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SHENZHEN SMOORE TECHNOLOGY LIMITED, ANALYTICAL TESTING AND
SAFETY EVALUATION DEPARTMENT

报告编号 Report No.: RDS202502240596-2

材料安全数据表

Material Safety Data Sheet

样品名称 Sample Name	电池 Battery
样品型号 Sample Model	DOJO BLAST X
电芯型号 Cell Model	18300
标称电压/额定容量 Nominal Voltage/Rated Capacity	3.7 V/ 1000 mAh, 3.70Wh
编制单位 Prepared By	深圳麦克韦尔科技有限公司 Shenzhen Smoore Technology Limited
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盖章 Seal:





材料安全数据表

Material Safety Data Sheet

第一部分 化学产品及企业标识 Section 1 Chemical Product and Company Identification

样品描述: 电池

Sample description: Battery

供应商: Trulo GmbH

Supplier Name: Trulo GmbH

供应商地址: Ringbahnstraße 7, 41460 Neuss

Supplier Address: Ringbahnstraße 7, 41460 Neuss

电话Tel.: +49 (0) 2131 7399 361

应急电话 Emergency Telephone: +49 (0) 2131 7399 361

www.trulodistro.de

第二部分 危险性概述 Section 2 -Hazards Identification

危险分类 Classification of danger:

见14章。

See section 14.

主要暴露途径 Primary route(s) of exposure:

眼睛、皮肤接触、摄入。

Eye, skin contact, ingestion.

健康危害 Health hazard:



在正常条件下，按照制造商的说明使用这些设备不会产生危险。如果滥用，内部元件有破裂、泄漏的危险，可能造成人员伤亡。滥用行为包括但不限于以下情况：投入火中、用硬物敲击、用尖锐物体刺穿、压碎、折断。

The products are not hazardous when used according to the instructions of manufacturer under normal conditions. In case of abuse, there's hazard of rupture, leakage of internal components, which could cause casualty loss. Abuses including but not limited to the following cases: put into fire, whacked with hard object, punctured with acute object, crushed, and broken.

成分信息
Information on Ingredients

第三部分 成分/组成信息
Section 3 - Composition/Information on Ingredients

化学类别Chemical Category:

下列物质的混合物. Mixture of the substances listed below.

化学名称 Chemical Name	CAS 号 CAS Number	重量 含量 Weight (%)
Copper	7740-50-8	2.0
Silica Gel	112926-00-8	5.3
Stainless Steel	12597-68-1	1.5
Carbon	1333-86-4	0.4
Glass Fiber	65997-17-3	1.8
PA66	25038-54-4	10.2
Cell	N/A	40.0
Magnetite	1309-38-2	2.0
PC	25037-45-0	36.8

电芯 Cell

Chemical Name	CAS Number	Weight (%)	Chemical Name	CAS Number	Weight (%)
Lithium Cobalt Oxide	12190-79-3	10-25	Diethyl carbonate	105-58-8	4-6
Lithium mixed oxide	12031-65-1	10-25	Propylene carbonate	108-32-7	1-2
	12190-79-3		Styrene-butadiene rubber	9003-55-8	3-5



	12057-17-9		CMC	9004-32-4	1~2
Artificial Graphite	7782-42-5	20-25	Polypropylene	9003-07-0	3-6
Carbon black	1333-86-4	0-1	Polyamide	63428-84-2	
PVDF	24937-79-9	0-1	Polyethylene	9002-88-4	2-4
Lithium hexafluorophosphate	21324-40-3	1-2	Aluminum	7429-90-5	5-8
Ethylene carbonate	96-49-1	5-8	Copper foil	7440-50-8	6-10

Note: N/A=Not apply.

注: N/A=不适用

第四部分 急救措施 Section 4 - First Aid Measures

一般信息 General information:

正常使用时，无需采取特殊措施。

No special measures required during normal use.

外壳破裂，发生内容物的皮肤接触、眼睛接触等:

In case of rupture of outer shell, skin contact, eye contact of contents occur:

皮肤：立即脱去污染的衣服和鞋子，用大量水冲洗皮肤或淋浴 15 分钟。获得医疗援助。

Skin: Remove contaminated clothing and shoes immediately, and rinse skin with plenty of water or shower for 15 minutes. Get medical aid.

眼睛：用大量水冲洗眼睛至少 15 分钟，偶尔提起上下眼睑。获得医疗援助。

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

吸入：立即脱离接触并移至空气新鲜处。如果有的话使用氧气。获得医疗援助。

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

食入：至少喝 2 杯牛奶或水。除非患者失去知觉，否则应催吐。就医。

Ingestion: Give at least 2 glasses of milk or water. Induce vomiting unless patient is unconscious. Seek medical attention.

第五部分 消防措施 Section 5 - Fire Fighting Measures

危险特性 Characteristics of hazard:

燃烧产生有毒烟雾。足够浓度的粉尘可与空气形成爆炸性混合物。

Combustion generates toxic fumes. Dusts at sufficient concentrations can form explosive mixtures with air.

燃烧产生有毒烟雾，足够浓度的粉尘可与空气形成爆炸性混合物。当电池暴露在火中时，可能会爆炸并释放出危险的分解产物。锂离子电池含有易燃电解液，在高温（ $>150^{\circ}\text{C}$ ）下可能会逸出、点燃并产生声音。损坏或滥用时，可能会迅速燃烧并产生耀斑燃烧效果，可能会点燃衣服附近的其他电池。

Battery may burst and release hazardous decomposition products when exposed to a fire situation. Lithium ion batteries contain flammable electrolyte that may vent, ignite and produce sparks when subjected to high temperature ($>150^{\circ}\text{C}$). When damaged or abused, may burn rapidly with flare-burning effect, may ignite other batteries in clothes proximity.

有害燃烧产物 Hazardous combustion products:

一氧化碳、二氧化碳、锂氧化物烟气

Carbon monoxide, Carbon dioxide, Lithium Oxide Flue Gas.

灭火方法和灭火介质 Fire-extinguishing methods and extinguishing media:

采用适合当地情况和周围环境的灭火措施。对于小火，请使用喷水、干粉、二氧化碳或化学泡沫。水可以用来冷却暴露在火中的容器。

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. For small fires, use water spray, dry chemical, carbon dioxide or chemical foam. Water can be used to cool fire exposed containers.

灭火时的注意事项 Attention in fire-extinguishing:

佩戴符合压力需求、MSHA/NIOSH（批准或同等标准）的自给式呼吸器和全套防护装备。

Wear self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.



第六部分 泄露应急处理 Section 6 - Accidental Release Measures

个人预防措施、防护装备和应急程序:

Personal Precautions, protective equipment, and emergency procedures:

万一破裂。注意：腐蚀性材料。人员撤离到安全区域避免与皮肤，眼睛和衣服接触。确保足够的通风，按要求使用个人防护装备。将人员疏散至安全区域，让人们远离泄漏/泄漏并位于泄漏/泄漏的上风处。请参阅第 7 节和第 8 节中列出的保护措施。

In case of rupture. Attention! Corrosive material. Avoid contact with skin, eyes and clothing. Ensure adequate ventilation. Use personal protective equipment as required. Evacuate personal to safe areas. Keep people away from and upwind of spill/leak. Refer to protective measures listed in sections 7 and 8.

环境注意事项 Environmental Precautions:

防止产品污染土壤和进入下水道或水道。

Prevent product from contaminating soil and from entering sewers or waterways.

遏制方法和材料 Methods and materials for containment:

如果安全的话，阻止泄漏。用干沙或泥土容纳溢出的液体，立即清理溢出物。

Stop the leak if safe to do so. Contain the spilled liquid with dry sand or earth, clean up spills immediately.

清理方法及材料 Cleaning methods and materials:

用惰性吸收剂（干沙或土）吸收溢出物质。将受污染的吸收剂舀入可接受的废物容器中。收集所有受污染的吸收剂并按照第 13 节中的说明进行处置。用清洁剂和水擦洗该区域。收集所有受污染的洗涤水以进行适当处置。

Absorb spilled material with an inert absorbent (dry sand or earth). Scoop contaminated absorbent into an acceptable waste container. Collect all contaminated absorbent and dispose of according to directions in Section 13. Scrub the area with detergent and water. Collect all contaminated wash water for proper disposal. 建议将电池放电到底，将废弃电池统一上交相关部门，按照批准的当地、州和联邦要求处置电池。请咨询州环境保护机构和/或联邦环保局。

It is recommended to discharge the battery to the end, handing in the abandoned batteries to related



department unified, dispose of the batteries in accordance with approved local, state, and federal requirements. Consult state environmental protection agency and/or federal EPA.

第七部分 操作处置与储存 Section 7 - Handling and Storage

在长期工业条件下，参考如下：

At long industrial condition, reference as follow:

处理 Handling

如果拆卸、压碎或暴露于火或高温中，电池可能会爆炸或导致灼伤。请勿使电池端子短路、过度充电、强制过度放电、投入火中。请勿挤压或刺穿电池，或将其浸入液体中。

The battery may explode or cause burns, if disassembled, crushed or exposed to fire or high temperatures. 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.

贮存 Storage

储存于阴凉、干燥、通风良好的区域，远离不相容物质。远离儿童。远离不相容物质，例如强氧化剂。Store in a cool, dry, well-ventilated area away from incompatible substances. Keep out of the children. Keep away from incompatible substances, such as strong oxidizing agents.

其他注意事项 Other Precautions

万一破裂。按照良好的工业卫生和安全实践进行处理。避免接触皮肤、眼睛或衣服。使用个人防护装备。

In case of rupture. Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Use personal protection equipment.

第八部分 接触控制和个体防护 Section 8 – Exposure controls, Personal Protection

工程控制 Engineering Controls

保持工作室浓度低于当前适用的 OSHA 安全与健康要求。必要时配置防爆、防静电装置、淋浴、洗眼



站和通风系统。

Keep workroom concentration below current applicable OSHA safety and health requirements. If necessary, configure the explosion-proof, anti-static devices, showers, eyewash stations and ventilation systems.

实行良好的工业卫生习惯。严格遵守操作规程，穿防护服和橡胶手套。处理后请洗手，尤其是进食和饮水前。立即脱掉所有弄脏和污染的衣服。单独存放防护服。

Exercise good industrial hygiene practice. Wash after handling, especially before eating and drinking. Immediately remove all soiled and contaminated clothing. Store protective clothing separately.

个人防护设备 Personal Protective Equipment

眼睛和面部防护：消费者使用时不需要。如果存在接触危险：密封安全护目镜、面部防护罩。

Eye and face protection: none required for consumer use. If there is a hazard of contact: Tight sealing safety goggles and mask.

皮肤和身体保护：消费者使用时不需要防护。如果存在接触危险：佩戴防护手套和防护服。

Skin and body protection: none required for consumer use.

呼吸系统防护：正常使用条件下无需防护装备。如果超出暴露限制或出现刺激，可能需要通风和疏散。

Respiratory protection: No protective equipment is required under normal conditions of use. If exposure limits are exceeded or irritation occurs, ventilation and evacuation may be required.

第九部分 理化特性

Section 9 - Physical and Chemical Properties

物理状态： 固态

Physical State: Solid

外形： 棱柱形

Appearance: Prismatic

气味： 无气味

Odor: Odorless



pH:	不适用
pH:	Not applicable as supplied.
闪点:	不适用, 除非个别组件暴露
Flash point:	Not applicable unless individual components exposed.
可燃性:	不适用, 除非个别组件暴露
Flammability:	Not applicable unless individual components exposed.
相对密度:	不适用, 除非个别组件暴露
Relative density:	Not applicable unless individual components exposed.
溶解度 (水):	不适用, 除非个别组件暴露
Solubility (water):	Not applicable unless individual components exposed.
溶解度 (其他):	不适用, 除非个别组件暴露
Solubility (other):	Not applicable unless individual components exposed.

第十部分 稳定性和反应性 Section 10 - Stability and Reactivity

化学稳定性 Chemical Stability

在推荐的储存条件下稳定。

Stable under recommended storage conditions.

危险反应的可能性 Possibility of hazardous reactions

正常处理下无。

None under normal processing.

应避免的情况 Conditions to avoid

长期暴露在潮湿、强热、火灾、机械滥用和电气滥用的环境中。

Exposure to moisture over prolonged periods, strong heating, fire, mechanical abuse and electrical abuse.

不相容材料 Incompatible materials

检测单位/Test Institute: 深圳麦克韦尔科技有限公司分析测试与安全评价部/ Shenzhen Smoore Technology Limited, Analytical Testing and Safety Evaluation Department

地址/Address: 深圳市宝安区西乡街道固戍社区东财工业区 16 号/No.16, Dongcai Industrial Zone, Gushu Community, Xixiang Street, Baoan District, Shenzhen:

邮编 Post Code: 518102; 电话 Tel.: 0755-33092888-8007



酸、氧化剂、碱。Acids, Oxidizing agents, Bases.

危险的分解产物 Hazardous decomposition products

碳氧化物。若泄漏，禁止与强氧化剂、无机酸、强碱、卤代烃接触。

Carbon oxides. If leaked, forbid to contact with strong oxidizers, mineral acids, strong alkalis, halogenated hydrocarbons.

第十一部分 毒理学信息 Section 11 - Toxicological Information

刺激 Irritation:

如果接触到内部内容物，蒸气可能会非常刺激眼睛和皮肤

In the event of exposure to internal contents, vapor fumes may be very irritating to the eyes and skin.

急毒性Emergency toxicity:

无可用资料 No data available.

致敏作用Sensitization:

无可用资料 No data available.

生殖毒性Reproductive toxicity:

无可用资料 No data available.

致癌性Carcinogenicity:

无可用资料 No data available.

吸入性危害Aspiration hazard:

无可用资料 No data available.

毒理学协同材料Toxicology Synergy Materials:

无可用资料 No data available.

内分泌干扰物特性Endocrine disruptor properties:

无可用资料 No data available.



第十二部分 生态学信息 Section 12 - Ecological Information

一般注意事项 General note:

及时使用或处置时不会造成环境危害。请勿让未稀释的产品或大量产品进入地下水、水道或污水系统。废弃时，应远离水、雨和雪。

When promptly used or disposed not present environmental hazard. Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system. When disposed, keep away from water, rain and snow.

化学产品在环境中的预期行为/可能的环境影响/生态毒性:

Anticipated behavior of a chemical product in environment/possible environmental impact/ ecotoxicity.

无可用资料。

Not available.

第十三部分 废弃处置 Section 13 - Disposal Considerations

废物处理 Waste Treatment

回收或处置必须遵守联邦、州和地方法规。

Recycles or dispose of must comply with federal, state and local regulations.

建议：最好的处置方法是回收。分离后，分类处置、回收。请勿让产品进入污水系统。

Recommendation: Best disposal method is recycling. After separation, classified disposal and recovery. Do not allow product to reach sewage system.

废物处理注意事项 Attention for waste treatment

废弃的电池不应被视为普通垃圾。不应投入火中或置于高温下。不应被解剖、刺穿、压碎或类似处理。最好的处置方法是回收。

Deserted batteries shouldn't be treated as ordinary trash. Shouldn't be thrown into fire or placed in high temperature. Shouldn't be dissected, pierced, crushed or treated similarly. Best disposal method is recycling.



如果电池仍充满电或仅部分放电，则可将其视为反应性危险废物，因为废电池中残留有大量未反应或未消耗的锂。在作为危险废物处置之前，电池必须通过经批准的二级处理设施进行中和。电池的回收可以在授权设施中通过获得许可的废物运输商进行。

If batteries are still fully charged or only partially discharged, they can be considered a reactive hazardous waste because of significant amount of not reaction or unconsumed lithium remaining in the spent battery. The battery must be neutralized through an approved secondary treatment facility prior to disposal as a hazardous waste. Recycling of battery can be done in authorized facility, through licensed waste carrier.

锂离子电池的标签符合欧盟电池指令 2006/66/EC。

Lithium ion cell batteries are labeled in compliance with the EU Battery directive 2006/66/EC.

信息 Information 第十四部分 运输信息 Section 14 - Transport Information
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运输标签：电池（包括锂离子聚合物电池）。

Proper shipping name: Battery (including lithium ion polymer batteries)

UN编号：3481。

UN number: 3481.

类别或组别：9（不受本规定约束）。

Class or division: 9 (Not subject to these regulations).

用户在其场所内外的运输或运输中需要了解或需要遵守的特殊预防措施。

Special precautions which a user needs to be aware of, or needs to comply with, in connection with transport or conveyance either within or outside their premises.

ICAO/IATA: 可根据 ICAO（国际民用航空组织）、TI 或 IATA（国际航空运输协会）、IATA 第 66 版 DGR 手册的 DGR 包装说明 (PI) 965 / 966 / 967 第 IB 部分进行空运用于运输。

ICAO/IATA: Can be shipped by air in accordance with ICAO (International Civil Aviation Organization), TI or IATA (international air transport association), DGR Packing Instruction (PI) 965 section IB appropriate of 66 th DGR Manual of IATA for transportation.



IMDG 代码: 根据特殊规定 188, 电池不限于 IMDG 代码 2022 版 (Amdt. 41-22)。

IMDG CODE: The batteries are not restricted to IMDG Code 2022 Edition (Amdt. 41-22) according to special provision 188.

此外, 要获准运输, 每种锂电池和电池组类型必须通过联合国测试和标准手册第 38.3 款中规定的适用测试。In addition, to be permitted in the transport each lithium cell and battery types must have passed the applicable tests set out in subsection 38.3 of the UN manual of tests and criteria.

单独的电池以防止短路, 并且在运输过程中应使用坚固的包装进行包装, 锂电池或电池组应包含安全通风装置或设计为防止在正常运输条件下剧烈破裂。远离高温和明火。

Separate batteries to prevent short-circuiting and they should be packed in strong package during transport, Lithium cell or battery should incorporate a safety venting device or be designed to prevent a violent rupture under normal transport conditions. Keep away from high temperature and open flames.

注: 包装内所含锂离子电池净含量不超过5kg。

Note: The net quantity of lithium ion battery contained in the package does not exceed 5kg.

运输方式: 空运、海运、公路。

Transport fashion: by air, by sea, by road.

第十五部分 法规信息 Section 15 - Regulatory Information

法规信息 Law Information

《危险品规则》

《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》(20th revised edition)

《关于危险货物运输的建议-测试和标准手册》



《Recommendations on the Transport of Dangerous Goods-Manual of Tests and Criteria》

《国际航空运输协会》(IATA)

《International Air Transport Association》(IATA)

《国际海运危险货物规则》

《International Maritime Dangerous Goods》

《危险货物安全运输技术细则》(GB 6944-2012)

《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》(GB 6944-2012)

《2012 OSHA 危险通报标准》(29 CFR 1910.1200)

《2012 OSHA Hazard Communication Standard》(29 CFR 1910.1200)

《有毒物质控制法》(TSCA)

《Toxic Substances Control Act》(TSCA)

《美国联邦法规》(CFR)

《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.

第十六部分 其他信息 Section 16 - Other Information

在我们看来上面的信息准确度，这是我们目前能提供的最佳的信息。然而，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用于他们特定的用途，任何材料的适用性的最终确定由用户承担全部责任。所有材料都可能存在未知危险，应谨慎使用。尽管本文描述了某些危险，但我们不能保证这些是唯一存在的危险。

To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the



information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

本文件中包含的数据/信息已经过审查并批准普遍发布，本文件不包含出口管制信息。

The data/information contained herein has been review and approved for general released on the basis that this document contains no export controlled information.

*****完 End *****