

Material Safety Data Sheet

材料安全数据表

Name of Samples:

样品名称:

Rechargeable Li-ion Battery

可充电锂离子电池

Model:

型号

18650

Applicant's name

委托单位:

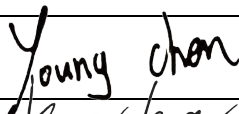
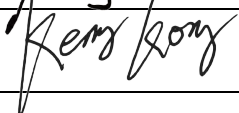
**Dalian Golden Hualu Digital Technology
Co., Ltd**

大连金华录数码科技有限公司

东莞信宝电子产品检测有限公司
BTL Inc. (Dongguan)

Material Safety Data Sheet

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Products Name/ 产品名称.....:	Rechargeable Li-ion Battery 可充电锂离子电池	
Trade Mark/ 商标.....:	N/A	
Model/Type reference/ 型号.....:	18650	
Rated Capacity/ 额定容量.....:	4000mAh	
Rated Energy/ 额定能量.....:	14.8Wh	



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化学品安全技术说明书

Section 1- Chemical Product & Company Identification

第一部分 化学品及企业标识

Product Name/ 产品名称:	Rechargeable Li-ion Battery 可充电锂离子电池
Manufacture/ 生产商:	Dalian Golden Hualu Digital Technology Co., Ltd 大连金华录数码科技有限公司
Address/ 地址:	1 Hua Road, Dalian Hi-Tech Zone, Dalian, China 中国大连市高新技术产业园区华路1号
Emergency Tel/ 应急电话:	+86-756-6333555
Fax /传真:	N/A
E-mail /邮箱:	sales@greatpower.net

Section2- Hazards Identification

第二部分 危险性概述

Hazard Description 危险性描述	Not dangerous with normal use. Do not dismantle, open or shred the battery ingredients contained within or their ingredient s products could be harmful 正常使用没有危险，不能拆解、打开或分解电池，里面的材料或成分是有危害的。
Primary Route(s) of Exposure 接触途径	Inhalation, Ingestion, Skin contact and Eye contact 吸入、食入、皮肤接触、眼睛接触。
Potential Health Effects 潜在健康影响	Inhalation: Vapors or mists from a ruptured battery may cause respiratory irritation. 吸入：破裂的电池散发出来的气雾会引起呼吸道刺激 Ingestion: The battery ingredients contained within Or their ingredients products can cause serious chemical burns of mouth, esophagus, and gastrointestinal tract 食入：电池的组成成分或原料可以导致嘴，食道和胃肠道的严重化学烧伤 Skin: Skin contact with contents of an open battery can cause severe irritation or burns to the skin 皮肤：皮肤接触到电池的內部化学材料可能会导致严重的刺激或烧伤皮肤。 Eye: Eye contact with contents of an open battery can cause severe irritation or burns to the eye 眼睛：眼睛接触到电池的內部化学材料可能会导致严重的刺激或烧伤眼睛。

Section 3- Composition/Information on Ingredients

第三部分 成分／组成信息

Chemical Name 化学名称	Concentration or concentration ranges (%) 浓度或浓度范围(%)	CAS Number CAS 号 (化学文摘索引登记号)
Lithium Cobalt Oxide (LiCoO ₂) 钴酸锂	35.5	12190-79-3
Aluminum Foil (Al) 铝	9	7429-90-5
1.1-Difluoroethylene polymer 聚偏氟乙烯树脂	1	24937-79-9
Graphite (C) 石墨	18	7782-42-5
Copper Foil (Cu) 铜	15	7440-50-8
Styrene-Butadiene polymer 丁苯橡胶	1.5	9003-55-8
Lithium hexafluorophosphate 六氟磷酸锂	2.8	21324-40-3
Ethylene carbonate 碳酸乙烯酯	5	96-49-1
Dimelene carbonate 碳酸二甲酯	5	616-38-6
Carbonate, methyl ethyl 碳酸甲乙酯	5	623-53-0
Nickel 镍	2.2	7440-02-0

Section 4- First Aid Measures

第四部分 急救措施

眼睛 Eyes	如有接触损坏电池，立即用清水清洗眼睛 15 分钟以上直至刺痛/刺激感消失为止，并及时去就医。 If your eyes contact with a damaged battery, flush with copious amount of water for at least 15 minutes until the stinging and irritation subside, and Seek immediate medical attention.
皮肤 Skin	如有接触，立即脱下被污染衣服并用大量清水冲洗皮肤或淋浴，如灼伤感持续立刻去就医。 If your skin contact with a damaged battery, immediately take off contaminated clothing and flush your skin with copious amount of water or have a shower. Seek immediate medical attention if burning sensation continues.
吸入 Inhalation	立刻转移到空气新鲜环境下呼吸新鲜空气，休息。如出现呼吸困难或头晕头痛等症状立刻请人陪同去就医。 Remove to fresh air immediately and have a rest, If you feel dyspnea, dizziness or headache, seek immediate medical attention
食入 Ingestion	如果食入电池，不要催吐且不要再吃下食物或喝饮料，立刻就医 If battery or open battery is ingested, do not induce vomiting or give food or drink. Seek medical attention immediately.

Section 5- Fire Fighting Measures

第五部分 消防措施

Characteristics of hazard 危险特性	Dusts at sufficient concentrations can form explosive mixtures with air. Combustion generates toxic fumes. 高密度粉尘遇空气会形成爆炸性混合物。燃烧生成有毒烟雾。
Hazardous combustion Products 燃烧产生的危险物品	Carbon dioxide. 二氧化碳
Fire-extinguishing ethogs and Extinguishing Media 灭火方法及灭火剂	For small fires use water spray, dry chemical, carbon dioxide or chemical foam 对于小型火险，可使用水枪，干冰(也就是液态二氧化碳)或化学泡沫。
Attention in Fire-extinguishing 灭火注意事项	The firemen should put on antigas masks and full fire-fighting suits 消防人员须佩戴防毒面具、穿全身消防服

Section 6- Accidental Release Measures

第六部分 泄漏应急处理

Measures taken to prevent leakage or release of battery material If the internal material leaks, the test personnel should immediately evacuate the test area until the smoke dissipates. Open the ventilator and blow out the dangerous gas. Wipe the test area with a cloth, remove the spilled liquid, put the leaked battery into a plastic bag and put it into a steel container. Avoid skin and eye contact or inhalation of harmful gases.

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 metalithium 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。

Section 7- Handling and Storage

第七部分 操作处置与储存

Handling 操作	Do not assemble and disassemble a battery, battery short-circuit is not allowed too. Keep the battery away from the fire. When transporting these batteries, the battery should be careful handling to avoid the battery being squeezed or excessive vibration. 不能擅自组装拆解电池或短路, 不能让电池接近火源。运输电池应避免暴力装卸电池货物、避免电池受到挤压或剧烈振动。
Storage 储存	The battery should be fully charged before long term storage. The battery should be stored in a cool environment. 长时间存储前先充满电。电池应储存于阴凉环境中。

Section 8 – Exposure Controls/Personal Protection

第八部分 接触控制和个体防护

Engineering control 工程控制	Choose the suitable ventilation equipment; provide sufficient quantity of fire extinguishers, gas mask and water; equip with metal storage containers and bathing equipments. 选择合理的通风设备，足够量的防毒面具灭火器及水源，配备存放泄漏电池的金属容器。配备洗浴设备。
Respiratory protection 呼吸系统防护	Normally there is no need to do protection. 正常情况下无必要作防护
Eye protection 眼睛防护	Normally there is no need to do protection.
The body and skin protection 身体和皮肤防护	正常情况下无必要作防护

Section 9 - Physical and Chemical Properties

第九部分 理化特性

Physical State 物理状态	Appearance: Approximate Cuboid. 外形:近长方体。
	Color: Blue. 颜色:蓝色。
	Odour: Not applicable as supplied. 气味: 泄漏时，有刺激性气味。

Section 10 - Stability and Reactivity

第十部分 稳定性和反应性

Stability 稳定性	Stable under normal temperatures and pressures 常温常压下稳定。
Conditions to Avoid 应避免的条件	Heat above 70°C incinerate, Deform, Mutilate, Crush, Disassemble, Overcharge, Short circuit, Expose over a long period to humid conditions. 加热70°C以上或焚烧、变形、毁坏、粉碎、拆卸、过充电、短路，长时间暴露在潮湿的条件下。
Hazardous Decomposition Products 危害分解物	Toxic Fumes, and may form peroxides 有毒烟雾，并可能形成过氧化物。
Possibility of Hazardous Reaction 危险反应的可能性	If leaked, for bidden to contact with strong oxidizers, mineral acids, strong alkalis, halogenated hydrocarbons 如有泄漏，严禁与强氧化剂、无机酸、强碱、卤代烃等接触。

Section 11 - Toxicological Information

第十一部分 毒理学信息

Irritation 刺激	In the event of exposure to internal contents, vapour Irritation fumes may be very irritating to the eyes and skin. 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。
Sensitization 致敏	Not Available. 不适用
Reproductive Toxicity 再生毒性	Not Available. 不适用
Toxicologically Synergistic Materials 协同材料毒理学	Not Available. 不适用

Section 12-Ecological information

第十二部分 生态学信息

General note 通用信息	Do not allow undiluted product or large quantities of it to reach ground water, water course Or sewage system. 不允许未稀释或大量的产品到达地下水、水道或污水系统。
Anticipated behavior of a chemical product in environment/possible environmental impact/ ecotoxicity 化学产品在环境/可能的环境预 期的行为的一种生态毒性	Not applicable 不适用
Mobility in soil 土壤中移动性	Not applicable 不适用
Persistence and Degradability 持久性和降解性	Not applicable 不适用

Section 13 - Disposal Considerations

第十三部分 废弃处置

Waste Treatment 废弃处置方法	Recycle or dispose of in accordance with government , state & local regulations 建议遵照国家和地方法规处置或再利用
Attention for Waste Treatment 废弃注意事项	Deserted batteries couldn't be treated as ordinary trash. Couldn't be thrown into fire or placed in high temperature. Couldn't be dissected, pierced, crushed or treated similarly. Best way is recycling 废电池不能被当做普通垃圾。不能扔进火中或置于高温下。 不能解体，刺穿，破碎或类似的处理。最好的办法是回收利 用。

Section 14- Transport Information 第十四部分运输信息

UN number 联合国货物编号 (UN 编号)	UN3480 or UN3481 UN3480或UN3481
Label(s) / Placard Required 标签/标牌要求	Lithium Battery Label, or Lithium Battery Class 9 Hazard Label, or Cargo Aircraft Only Label. 锂电池标签, 或锂电池九类危险品标签, 或仅限货机标签
Packaging Group: 包装等级:	Not Applicable 不适用
Marine pollutant: 海洋污染物:	No 无
Proper Shipping name: 正确的装运名称:	Lithium Ion Batteries(ncluding Lithium Polymer Batteries) Lithium Ion Battery Packed With Equipment, Lithium Ion Battery Contained In Equipment 锂离子电池(包括锂聚合物电池),或锂离子电池与设备包装在一起,或锂离子电池内置在设备中
ICAO / IATA: 国际民间航空组织/国际航空运输协会:	Can be shipped by air in accordance with International Civil Aviation Organization (ICAO), TI or International Air Transport Association (IATA), According to the Packing Instruction 965 section IB or Section II of 966/967 of IATA DGR 65 th Edition for transportation, Cargo aircraft only. 可根据民用航空组织 (ICAO), TI 或国际航空运输协会 (IATA), 根据DGR 65版的包装说明965部分IB或PI966, PI967相关规定进行空运。
IMDG CODE: 41-22) according to special provision 188. 国际海运危险货物规则:	According to the special provision 188 of IMDG (41-22), the goods are not subject to other provision of this code. 国际海运危险货物规则: 根据IMDG(41-22)第188条特别规定, 该货物不受本规则其他规定的约束。

Section 15 - Regulatory Information

第十五部分法规信息

《Dangerous Goods Regulations》
《危险物品规则》

《Recommendations on the Transport of Dangerous Goods Model Regulations》
《对危险货物运输的有关规定的建议》

《International Maritime Dangerous Goods》
《国际海运危险货物规则》

《Technical Instructions for the Safe Transport of Dangerous Goods》
《危险品安全运输技术指令》

《Classification and code of dangerous goods》
《危险货物分类和品名编号》

《Occupational Safety and Health Act》(OSHA)
《职业安全卫生法》

《Toxic Substance Control Act》(TSCA)
《有毒物质控制法》

《Consumer Product Safety Act》(CPSA)
《消费产品安全法》

《Federal Environmental Pollution Control Act》(FEPCA)
《联邦环境污染控制法》

《The Oil Pollution Act》(OPA)
《石油污染法案》

《Superfund Amendments and Reauthorization Act TitleIII (302/311/312/313)》(SARA)
《超级基金修正案和再授权法案III(302/311/312/313)》

《Resource Conservation and Recovery Act》(RCRA)
《资源保护及恢复法案》

《Safety Drinking Water Act》(CWA)
《安全饮用水法》

《California Proposition 65》
《加州 65 提案》

《Code of Federal Regulations》(CFR)
《美国联邦法规》



In accordance with all Federal, State and local laws

根据所有联邦、州和地方法律。

Section 16 -Additional Information

第十六部分 其他信息

The information above is believed to be accurate and represents the best information currently available to us. However, we makes no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use.

Users should make their own investigations to determine the suitability of the information for their particular purposes. Although reasonable precautions have been taken in the preparation of the data contained herein, it is offered solely for your information, consideration and investigation. This safety data sheet provides guidelines for the safe handling and use of this product; it does not and cannot advise on all possible situations, therefore, your specific use of this product should be evaluated to determine if additional precautions are required.

在我们看来上面的信息是准确的，这是我们目前能提供的最佳的信息。但是，对于这些信息，我们不对商品的性能做任何明示的或者暗示的保证，我们也不对使用这些信息造成的后果担负任何责任。用户应当自己调查研究后决定这些信息是否适用于他们的特定用途。尽管在该文档里提出了合理的预警，但是这仅仅只是给您做参考、考虑和调查。这份安全技术说明书提供了安全处理和使用该产品的指南，但是它没有，也不能对所有可能发生的情景提出建议，所以您需要根据您对该产品的特定使用情况来决定是否需要其他的预防措施。

--End of Test Report 报告结束--