 获取医疗照顾。如果无意识, 在恢复的位置立即获得医疗照顾。保持气道开放。

Inhalation: Move exposed person to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway.

4.5. 食入: 用水漱口。将患者移到新鲜空气中。保持人的温暖并休息。如果材料被吞食和被暴露的人是有意识的, 喝少量的水。如果暴露的人感觉不舒服并呕吐, 给水可能是危险的。除非有医务人员的指导, 不要诱导呕吐。如果发生呕吐, 头部应保持低位, 使呕吐物不能进入肺部。如果不利健康的影响持续或严重的话, 获取医疗照顾。切勿向失去意识的人口喂任何东西。如果无意识, 将在恢复位置并立即寻求医疗救治。保

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持气道通畅。

Ingestion: Wash out mouth with water. Move exposed person to fresh air. Keep person warm and at rest. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway.

#### 4.6. 最重要症状及影响, 急性的和慢性的: 最重要的已知的症状和影响如第2部分和/或第11部分。

Most important symptoms and effects, both acute and delayed: The most important known symptoms and effects are described in section 2 and/or in section 11.

#### 4.7. 立即治疗和特殊治疗的指示: 继续采取急救措施, 对症治疗和辅助治疗。

Immediate / special treatment: Continue with first aid measures. Treat symptomatically and supportively.

### 第五部分 消防措施

#### Section 5 – Firefighting Measures

#### 5.1. 灭火方法和灭火剂: 灭火介质: 锂电池万一着火, 用水淹没着火地, 如果电池正燃烧水可能不能熄灭它们, 但是可以冷却邻近的电池从而控制火势的蔓延, 对于小火二氧化碳, 干粉, 或者是泡沫灭火剂是首选介质, 但对于正烧着的锂电池也可能是不管用的, 直到燃烧的电池将完全的烧尽。事实上所有锂电池着火都可以用水来控制, 然而当使用水时产生的氢气可能与空气混合形成爆炸性混合物。LITH-X (粉状石墨) 或铜粉灭火器、沙子、干燥、磨成粉状的白云石或苏打粉也可以使用, 这些材料可以作为窒息剂。

Extinguishing media: In case of fire, water flooded ground fire. If the battery is burning, water may not be extinguished, but can use water cooling adjacent batteries so as to control the spread of fire. The preferred medium for small fire is carbon dioxide, dry powder, or foam extinguishing agent, but for the lithium battery is burning may be no use, the battery will burn until complete combustion. In fact, all lithium batteries can be controlled by water. However, when using water to produce hydrogen gas may be mixed with air to form explosive mixture. LITH-X (graphite powder) or copper powder fire extinguishers, sand, dry, powdered

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dolomite or soda can be used as smothering agent

- 5.2. 产生的特殊危险物质或混合物: 在燃烧时会释放出有毒气体, 金属氧化物。

Special hazards arising from the substance or mixture: In combustion emits toxic fumes, metallic oxides.

- 5.3 灭火注意事项及措施: 灭火时, 应佩戴呼吸面具 (符合 MSHA/NIOSH 要求的或相当的) 并穿上全身防护服。在安全距离处、有充足防护的情况下灭火。防止消防水污染地表和地下水系统。

Fire precautions and measures: As in any fire, wear self-contained breathing apparatus (MSHA/NIOSH approved or equivalent) and full protective gear. Fight fire from a safe distance, with adequate cover.

Prevent fire extinguishing water from contaminating surface water or the ground water system.

#### 第六部分 泄露应急处理

#### Section 6 - Accidental Release Measures

- 6.1. 个人防护, 防护设备和应急程序: 涉及任何个人风险或没有经过适当的培训不要采取任何行动。疏散周围区域。严禁不必要的和未受保护的人员进入。请勿触摸或跨过溢出物质。避免吸入蒸气或烟雾。提供足够的通风。通风不足时戴合适的呼吸器。穿上适当的个人防护设备 (参阅第 8 部分)。

Personal precautions, protective equipment and emergency procedures: No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see section 8).

- 6.2. 环境保护措施: 防止产品进入下水道。如能确保安全, 可采取措施防止进一步的泄漏或溢出。如果产品污染了河流、湖泊或下水道, 请告知有关当局。

Environmental precautions: Isolation leakage zone. Ensure there is proper ventilation of the area. As far as possible, shut off the leak source. To prevent leaks into water, sewers, basements or confined space. Avoid breathing dust. Eliminate all sources of ignition.

- 6.3. 收容、清除方法及处理材料: 小泄露: 若无危险, 阻止泄漏。移离泄漏区域容器。用一种惰性的干燥材料吸收放在适当的废物处理容器中。经由特许的废弃物处理承包商处置。

大泄露: 若无危险, 阻止泄漏。移离泄漏区域容器。从上风向接近泄漏物。防止进入下水道, 水道, 地下室

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或密闭区域。遏制和用不燃吸收剂收集泄漏物如沙、土、蛭石、硅藻土。根据当地法规处理容器（见第 13 部分）。经由特许的废弃物处理承包商处置。被污染的吸附物质可能和溢出产品带来同样的危害。注：见应急联系信息和废物处理第 8 部分。必须遵守当地的废物处理法规。

Collecting, clearing method and disposal material: Small spill: Stop leak if without risk. Move containers from spill area. Absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor. Large spill: Stop leak if without risk. Move containers from spill area. Approach the release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilt product. Note: see section 1 for emergency contact information and section 13 for waste disposal.

Local waste disposal regulations must be followed

#### 第七部分 操作处置与储存

#### Section 7 - Handling and Storage

7.1. 安全操作注意事项：使用时不要反向的位置（+）和负（-）端子。不要将电池连接到电源插座上。不要使用或离开电池靠近热源，如消防或加热。不要将电池浸泡在水中或海水中，并将电池放在阴凉干燥的环境中，如果它在使用储存过程中电池发出异味、发热、变色、变形或出现任何异常，立即将电池从装置移除，停止使用。不要将电池过度的振动，避免短路，然而短时间的意外短路不会对电池有严重影响。长时间的短路可以使电池丢失能量，产生大量的热烧伤皮肤，甚至引起火灾或爆炸。混乱的电池散装货箱，硬币，金属饰品，或金属带等用于组装的电池装置都可能是引起短路的来源。电池运输或储存时应具备有效防短路措施，不要拆卸分解或损毁电池。远离热源、火花、明火和热表面。

Precautions for handling: Don't reverse the position (+) and negative (-) terminals when used. Don't connect the battery to an electrical outlet. Don't use or leave the battery near a heat source as fire or heater. If the battery gives off an odor, generates heat, becomes discolored or deformed, or in any way appear abnormal during use or storage, immediately remove it from the device and stop using. Don't put

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the battery excessive vibration, avoid short circuit, however accidental short circuit for a short period of time will not have a serious impact on the battery. Long-term short circuit can make battery loss of energy, generate a lot of heat burn skin, and even cause a fire or explosion. Chaos of the battery in bulk in containers, coins, metal accessories, metal workbench, covered by or metal belt and so on battery device can be used for assembly is the source of cause a short-circuit. Transport or storage battery should have effective measures of prevent short circuit. Don't disassembly or damage to the battery. Away from heat, sparks, open flames and hot surfaces.

- 7.2. 存储的条件, 包括任何不相容性: 存放在阴凉、干燥、通风的地方, 高温、泄露和生锈可能导致电池性能损失。不要将电池暴露在明火下, 远离水和强氧化剂储存。

Conditions for safe storage, including any incompatibilities: Stored in a cool, dry and ventilated place, may cause the battery performance loss under high temperature, leakage, rust. Don't expose the battery under the open flame, stored away from water and strong oxidizing agent.

#### 第八部分 接触控制/个人防护

#### Section 8 - Exposure Controls/ Personal Protection

##### 8.1. 接触限值/ Exposure limit:

成分名称/Ingredient name	CAS No.	限值/Limit
二氧化锰/Manganese dioxide	1313-13-9	MSHA STANDARD-air: CL 5 mg(Mn)/m <sup>3</sup> OSHA PEL (Gen Indu):CL 5 mg(Mn)/m
石墨/Graphite	7782-42-5	ACGIH TLV-TWA 2 mg/m <sup>3</sup> , OSHA PEL (Gen Indu): 8H TWA 15 mppcf
锂/Litium	7439-93-2	PC-TWA: 3 mg/m <sup>3</sup> OSHA PEL (Gen Indu): 8H TWA 15 mg(Al)/m <sup>3</sup> , total dust ACGIH TLV-TWA 10 mg(Al)/m <sup>3</sup> (metal dust);

- 8.2. 工程控制: 保持充分的通风, 以保持空气中的低浓度。提供安全洗眼和淋浴设备。

Engineering control: Use adequate ventilation to keep airborne concentrations low. Equipped with safety

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 Product name: Li-Mn button cell      MSDS No.: N74.181.115.002.JBR      Revision date: Nov. 19, 2018      Version: 1.0

shower and eyes bath.

8.3. 呼吸系统防护: 在过多的空气污染存在的情况下, 使用适当的呼吸防护。

Respiratory protection: Use adequate respiratory protection when excessive air contamination exists.

8.4. 眼睛防护: 如果电池破损或是泄露佩戴化学安全防护眼镜。

Eye protection: Not necessary under normal conditions, if the battery damaged or leaking Wear goggles/safety glasses giving complete eye protection.

8.5. 皮肤和身体防护: 如果电池破损或是泄露穿适当的防护服。

Skin and body protection: If the battery damaged or leaking wear appropriate clothing to minimize skin exposure.

8.6. 手防护: 如果电池破损或是泄露佩戴适当的防护手套。

Hand protection: If the battery damaged or leaking wear appropriate protective gloves

8.7. 其他防护: 工作场所严禁吸烟、饮食, 工作后淋浴更衣。遵循一般防范措施, 衣物被污染须立即更换, 工作后洗手。

Other protection: Do not eat, drink or smoke in the workplace. Shower and change clothes after work. Observe the common precautionary measures, contaminated clothes must be changed immediately. Wash hands after work is completed.

#### 第九部分 理化特性

#### Section 9 - Physical and Chemical Properties

外观与形状: 固体, 不锈钢色

Appearance and shape: Solid, Stainless steel

分解温度: 无数据

Decomposition temperature: No data

熔点/凝固点: 无数据

Melting / Freezing point: No data

气味: 无气味

Odor: Odorless

pH 值: 无数据

pH value: No data

沸点/沸腾范围: 无数据

Boiling point / boiling range: No data

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闪点 (闭杯): 不适用

爆炸极限: 非爆炸品

Flash point (Closed cup): Not applicable

Explosion limit: Non-explosive

相对密度 (水=1): 无数据

溶解性: 不溶

Relative density(water=1): No data

Solubility: Insoluble in water

n-辛醇/水分配系数: 无数据

易燃性(固体, 气体): 不易燃

Partition coefficient: noctanol/water: No data

Flammability (solid, gas) : Non-flammable

#### 第十部分 稳定性和反应性

#### Section 10 - Stability and Reactivity

10.1. 稳定性: 在建议存储和操作的条件下稳定。

Stability: Stable under recommended storage and handling conditions.

10.2. 反应性: 在燃烧的情况下可能会产生有害的分解产物。

Reactivity: Under the condition of burning may produce harmful breakdown products

10.3. 禁配物: 强氧化剂、强酸和强碱。

Incompatible materials: Strong oxidizing agents, strong acids and strong bases.

10.4. 避免接触的条件: 性质相反的材料, 过热, 暴露在潮湿空气或水中, 机械震动和电动滥用

Conditions to avoid: In contrast to the nature of the material, overheating, exposed to damp air or water, mechanical vibration and power abuse.

10.5. 危险聚合: 不会发生。

Hazardous polymerization: Will not occur.

10.6. 危险分解产物: 在着火的情况下可能产生有害的分解产物, 如: 氢气、金属氧化物或烟雾等。

Hazardous decomposition products: Hazardous decomposition products formed under the condition of burning. - Metal oxide, H<sub>2</sub> or smoke etc.

#### 第十一部分 毒理学资料

#### Section 11 - Toxicological Information

## 材料安全数据表

### Material Safety Data Sheet

产品名称: 锂电电池

客户编号/Client No.: NM74JBR

修订日期: 2018年11月19日 版本: 1.0

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## 11.1. 急性毒性/Acute toxicity:

组分 Component	CAS No.	LD <sub>50</sub> (经口/Oral)	LD <sub>50</sub> (经皮/Dermal)	LC <sub>50</sub> (吸入/Inhalation)
石墨/Graphite	7782-42-5	大鼠/Rat: > 2000g/kg	无数据/No data	无数据/No data
二氧化锰/Manganese dioxide	1313-13-9	大鼠/Rat: >3478mg/kg	无数据/No data	无数据/No data
乙二醇二甲醚 /1,2-Dimethoxyethane	110-71-4	小鼠/Mouse: 3200mg/kg	无数据/No data	无数据/No data

## 11.2. 皮肤刺激或腐蚀: 造成皮肤刺激, 类别 2。

Skin corrosion/irritation: Causes skin irritation, Category 2.

## 11.3. 眼睛刺激或腐蚀: 造成严重眼刺激, 类别2A。

Eye corrosion/irritation: Causes serious eye irritation, Category 2A.

## 11.4. 呼吸或皮肤过敏: 根据现有数据, 产品不被分类。

Respiratory or skin sensitization: According to the existing data, the product is not classified.

## 11.5. 生殖细胞突变性: 根据现有数据, 产品不被分类。

Germ cell mutagenicity: According to the existing data, the product is not classified.

## 11.6. 致癌性: EPA, IARC, NTP, OSHA和ACGIH中无该材料的致癌性分类数据。

Carcinogenicity: No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH.

## 11.7. 生殖毒性: 乙二醇二甲醚: 可能会损害生育能力或胎儿, 类别 1B。

1,2-Dimethoxyethane: 1,2-Dimethoxyethane: May damage fertility or the unborn child, category 1B.

## 11.8. 特异性靶器官系统毒性(一次接触): 根据现有数据, 产品不被分类。

Specific target organ toxicity –single exposure: According to the existing data, the product is not classified.

## 11.9. 特异性靶器官系统毒性(反复接触): 根据现有数据, 产品不被分类。

Specific target organ toxicity - repeated exposure: According to the existing data, the product is not classified.

## 11.10. 吸入危害: 根据现有数据, 产品不被分类。

Aspiration hazard: Manganese dioxide: According to the existing data, the product is not classified.

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#### 第十二部分 生态学资料

#### Section 12 - Ecological Information

12.1. 生态毒性: 根据现有数据, 产品不被分类。

Ecotoxicity values: According to the existing data, the product is not classified.

12.2. 持久性和降解性: 无数据。

Persistence and degradability: No data.

12.3 生物富集或生物积累性: 未知。

Bioaccumulative potential: Unknown.

12.4. 土壤中的迁移性: 无数据。

Mobility in soil: No data.

12.5. PBT 和 vPvB 评估结果:

PBT: 不适用

vPvB: 不适用

#### 第十三部分 废弃处置

#### Section 13 - Disposal Considerations

13.1. 废弃物: 参考州、地方和国家有关法规进行正确处理。尽可能避免或减少废弃物的产生。转移到一个合适的容器和安排专业废物处理公司的收集处理。

Waste: Consult state, local or national regulations for proper disposal. The generation of waste should be avoided or minimised wherever possible. Transfer to a suitable container and arrange for collection by specialised disposal company.

13.2. 受污染的包装: 尽可能避免或减少废物的产生。应回收利用。只有在回收不可行时, 才应考虑焚烧或填埋。

Contaminated packaging: The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

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## 第十四部分 运输信息

## Section 14 - Transport Information

根据国际航空运输协会《危险品规则》59版,《国际海运危险品规则》38-16版,《欧洲陆运危规》。该产品受IATA DGR,IMDG和ADR/RID的管制。

According to IATA DGR 59<sup>th</sup> Edition for transportation, IMO International Maritime Dangerous Goods Code, European Agreement Concerning the International Carriage of Dangerous Goods by Road. The products are subject to IATA DGR, IMDG and ADR/RID.

## 14.1. 运输标签和标记



## 14.2. 空运(ICAO-IATA / DGR))

UN 编号: 3091

UN number: 3091

正确的运输名称: 装在设备中的锂电池组成同设备包装在一起的锂电池组

UN proper shipping name: Lithium batteries contained in equipment or Lithium batteries packed with equipment

运输危险分类:

Transport hazard class(es):

主要危险类别: 9

Class: 9

次要危险类别: 无

Subrisk: None

包装类别: 不适用

Packaging group: N/A

ERG 代码/Code: 9FZ

## 14.3. 海运 (IMDG-Code)

UN 编号: 3091

## 材料安全数据表

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UN number: 3091

正确的运输名称: 装在设备中的锂电池组或同设备包装在一起的锂电池组

UN proper shipping name: Lithium batteries contained in equipment or Lithium batteries packed with equipment

运输危险分类:

Transport hazard class(es):

主要危险类别: 9

Class: 9

次要危险类别: 无

Subrisk: None

包装类别: 不适用

Packaging group: N/A

海洋污染物: 否

Marine pollutant: No

EmS No: F-A, S-I

## 14.4. 陆运 (ADR)

UN 编号: 3091

UN number: 3091

正确的运输名称: 装在设备中的锂电池组或同设备包装在一起的锂电池组

UN proper shipping name: Lithium batteries contained in equipment or Lithium batteries packed with equipment

运输危险分类:

Transport hazard class(es):

主要危险类别: 9

Class: 9

次要危险类别: 无

Subrisk: None

包装类别: 不适用

Packaging group: N/A

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## 第十五部分 法规信息

## Section 15 - Regulatory Information

15.1. 法规信息: 参考地方、国家、美国、欧盟、加拿大和国际法规。

Regulatory information: Reference to the local, national, US, EU, CA and international regulations.

CAS No.	TSCA	EINECS	DSL	IECSC	NZIoC	PICCS	KECI	AICS
12597-68-1	×	×	×	√	×	×	×	×
1313-13-9	√	√	√	√	√	√	√	√
7782-42-5	√	√	√	√	√	√	√	√
7439-93-2	√	√	√	√	√	√	√	√
110-71-4	√	√	√	√	√	√	√	√
108-32-7	√	√	√	√	√	√	√	√
7791-03-9	√	√	√	√	√	√	√	√

注/Note

"√" 表示该物质列入法规/ Indicates that the substance included in the regulations

"×" 表示暂无资料或未列入法规/ That no data or included in the regulations

## 第十六部分 其他信息

## Section 16 - Other Information

缩略语/术语 Abbreviations or phrases:

- ACGIH : 美国政府工业卫生学家会议  
American Conference of Governmental Industrial Hygienists
- ADR : 欧洲关于危险国际货物公路运输的协议 European Agreement concerning the  
International Carriage of Dangerous Goods by Road
- CAS : 化学文摘社 Chemical Abstracts Service
- CLP : 分类、包装、标签 Classification, labeling and packaging
- EC : 欧洲委员会 Council of Europe

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ECHA	:	欧洲化学品管理局 European Chemicals Agency
EINECS	:	欧洲现有商业化学物质的目录 European INventory of Existing commercial Chemical Substances
GHS	:	全球化学品统一分类和标签制度 Globally Harmonized System of Classification and Labelling of Chemicals
IARC	:	国际癌症研究机构 International Agency for Research on Cancer
IATA	:	国际航空运输协会 International Air Transport Association
ICAO	:	国际民航组织 International Civil Aviation Organization
IMDG	:	国际海运危险品规则 International Maritime Dangerous Goods Code
IC50	:	半数抑制浓度 Inhibitory Concentration 50%
LC50	:	半数致死浓度 Lethal Concentration 50%
LD50	:	半数致死剂量 Median Lethal Dose 50%
MAPROL	:	防止船舶造成污染国际公约 International Convention for the Prevention of Pollution from Ships
REACH	:	化学品的注册, 评估和授权 REGULATION concerning the Registration, Evaluation, Authorization and Restriction of Chemicals
RID	:	国际危险货物铁路运输规则 Regulation for rail International transportation of Dangerous goods
STEL	:	短时间暴露限值 Short Term Exposure Limit
TWA	:	时间加权平均浓度 Time Weighted Average
MAC	:	最高容许浓度 Maximum Allowable Concentration
OSHA	:	职业安全与健康管理局 Occupational Safety and Health Administration
EPA	:	美国环境保护署 Environmental Protection Agency (USA)
IARC	:	国际癌症研究机构 International Agency for Research on Cancer
NTP	:	国家毒理学计划 National Toxicology Program (USA)
ACGIH	:	美国政府工业卫生学家会议 American Conference of Governmental Industrial Hygienists (USA)
NIOSH	:	国家职业安全卫生研究所 National Institute for Occupational Safety and Health

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- TLV : 阈值限值 Threshold Limit Value
- TLV-TWA : 容许最高浓度-时间加权平均值 Threshold Limit Value-Time Weighted Average
- TLV- STEL : 容许最高浓度-短时间暴露限值  
Threshold Limit Value-Short term Exposure Limit
- vPvB : 高持久性、生物累积性物质 Very Persistent and Very Bioaccumulative
- PBT : 持久性、生物累积性、毒性物质 Persistent Bioaccumulative Toxic

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