



SAFETY DATA SHEET

Issuing Date January 5, 2015

Revision Date New

Revision Number 0

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product identifier

Product Name Brita® Water Filtration System™ - Pitchers and Dispenser

Other means of identification

Synonyms Classic, Mist, Slim, Space Saver, UltraMax, Atlantis, Grand, Chrome, Pacifica, Vintage, Capri, Bella, Everyday, Marina, Oceania, Monterey, Stainless Steel, Wave

Recommended use of the chemical and restrictions on use

Recommended use Pitcher and dispenser water filtration systems

Uses advised against No information available

Details of the supplier of the safety data sheet

Supplier Address

The Clorox Company
1221 Broadway
Oakland, CA 94612

Phone: 1-510-271-7000

Emergency telephone number

Emergency Phone Numbers For Medical Emergencies call: 1-800-446-1014
For Transportation Emergencies, call Chemtrec: 1-800-424-9300

2. HAZARDS IDENTIFICATION

Classification

This product is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

GHS Label elements, including precautionary statements

Emergency Overview

This product is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

| | | | | | |
|-------------------|---|-----------------------|-------|-------------|------|
| Appearance | Pitcher or dispenser with white, plastic, cylindrical cartridge | Physical State | Solid | Odor | None |
|-------------------|---|-----------------------|-------|-------------|------|

Precautionary Statements - Prevention

None

Precautionary Statements - Response

None

Precautionary Statements - Storage

None

Precautionary Statements - Disposal

None

Hazards not otherwise classified (HNOC)

Not applicable

Unknown Toxicity

100% of the mixture consists of ingredient(s) of unknown toxicity

Other information

Not applicable.

Interactions with Other Chemicals

Contact of filter contents (activated carbon) with strong oxidizers such as ozone, liquid oxygen, chlorine, and permanganate may result in a fire.

3. COMPOSITION/INFORMATION ON INGREDIENTS

This product contains no substances that at their given concentrations are considered to be hazardous to health.

4. FIRST AID MEASURES

First aid measures

| | |
|-----------------------|---|
| General Advice | Show this safety data sheet to the doctor in attendance. |
| Eye Contact | Hold eye open and rinse slowly and gently with water for 15–20 minutes. If present, remove contact lenses after the first 5 minutes of rinsing, then continue rinsing eye. Call a poison control center or doctor for further treatment advice. |
| Skin Contact | Rinse skin with plenty of water. |
| Inhalation | Move to fresh air. If breathing problems develop, call a doctor. |
| Ingestion | Drink a glassful of water. Call a doctor or poison control center. |

Most important symptoms and effects, both acute and delayed

| | |
|--|---|
| Most Important Symptoms and Effects | Dust from broken filters may cause slight eye irritation. |
|--|---|

Indication of any immediate medical attention and special treatment needed

| | |
|---------------------------|------------------------|
| Notes to Physician | Treat symptomatically. |
|---------------------------|------------------------|

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable Extinguishing Media

CAUTION: Use of water spray when fighting fire may be inefficient.

Specific Hazards Arising from the Chemical

Contact of filter contents (activated carbon) with strong oxidizers such as ozone, liquid oxygen, chlorine, and permanganate may result in a fire.

Hazardous Combustion Products

Oxides of carbon.

Explosion Data

Sensitivity to Mechanical Impact No.

Sensitivity to Static Discharge No.

Protective equipment and precautions for firefighters

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

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal Precautions None required.

Other Information Refer to protective measures listed in Sections 7 and 8.

Environmental precautions

Environmental Precautions See Section 12 for additional ecological information.

Methods and material for containment and cleaning up

Methods for Containment Prevent further leakage or spillage if safe to do so.

Methods for Cleaning Up Containerize. Wash residual down to sanitary sewer. Contact the sanitary treatment facility in advance to assure ability to process washed-down material.

7. HANDLING AND STORAGE

Precautions for safe handling

Handling Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities

Storage Keep containers tightly closed.

Incompatible Products Strong oxidizers such as ozone, liquid oxygen, chlorine, and permanganate.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines This product does not contain any ingredients with occupational exposure limits that are at concentrations below their cut-off values/concentrations and that contribute to the hazard classification of the product.

Appropriate engineering controls

Engineering Measures Showers
 Eyewash stations
 Ventilation systems

Individual protection measures, such as personal protective equipment

Eye/Face Protection No protective equipment is required.

Skin and Body Protection No protective equipment is required.

Respiratory Protection No protective equipment is required

Hygiene Measures Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical and Chemical Properties

| | | | |
|-----------------------|---|-----------------------|--------------------------|
| Physical State | Solid | | |
| Appearance | Pitcher or dispenser with white, plastic, cylindrical cartridge | Odor | None |
| Color | White | Odor Threshold | No information available |

| <u>Property</u> | <u>Values</u> | <u>Remarks/ Method</u> |
|--|-------------------|------------------------|
| pH | Not applicable | None known |
| Melting/freezing point | No data available | None known |
| Boiling point / boiling range | No data available | None known |
| Flash Point | No data available | None known |
| Evaporation rate | No data available | None known |
| Flammability (solid, gas) | No data available | None known |
| Flammability Limits in Air | | |
| Upper flammability limit | No data available | None known |
| Lower flammability limit | No data available | None known |
| Vapor pressure | No data available | None known |
| Vapor density | No data available | None known |
| Specific Gravity | No data available | None known |
| Water Solubility | Insoluble. | None known |
| Solubility in other solvents | No data available | None known |
| Partition coefficient: n-octanol/water | No data available | None known |
| Autoignition temperature | No data available | None known |
| Decomposition temperature | No data available | None known |
| Kinematic viscosity | No data available | None known |
| Dynamic viscosity | No data available | None known |
| Explosive Properties | Not explosive | |
| Oxidizing Properties | No data available | |

Other Information

| | |
|----------------------------|-------------------|
| Softening Point | No data available |
| VOC Content (%) | No data available |
| Particle Size | No data available |
| Particle Size Distribution | No data available |

10. STABILITY AND REACTIVITY

Reactivity

Contact of filter contents (activated carbon) with strong oxidizers such as ozone, liquid oxygen, chlorine, and permanganate may result in a fire.

Chemical stability

Stable under recommended storage conditions.

Possibility of Hazardous Reactions

None known.

Conditions to avoid

None known.

Incompatible materials

Strong oxidizers such as ozone, liquid oxygen, chlorine, and permanganate.

Hazardous Decomposition Products

None known.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

| | |
|---------------------|---|
| Inhalation | Not an inhalation hazard. |
| Eye Contact | Dust from broken filters may cause slight eye irritation. |
| Skin Contact | Not a dermal hazard. |
| Ingestion | Not an ingestion hazard. |

Information on toxicological effects

Symptoms Dust from broken filters may cause slight redness and tearing of eyes.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

| | |
|---------------------------------|---|
| Sensitization | No information available. |
| Mutagenic Effects | No information available. |
| Carcinogenicity | Contains no ingredients listed as a carcinogen. |
| Reproductive Toxicity | No information available. |
| STOT - single exposure | No information available. |
| STOT - repeated exposure | No information available. |
| Chronic Toxicity | No known effect based on information supplied. |
| Target Organ Effects | None known. |
| Aspiration Hazard | Not an aspiration hazard. |

Numerical measures of toxicity - Product Information

The following values are calculated based on chapter 3.1 of the GHS document

No information available.

12. ECOLOGICAL INFORMATION

Ecotoxicity

No information available.

Persistence and Degradability

No information available.

Bioaccumulation

No information available.

Other adverse effects

No information available.

13. DISPOSAL CONSIDERATIONS

Disposal methods

Dispose of in accordance with all applicable federal, state, and local regulations.

Contaminated Packaging

Do not reuse empty containers. Dispose of in accordance with all applicable federal, state, and local regulations.

14. TRANSPORT INFORMATION

DOT Not regulated.

TDG Not regulated.

ICAO Not regulated.

IATA Not regulated

IMDG/IMO Not regulated

15. REGULATORY INFORMATION

Chemical Inventories

TSCA All components of this product are either on the TSCA 8(b) Inventory or otherwise exempt from listing.

DSL/NDSL All components are on the DSL or NDSL.

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

U.S. Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazard Categories

| | |
|--|----|
| Acute Health Hazard | No |
| Chronic Health Hazard | No |
| Fire Hazard | No |
| Sudden Release of Pressure Hazard | No |
| Reactive Hazard | No |

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

US State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

This product does not contain any substances known to be subject to state right-to-know regulations.

International Regulations

Canada

WHMIS Hazard Class

Not controlled.

| |
|------------------------------|
| 16. OTHER INFORMATION |
|------------------------------|

| | | | | |
|--------------------|-----------------|----------------|---------------|---------------------------------|
| <u>NFPA</u> | Health Hazard 0 | Flammability 0 | Instability 0 | Physical and Chemical Hazards - |
|--------------------|-----------------|----------------|---------------|---------------------------------|

| | | | | |
|--------------------|-----------------|----------------|-------------------|-----------------------|
| <u>HMIS</u> | Health Hazard 0 | Flammability 0 | Physical Hazard 0 | Personal Protection - |
|--------------------|-----------------|----------------|-------------------|-----------------------|

| | |
|--------------------|--|
| Prepared By | Product Stewardship 23 British American Blvd. Latham, NY 12110 1-800-572-6501 |
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|----------------------------------|-----------------|
| Preparation/Revision Date | January 5, 2015 |
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|----------------------|-----|
| Revision Note | New |
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| | |
|------------------|--------------------|
| Reference | 1082189/120017.001 |
|------------------|--------------------|

General Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information, and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal, and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet

物质安全数据表 (MSDS -Material Safety Data Sheet)

【第一项 (Section 1) : 化学品及企业标识 (Chemical Product and Company Identification)】

产品名称 (Product Name) : 锂二氧化锰电池 (Lithium Manganese Dioxide Battery)

产品型号 (Product code) : CR1225

制造商 (Manufacture) : 香港曼柏有限公司

EEMB Co., Ltd

地址 (address) : 香港中环德辅道中148号安泰大厦9楼

9th Floor, Amtel Building, 148 Des Voeux Road Central, Central, Hong Kong □□□□

电话 (Tel) : 852-58082720 传真 (Fax) : 852-58085462

更多信息获取:

Further information obtainable:

紧急情况下的信息: Information in case of emergency:

联系人 (Contact) : Mr. Tony Xu

紧急电话 (Emergency tel) : (+86) -755-83022275

电子邮件 (E-mail) global@eemb.com

【第二项 (Section 2) : 成分/组成信息 (Composition/information on Ingredients)】

化学物质描述

Chemical characterization

描述:

Description:

添加的混合物与无害物质在下列表中。

Mixture of the substances listed below with nonhazardous additions.

危险成份:

Dangerous components:

| 项目 Item 型号 Type | 二氧化锰 Manganese dioxide (MnO ₂) wt% | 石墨 Graphite (C) wt% | 聚四氟乙 烯 Poly(teraf luoroethy lene)(PT FE) wt% | 塑 胶 plastic (pp) wt% | 不 锈 钢 stainless steel wt% | 金 属 锂 lithium wt% | 聚碳酸丙 烯 酯 Poly(prop ylene carbonate (PC) wt% | 乙二醇二 甲 醚 ethylene glycol dimethyl ether (DME) wt% | 高氯酸锂 lithium perchlora te (LiClO ₄) wt% |
|--------------------------|--|------------------------------|--|-------------------------------|------------------------------------|-------------------------|---|--|--|
| CR927 | 26.6 | 2.2 | 0.2 | 7.0 | 51.9 | 2.2 | 3.9 | 4.1 | 1.9 |
| CR1025 | 27.4 | 2.7 | 0.2 | 7.2 | 50.6 | 2.1 | 4.0 | 3.8 | 2.0 |
| CR1130 | 27.3 | 2.9 | 0.2 | 7.2 | 50.2 | 2.1 | 4.1 | 3.9 | 2.1 |
| CR1216 | 25.7 | 2.4 | 0.2 | 7.3 | 52.3 | 1.6 | 4.3 | 4.1 | 2.1 |
| CR1220 | 26.3 | 2.6 | 0.2 | 7.7 | 50.8 | 1.5 | 4.5 | 4.2 | 2.2 |
| CR1225 | 27.9 | 2.7 | 0.2 | 5.0 | 52.0 | 1.5 | 4.4 | 4.2 | 2.1 |
| CR1616 | 21 | 1.6 | 0.2 | 3.6 | 61.6 | 1.3 | 4.4 | 4.2 | 2.1 |

| | | | | | | | | | |
|---------|------|-----|-----|-----|------|-----|-----|-----|-----|
| CR1620 | 25.1 | 2.3 | 0.2 | 4.6 | 56.3 | 1.3 | 4.2 | 4.0 | 2.0 |
| CR1632 | 31.7 | 3.1 | 0.3 | 5.5 | 46.5 | 1.8 | 4.7 | 4.2 | 2.2 |
| CR2016 | 25.4 | 3.1 | 0.2 | 4.1 | 55.2 | 1.1 | 4.6 | 4.1 | 3.2 |
| CR2025 | 26.2 | 2.5 | 0.2 | 3.4 | 55.4 | 1.7 | 4.5 | 4.0 | 2.1 |
| CR2032 | 31.7 | 2.6 | 0.3 | 3.9 | 48.8 | 2.0 | 4.5 | 4.1 | 2.1 |
| CR2320 | 27.3 | 2.7 | 0.2 | 5.4 | 52.5 | 1.3 | 4.6 | 3.7 | 2.3 |
| CR2325 | 28.2 | 2.8 | 0.2 | 5.2 | 51.1 | 1.5 | 5.0 | 3.8 | 2.2 |
| CR2330 | 30.9 | 3.0 | 0.2 | 4.9 | 47.9 | 1.6 | 5.7 | 4.0 | 1.8 |
| CR2335 | 32.1 | 3.5 | 0.3 | 4.6 | 45.1 | 1.9 | 5.3 | 3.8 | 1.7 |
| CR2354 | 46.5 | 4.7 | 0.4 | 3.0 | 34.0 | 2.1 | 4.6 | 3.2 | 1.5 |
| CR2430 | 32.8 | 3.2 | 0.2 | 3.6 | 49.5 | 1.6 | 4.5 | 3.2 | 1.4 |
| CR2450 | 46.9 | 4.6 | 0.2 | 3.2 | 32.9 | 2.2 | 4.9 | 2.9 | 2.0 |
| CR2477 | 52.3 | 5.3 | 0.4 | 2.0 | 25.8 | 3.0 | 5.6 | 3.4 | 2.2 |
| CR2477T | 52.6 | 5.4 | 0.5 | 1.5 | 25.1 | 3.5 | 6.2 | 3.8 | 2.6 |

【第三项 (Section 3) : 危险性概述(Hazards Summarizing)】

对于正常使用没有特别的健康危害。

No specific health hazardous for normal use.

侵入路径

Routes of Entry

眼睛, 皮肤, 吸入, 摄食。

Eyes, Skin, Inhalation, Ingestion.

这些化学物质被盛装在一个密封金属容器中。暴露的风险只能是因为电池被机械打开或者滥用。大多数最可能的风险是急性暴露当电池排空。泄漏的材料暴露于皮肤和眼睛可能导致刺激性。吸入烟气可能导致呼吸刺激。

These chemical are contained in a sealed can.Risk of exposure occurs only if the battery is mechanically or electrically abused.The most likely risk is acute exposure when a battery vents.Leaking material exposure to skin, eyes may cause irritation.Inhalation of fumes may cause respiratory irritation.

暴露的迹象/症状

Sign/Symptoms of Exposure

可能因有害物质泄漏与皮肤接触产生导热和化学烧伤。

May be a reproductive hazard.leaking can cause thermal and chemical burns upon contact with the skin.

【第四项 (Section 4) : 急救措施(First-aid Measures)】

眼睛: 使用大量的水冲洗 15 分钟, 不定时的抬起上下眼睑。就医。

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

皮肤: 移开受污染的衣服, 立即使用大量的水清洗皮肤或淋浴 15 分钟。就医。

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

吸入: 立即从泄漏区离开到新鲜空气处, 在必要时可以使用氧气。

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

摄食

Ingestion

不要诱导呕吐。立即就医。

Do not induce vomiting. Call a physician immediately.

【第五项 (Section 5) : 消防措施(Fire-fighting Measures)】

闪点: 不可用

Flash point: N/A

燃点温度: 不可用

Auto-Ignition Temperature: N/A

灭火介质

Extinguishing Media

水, 二氧化碳, 干粉

Water, CO₂, extinguishing power

消防

Firefighting

如果在临近的区域发生火灾时, 使用水, 二氧化碳, 干粉灭火, 电池在它们原来的容器中当由于火是纸产品燃烧引起时。对于大量未包装的电池时使用合适的灭火工具, 不要使用水。

In case of fire in an adjacent area, use water, CO₂ or extinguishing power if batteries are in their original containers since the fuel of the fire is basically paper products. For bulk quantities of unpackaged batteries use suitable extinguishers. In this case, do not use water.

【第六项 (Section 6) : 泄露应急处理(Accidental Release Measures)】

如果材料被释放或溢出采取的措施

Steps to be Taken in case Material is Released or Spilled

如果电池意外的被损害和泄漏, 用布擦拭并用塑料袋处理后放入钢制的容器中。

If the battery is accidentally broken and leaks out, wipe it up with a cloth, and dispose of it in a plastic bag and put into a steel can.

首先离开区域并允许电池冷却和蒸汽消散。提供最大的空气流通。避免皮肤和眼睛的接触或者吸入蒸汽。使用吸收剂移开溢流出来的物质。

The preferred response is to leave the area and allow the batteries to cool and vapors to dissipate. Provide maximum ventilation. Avoid skin and eye contact or inhalation of vapors. Remove spilled material with absorbent.

废物处置方法

Waste Disposal Method

建议将电池使用完后, 交与电池回收站。

It is recommended to discharge the battery to the end, and to battery recycle bin.

【第七项 (Section 7) : 操作处置与储存(Handling And Storage)】

电池不应该被打开, 损害或者焚化, 在它们可能泄漏或者破裂并释放到环境中之前, 它们被装在一个密封容器中。

The batteries should not be opened, destroyed or incinerated, since they may leak or rupture and release

to the environment the ingredients that they contain in the hermetically sealed container.

不要是电池短路或者充电，迫使过量放电，投入火中。不要撞击或者刺穿电池，或者浸入液体中。

Do not short circuit terminals, or charge the battery, forced over-discharge, throw to fire. Do not crush or puncture the battery, or immerse in liquids.

操作处置和储存预防措施

Precaution to be taken in handling and storing

避免机械或充放电的滥用。存储在温度低，干燥，通风且温度变化较小区域。避免存储在较高温度。

Avoid mechanical or electrical abuse. Storage preferably in cool, dry and ventilated area, which is subject to little temperature change. Storage at high temperature should be avoided.

存储地方周围避免有加热设备，避免长时间在阳光下暴晒。

Do not place the battery near heating equipment, nor expose to direct sunlight for long periods.

其他预防措施

Other Precautions

避免短路或安装错误的正负极。

Do not short or install with incorrect polarity.

【第八项 (Section 8) : 接触控制/个体防护(Exposure Controls/Personal Protection)】

呼吸防护

Respiratory Protective

如果电池泄漏，必须提供足够的通风设备避免因空间狭小时电池泄漏。呼吸保护不需要在正常条件下使用。

In case of battery venting, provide as much ventilation as possible. Avoid confined areas with venting batteries. Respiratory Protection is not necessary under condition of normal use.

其他防护衣或者防护设备

Other Protective Clothing or Equipment

正常条件下不必要的使用

Not necessary under conditions of normal use.

因电池泄漏建议的个人保护：呼吸防护，防护手套，防护衣，带保护的安全玻璃盾。

Personal Protective is recommended for venting batteries: Respiratory Protection, protective gloves, protective clothing and safety glass with side shields.

【第九项 (Section 9) : 理化特性(Physical and Chemical Properties)】

| 一般信息 General Information | |
|--------------------------------------|-------------------|
| 形态 Form: | 固 体 Solid |
| 颜色 Color: | 银白色 Silvery white |
| 气味 Odor: | 单一的 Monotony |
| 变化条件 Change in condition | |
| 熔点/熔化范围 Melting point/Melting range: | 不可用 Not available |
| 沸点/沸点范围 Boiling point/Boiling range: | 不可用 Not available |
| 闪点 Flash point: | 无 效 Not applicant |

| | |
|---|------------------------------------|
| 可燃性 Flammability (solid 固体, gaseous 气体): | 不可用 Not available |
| 燃点温度 Ignition temperature: | 不可用 Not available |
| 自然 Auto Ignition: | 产品不会自然 Product is not selfigniting |
| 爆炸危险: 产品目前没有发生过爆炸事故 Danger of explosion: product does not present an explosion hazard. | |
| 爆炸极限 Explosion limits: | |
| 下限 Lower: | 不可用 Not available |
| 上限 Upper: | 不可用 Not available |
| 氧化特征 Oxidizing properties: | 不可用 Not available |
| 蒸汽压 Vapor pressure: | 不可用 Not available |
| 密度 Density: | 不可用 Not available |
| 相对密度 Relative of density: | 不可用 Not available |
| 蒸发速率 Evaporation rate: | 不可用 Not available |
| 与水的溶解性/混和性 Solubility in / Miscibility with Water: | 不可用 Not available |
| pH 值 pH-value: | 不可用 Not available |
| 粘度 viscosity: | 不可用 Not available |
| 标准电压 Nominal Voltage: | 3.0 伏特 3.0V |

【第十项 (Section 10) : 稳定性和反应性 (Stability and Reactivity)】

稳定性

Stability

稳定性正常

Stable for normal

避免条件

Conditions to Avoid

加热, 着火, 机械滥用和充放电滥用。

Heating, fire, mechanical abuse and electrical abuse.

有害物质分解产物

Hazardous decomposition products

当暴露于火中或者高温中, 电池可能会泄漏有毒烟雾。

When exposed to fire or extreme heat, batteries may emit toxic fumes.

【第十一项 (Section 11) : 毒理学资料 (Toxicological Information)】

吸入, 皮肤和眼睛的接触当电池被打开时。

Inhalation, skin contact and eye contact are possible when the battery is opened.

当暴露内部物质, 腐蚀性烟气会刺激皮肤, 眼睛和粘膜细胞。过度暴露可能导致非纤维肺损伤和膜刺激的症状。

Exposure to internal contents, the corrosive fumes will be irritation to skin, eyes and mucous membranes. Overexposure can cause symptoms of non-fibrotic lung injury and membrane irritation.

【第十二项 (Section 12) : 生态学资料 (Ecological Information)】

当立即使用或者处理电池时目前没有生态危害。当处理时，避免水，雨和雪。

When promptly used or disposed the battery does not present ecological hazard. When disposed, keep away from water, rain and snow.

【第十三项 (Section 13) : 废弃处置(Disposal)】

适当处置或准备物质的方法

Appropriate Method of Disposal of Substance or Preparation

电池处置按照被认可的地方、州和联邦政府的要求。参照国家环境机构

Dispose of the batteries in accordance with approved local, state, and federal requirements. Consult state environmental agency.

【第十四项 (Section 14) : 运输信息(Transport Information)】

交通运输部法规 DOT regulations:

危害等级 Hazard class : 9

识别号 Identification number : UN3090

包装组 Packing group: II

适合的运输名称 Proper shipping name (专有名词 technical name): 锂二氧化锰电池 Lithium Manganese Dioxide Battery (锂金属电池 lithium Metal Battery)

标签 Label : 9

陆地运输 Land transport ADR/RID (跨国 cross-border)

ADR/RID class: 混合的有害物质和物品 9 Miscellaneous dangerous substances and articles

危险代码 Danger code (Kemler): 9

联合国危险货物编号 UN-Number: 3090

包装等级 Packaging group: II

货物名称 Description of goods: 3090 锂二氧化锰电池 3090 Lithium Manganese Dioxide Battery (锂金属电池 lithium Metal Battery)

国际海上危险货物运输规则 Maritime transport IMDG:

国际海上危险货物运输规则等级 IMDG Class: 9

联合国危险货物编号 UN Number: 3090

标签 Label: 9

包装等级 Packaging group: II

海洋污染物 Marine pollutant: Yes

正确的装运名称 Proper shipping name: 锂二氧化锰电池 Lithium Manganese Dioxide Battery (锂金属电池 lithium Metal Battery)

Air transport ICAO-TI and IATA-DGR:

UN/ID 号 UN/ID Number: 3090

标签 Label: 9

包装等级 Packaging group: II

正确的装运名称 Proper shipping name: 锂二氧化锰电池 Lithium Manganese Dioxide Battery (锂金属电池 lithium Metal Battery)

包装要求 Packing instructions: P1968-P1970

一些关于锂电池的国际运输法规: 国际海上危险货物运输规则 (IMDG) 由国际海事组织(IMO) 编制, 危险物品手册 (DGR) 是由国际航空运输协会 (IATA) 编制和技术指导安全危险货物通

过空中运输是由国际民航组织（ICAO）编制。这些规则是根据联合国建议的联合国手册 UN38.3 要求（UN 测试和标准的手册 38.3 部分）可以作为空运或者海运作的一般物品运输，否则应按照分类 9，危险货物包装组运输。

There are some regulations about the international transport of lithium batteries: the international Maritime Dangerous Goods (IMDG) Code by international Maritime Organization (IMO), Dangerous Goods Regulations(DGR,53rd)by international Air Transport Association(IATA)and Technical Instructions for the Safe Transport of Dangerous Goods by Air (TI) by international Civil Aviation organization (ICAO).These regulation are based on the UN Recommendations on the requirements of UN38.3 (UN Manual of Test and Criteria, Part subsection38.3) could be transported by air and by sea as ordinary goods, otherwise should be transported according to Class 9, Packing Group hazardous goods.

【第十五项 (Section 15) : 法规信息(Regulatory Information)】

Sara

第 355 章节 Section 355 (极危险物质 extremely hazardous substances)

没有组成成分被列出。

None of the ingredient is listed.

第 313 章节 Section 313 (特定有害物质清单 specific toxic chemical listings):

没有组成成分被列出。

None of the ingredient is listed.

加州 65 提案 Proposition 65

导致致癌物质的已知化学品:

Chemical known to cause cancer

没有组成成分被列出。

None of the ingredient is listed.

导致女性生殖毒性物质的已知化学品。

Chemical known to cause reproductive toxicity for females

没有组成成分被列出。

None of the ingredient is listed.

导致男性生殖毒性物质的已知化学品。

Chemical known to cause reproductive toxicity for males

没有组成成分被列出。

None of the ingredient is listed.

导致发育毒性的已知化学品。

Chemicals known to cause developmental toxicity:

没有组成成分被列出。

None of the ingredient is listed.

癌症类别

Cancerogenity categories

美国环保局 EPA (环境保护局 Environmental Protection Agency).

没有组成成分被列出。

None of the ingredient is listed.

IARC(国际癌症研究机构 International Agency for Research on Cancer)

没有组成成分被列出。

None of the ingredient is listed.

NTP(美国国家毒理学规划处 National Toxicology Program)

没有组成成分被列出。

None of the ingredient is listed.

TLV(阈值 Threshold limit values established by ACGIH)

没有组成成分被列出。

None of the ingredient is listed.

NIOSH-Ca (国家职业安全及健康学会 National Institute for Occupational Safety and Health)

没有组成成分被列出。

None of the ingredient is listed.

OSHA- Ca(职业安全 Occupational Safety &健康协会 Health Administration)

没有组成成分被列出。

None of the ingredient is listed.

产品相关的有害信息：

Product related hazard informations:

产品的分类和标识应与有害物质指令一致。

The product has been classified and marked in accordance with directives on hazardous material.

危害物的标志：

Hazard symbols:

有害的

Harmful

标签成份有害物质的确定：

Hazard-determining components of labelling:

锂 氧化钴(III)

Lithium Cobalt(III)oxide

风险警告：

Risk phrases:

刺激皮肤。

Irritating to skin.

严重损害眼睛的风险。

Risk of serious damage eyes.

可能通过吸入和皮肤接触导致过敏作用。

May cause sensitisation by inhalation and skin contact.

安全警告：

Safety phrases:

保持锁住且不能让小孩够到。

Keep locked up and out of the reach of children.

不要呼吸尘土。

Do not breathe dust.

避免和皮肤和眼睛接触。

Avoid contact with skin and eyes.

如果和眼睛接触，立即用大量的水冲洗，并就医。

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

佩戴合适的手套和眼睛/面部的保护。

Wear suitable gloves and eye/face protection.

如果发生事故时或者如果你感觉不适时，立即就医（在可能的情况下,做好标识）。

In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

处置该物质及其容器的危险或特殊废料收集点。

Dispose of this material and its container to hazardous or special waste collection point.

如果因吸入发生事故时：移动伤员到空气新鲜处并保持休息。

In case of accident by inhalation: remove casualty to fresh air and keep at rest.

【第十六项 Section 16: 其他信息(Other Information)】

本物质安全数据内容与格式是根据 29 CFR 1910.1200(g)制作。

The contents and format of this MSDS is in according with 29 CFR 1910.1200(g)

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END OF MSDS

物质安全数据表制作日期：2015年01月05日

MSDS Creation Date: January 05, 2015

物质安全数据表 (MSDS -Material Safety Data Sheet)

【第一项 (Section 1) : 化学品及企业标识 (Chemical Product and Company Identification)】

产品名称 (Product Name) : 锂二氧化锰电池 (Lithium Manganese Dioxide Battery)

产品型号 (Product code) : CR1225

制造商 (Manufacture) : 香港曼柏有限公司

EEMB Co., Ltd

地址 (address) : 香港中环德辅道中148号安泰大厦9楼

9th Floor, Amtel Building, 148 Des Voeux Road Central, Central, Hong Kong □□□□

电话 (Tel) : 852-58082720 传真 (Fax) : 852-58085462

更多信息获取:

Further information obtainable:

紧急情况下的信息: Information in case of emergency:

联系人 (Contact) : Mr. Tony Xu

紧急电话 (Emergency tel) : (+86) -755-83022275

电子邮件 (E-mail) global@eemb.com

【第二项 (Section 2) : 成分/组成信息 (Composition/information on Ingredients)】

化学物质描述

Chemical characterization

描述:

Description:

添加的混合物与无害物质在下列表中。

Mixture of the substances listed below with nonhazardous additions.

危险成份:

Dangerous components:

| 项目 Item 型号 Type | 二氧化锰 Manganese dioxide (MnO ₂) wt% | 石墨 Graphite (C) wt% | 聚四氟乙 烯 Poly(teraf luoroethy lene)(PT FE) wt% | 塑 胶 plastic (pp) wt% | 不 锈 钢 stainless steel wt% | 金 属 锂 lithium wt% | 聚碳酸丙 烯 酯 Poly(prop ylene carbonate (PC) wt% | 乙二醇二 甲 醚 ethylene glycol dimethyl ether (DME) wt% | 高氯酸锂 lithium perchlora te (LiClO ₄) wt% |
|--------------------------|--|------------------------------|--|-------------------------------|------------------------------------|-------------------------|---|--|--|
| CR927 | 26.6 | 2.2 | 0.2 | 7.0 | 51.9 | 2.2 | 3.9 | 4.1 | 1.9 |
| CR1025 | 27.4 | 2.7 | 0.2 | 7.2 | 50.6 | 2.1 | 4.0 | 3.8 | 2.0 |
| CR1130 | 27.3 | 2.9 | 0.2 | 7.2 | 50.2 | 2.1 | 4.1 | 3.9 | 2.1 |
| CR1216 | 25.7 | 2.4 | 0.2 | 7.3 | 52.3 | 1.6 | 4.3 | 4.1 | 2.1 |
| CR1220 | 26.3 | 2.6 | 0.2 | 7.7 | 50.8 | 1.5 | 4.5 | 4.2 | 2.2 |
| CR1225 | 27.9 | 2.7 | 0.2 | 5.0 | 52.0 | 1.5 | 4.4 | 4.2 | 2.1 |
| CR1616 | 21 | 1.6 | 0.2 | 3.6 | 61.6 | 1.3 | 4.4 | 4.2 | 2.1 |

| | | | | | | | | | |
|---------|------|-----|-----|-----|------|-----|-----|-----|-----|
| CR1620 | 25.1 | 2.3 | 0.2 | 4.6 | 56.3 | 1.3 | 4.2 | 4.0 | 2.0 |
| CR1632 | 31.7 | 3.1 | 0.3 | 5.5 | 46.5 | 1.8 | 4.7 | 4.2 | 2.2 |
| CR2016 | 25.4 | 3.1 | 0.2 | 4.1 | 55.2 | 1.1 | 4.6 | 4.1 | 3.2 |
| CR2025 | 26.2 | 2.5 | 0.2 | 3.4 | 55.4 | 1.7 | 4.5 | 4.0 | 2.1 |
| CR2032 | 31.7 | 2.6 | 0.3 | 3.9 | 48.8 | 2.0 | 4.5 | 4.1 | 2.1 |
| CR2320 | 27.3 | 2.7 | 0.2 | 5.4 | 52.5 | 1.3 | 4.6 | 3.7 | 2.3 |
| CR2325 | 28.2 | 2.8 | 0.2 | 5.2 | 51.1 | 1.5 | 5.0 | 3.8 | 2.2 |
| CR2330 | 30.9 | 3.0 | 0.2 | 4.9 | 47.9 | 1.6 | 5.7 | 4.0 | 1.8 |
| CR2335 | 32.1 | 3.5 | 0.3 | 4.6 | 45.1 | 1.9 | 5.3 | 3.8 | 1.7 |
| CR2354 | 46.5 | 4.7 | 0.4 | 3.0 | 34.0 | 2.1 | 4.6 | 3.2 | 1.5 |
| CR2430 | 32.8 | 3.2 | 0.2 | 3.6 | 49.5 | 1.6 | 4.5 | 3.2 | 1.4 |
| CR2450 | 46.9 | 4.6 | 0.2 | 3.2 | 32.9 | 2.2 | 4.9 | 2.9 | 2.0 |
| CR2477 | 52.3 | 5.3 | 0.4 | 2.0 | 25.8 | 3.0 | 5.6 | 3.4 | 2.2 |
| CR2477T | 52.6 | 5.4 | 0.5 | 1.5 | 25.1 | 3.5 | 6.2 | 3.8 | 2.6 |

【第三项 (Section 3) : 危险性概述(Hazards Summarizing)】

对于正常使用没有特别的健康危害。

No specific health hazardous for normal use.

侵入路径

Routes of Entry

眼睛, 皮肤, 吸入, 摄食。

Eyes, Skin, Inhalation, Ingestion.

这些化学物质被盛装在一个密封金属容器中。暴露的风险只能是因为电池被机械打开或者滥用。大多数最可能的风险是急性暴露当电池排空。泄漏的材料暴露于皮肤和眼睛可能导致刺激性。吸入烟气可能导致呼吸刺激。

These chemical are contained in a sealed can.Risk of exposure occurs only if the battery is mechanically or electrically abused.The most likely risk is acute exposure when a battery vents.Leaking material exposure to skin, eyes may cause irritation.Inhalation of fumes may cause respiratory irritation.

暴露的迹象/症状

Sign/Symptoms of Exposure

可能因有害物质泄漏与皮肤接触产生导热和化学烧伤。

May be a reproductive hazard.leaking can cause thermal and chemical burns upon contact with the skin.

【第四项 (Section 4) : 急救措施(First-aid Measures)】

眼睛: 使用大量的水冲洗 15 分钟, 不定时的抬起上下眼睑。就医。

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

皮肤: 移开受污染的衣服, 立即使用大量的水清洗皮肤或淋浴 15 分钟。就医。

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

吸入: 立即从泄漏区离开到新鲜空气处, 在必要时可以使用氧气。

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

摄食

Ingestion

不要诱导呕吐。立即就医。

Do not induce vomiting. Call a physician immediately.

【第五项 (Section 5) : 消防措施(Fire-fighting Measures)】

闪点: 不可用

Flash point: N/A

燃点温度: 不可用

Auto-Ignition Temperature: N/A

灭火介质

Extinguishing Media

水, 二氧化碳, 干粉

Water, CO₂, extinguishing power

消防

Firefighting

如果在临近的区域发生火灾时, 使用水, 二氧化碳, 干粉灭火, 电池在它们原来的容器中当由于火是纸产品燃烧引起时。对于大量未包装的电池时使用合适的灭火工具, 不要使用水。

In case of fire in an adjacent area, use water, CO₂ or extinguishing power if batterise in their original containers since the fuel of the fire is basically paper products. For bulk quantities of unpackaged batteries use suitable extinguishers. In this case, do not use water.

【第六项 (Section 6) : 泄露应急处理(Accidental Release Measures)】

如果材料被释放或溢出采取的措施

Steps to Taken in case Material is Released or Spilled

如果电池意外的被损害和泄漏, 用布擦拭并用塑料袋处理后放入钢制的容器中。

If the battery is accidental broken and leaks out, wipe it up with a cloth, and dispose of it in a plastic bag and put into a steel can.

首先离开区并允许电池冷却和蒸汽消散。提供最大的空气流通。避免皮肤和眼睛的接触或者吸入蒸汽。使用吸收剂移开溢流出来的物质。

The preferred response is to leave the area and allow the batterie to cool and vapors to dissipate. Provide maximum ventilation. Aovid skin and eye contact or inhalation of vapors. Remove spilled material with absorbent.

废物处置方法

Waste Disposal Method

建议将电池使用完后, 交与电池回收站。

It is recommended to discharge the battery to the end, and to battery recycle bin.

【第七项 (Section 7) : 操作处置与储存(Handling And Storage)】

电池不应该被打开, 损害或者焚化, 在它们可能泄漏或者破裂并释放到环境中之前, 它们被装在一个密封容器中。

The batteries 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 hermetically sealed container.

不要是电池短路或者充电，迫使过量放电，投入火中。不要撞击或者刺穿电池，或者浸入液体中。

Do not short circuit terminals, or charge the battery, forced over-discharge, throw to fire. Do not crush or puncture the battery, or immerse in liquids.

操作处置和储存预防措施

Precaution to be taken in handling and storing

避免机械或充放电的滥用。存储在温度低，干燥，通风且温度变化较小区域。避免存储在较高温度。

Avoid mechanical or electrical abuse. Storage preferably in cool, dry and ventilated area, which is subject to little temperature change. Storage at high temperature should be avoided.

存储地方周围避免有加热设备，避免长时间在阳光下暴晒。

Do not place the battery near heating equipment, nor expose to direct sunlight for long periods.

其他预防措施

Other Precautions

避免短路或安装错误的正负极。

Do not short or install with incorrect polarity.

【第八项 (Section 8) : 接触控制/个体防护(Exposure Controls/Personal Protection)】

呼吸防护

Respiratory Protective

如果电池泄漏，必须提供足够的通风设备避免因空间狭小时电池泄漏。呼吸保护不需要在正常条件下使用。

In case of battery venting, provide as much ventilation as possible. Avoid confined areas with venting batteries. Respiratory Protection is not necessary under condition of normal use.

其他防护衣或者防护设备

Other Protective Clothing or Equipment

正常条件下不必要的使用

Not necessary under conditions of normal use.

因电池泄漏建议的个人保护：呼吸防护，防护手套，防护衣，带保护的安全玻璃盾。

Personal Protective is recommended for venting batteries: Respiratory Protection, protective gloves, protective clothing and safety glass with side shields.

【第九项 (Section 9) : 理化特性(Physical and Chemical Properties)】

| 一般信息 General Information | |
|--------------------------------------|-------------------|
| 形态 Form: | 固 体 Solid |
| 颜色 Color: | 银白色 Silvery white |
| 气味 Odor: | 单一的 Monotony |
| 变化条件 Change in condition | |
| 熔点/熔化范围 Melting point/Melting range: | 不可用 Not available |
| 沸点/沸点范围 Boiling point/Boiling range: | 不可用 Not available |
| 闪点 Flash point: | 无 效 Not applicant |

| | |
|---|------------------------------------|
| 可燃性 Flammability (solid 固体, gaseous 气体): | 不可用 Not available |
| 燃点温度 Ignition temperature: | 不可用 Not available |
| 自然 Auto Ignition: | 产品不会自然 Product is not selfigniting |
| 爆炸危险: 产品目前没有发生过爆炸事故 Danger of explosion: product does not present an explosion hazard. | |
| 爆炸极限 Explosion limits: | |
| 下限 Lower: | 不可用 Not available |
| 上限 Upper: | 不可用 Not available |
| 氧化特征 Oxidizing properties: | 不可用 Not available |
| 蒸汽压 Vapor pressure: | 不可用 Not available |
| 密度 Density: | 不可用 Not available |
| 相对密度 Relative of density: | 不可用 Not available |
| 蒸发速率 Evaporation rate: | 不可用 Not available |
| 与水的溶解性/混和性 Solubility in / Miscibility with Water: | 不可用 Not available |
| pH 值 pH-value: | 不可用 Not available |
| 粘度 viscosity: | 不可用 Not available |
| 标准电压 Nominal Voltage: | 3.0 伏特 3.0V |

【第十项 (Section 10) : 稳定性和反应性 (Stability and Reactivity)】

稳定性

Stability

稳定性正常

Stable for normal

避免条件

Conditions to Avoid

加热, 着火, 机械滥用和充放电滥用。

Heating, fire, mechanical abuse and electrical abuse.

有害物质分解产物

Hazardous decomposition products

当暴露于火中或者高温中, 电池可能会泄漏有毒烟雾。

When exposed to fire or extreme heat, batteries may emit toxic fumes.

【第十一项 (Section 11) : 毒理学资料 (Toxicological Information)】

吸入, 皮肤和眼睛的接触当电池被打开时。

Inhalation, skin contact and eye contact are possible when the battery is opened.

当暴露内部物质, 腐蚀性烟气会刺激皮肤, 眼睛和粘膜细胞。过度暴露可能导致非纤维肺损伤和膜刺激的症状。

Exposure to internal contents, the corrosive fumes will be irritation to skin, eyes and mucous membranes. Overexposure can cause symptoms of non-fibrotic lung injury and membrane irritation.

【第十二项 (Section 12) : 生态学资料 (Ecological Information)】

当立即使用或者处理电池时目前没有生态危害。当处理时，避免水，雨和雪。

When promptly used or disposed the battery does not present ecological hazard. When disposed, keep away from water, rain and snow.

【第十三项 (Section 13) : 废弃处置(Disposal)】

适当处置或准备物质的方法

Appropriate Method of Disposal of Substance or Preparation

电池处置按照被认可的地方、州和联邦政府的要求。参照国家环境机构

Dispose of the batteries in accordance with approved local, state, and federal requirements. Consult state environmental agency.

【第十四项 (Section 14) : 运输信息(Transport Information)】

交通运输部法规 DOT regulations:

危害等级 Hazard class : 9

识别号 Identification number : UN3090

包装组 Packing group: II

适合的运输名称 Proper shipping name (专有名词 technical name): 锂二氧化锰电池 Lithium Manganese Dioxide Battery (锂金属电池 lithium Metal Battery)

标签 Label : 9

陆地运输 Land transport ADR/RID (跨国 cross-border)

ADR/RID class: 混合的有害物质和物品 9 Miscellaneous dangerous substances and articles

危险代码 Danger code (Kemler): 9

联合国危险货物编号 UN-Number: 3090

包装等级 Packaging group: II

货物名称 Description of goods: 3090 锂二氧化锰电池 3090 Lithium Manganese Dioxide Battery (锂金属电池 lithium Metal Battery)

国际海上危险货物运输规则 Maritime transport IMDG:

国际海上危险货物运输规则等级 IMDG Class: 9

联合国危险货物编号 UN Number: 3090

标签 Label: 9

包装等级 Packaging group: II

海洋污染物 Marine pollutant: Yes

正确的装运名称 Proper shipping name: 锂二氧化锰电池 Lithium Manganese Dioxide Battery (锂金属电池 lithium Metal Battery)

Air transport ICAO-TI and IATA-DGR:

UN/ID 号 UN/ID Number: 3090

标签 Label: 9

包装等级 Packaging group: II

正确的装运名称 Proper shipping name: 锂二氧化锰电池 Lithium Manganese Dioxide Battery (锂金属电池 lithium Metal Battery)

包装要求 Packing instructions: P1968-P1970

一些关于锂电池的国际运输法规: 国际海上危险货物运输规则 (IMDG) 由国际海事组织(IMO) 编制, 危险物品手册 (DGR) 是由国际航空运输协会 (IATA) 编制和技术指导安全危险货物通

过空中运输是由国际民航组织（ICAO）编制。这些规则是根据联合国建议的联合国手册 UN38.3 要求（UN 测试和标准的手册 38.3 部分）可以作为空运或者海运作的一般物品运输，否则应按照分类 9，危险货物包装组运输。

There are some regulations about the international transport of lithium batteries: the international Maritime Dangerous Goods (IMDG) Code by international Maritime Organization (IMO), Dangerous Goods Regulations(DGR,53rd)by international Air Transport Association(IATA)and Technical Instructions for the Safe Transport of Dangerous Goods by Air (TI) by international Civil Aviation organization (ICAO).These regulation are based on the UN Recommendations on the requirements of UN38.3 (UN Manual of Test and Criteria, Part subsection38.3) could be transported by air and by sea as ordinary goods, otherwise should be transported according to Class 9, Packing Group hazardous goods.

【第十五项 (Section 15) : 法规信息(Regulatory Information)】

Sara

第 355 章节 Section 355 (极危险物质 extremely hazardous substances)

没有组成成分被列出。

None of the ingredient is listed.

第 313 章节 Section 313 (特定有害物质清单 specific toxic chemical listings):

没有组成成分被列出。

None of the ingredient is listed.

加州 65 提案 Proposition 65

导致致癌物质的已知化学品:

Chemical known to cause cancer

没有组成成分被列出。

None of the ingredient is listed.

导致女性生殖毒性物质的已知化学品。

Chemical known to cause reproductive toxicity for females

没有组成成分被列出。

None of the ingredient is listed.

导致男性生殖毒性物质的已知化学品。

Chemical known to cause reproductive toxicity for males

没有组成成分被列出。

None of the ingredient is listed.

导致发育毒性的已知化学品。

Chemicals known to cause developmental toxicity:

没有组成成分被列出。

None of the ingredient is listed.

癌症类别

Cancerogenity categories

美国环保局 EPA (环境保护局 Environmental Protection Agency).

没有组成成分被列出。

None of the ingredient is listed.

IARC(国际癌症研究机构 International Agency for Research on Cancer)

没有组成成分被列出。

None of the ingredient is listed.

NTP(美国国家毒理学规划处 National Toxicology Program)

没有组成成分被列出。

None of the ingredient is listed.

TLV(阈值 Threshold limit values established by ACGIH)

没有组成成分被列出。

None of the ingredient is listed.

NIOSH-Ca (国家职业安全及健康学会 National Institute for Occupational Safety and Health)

没有组成成分被列出。

None of the ingredient is listed.

OSHA- Ca(职业安全 Occupational Safety &健康协会 Health Administration)

没有组成成分被列出。

None of the ingredient is listed.

产品相关的有害信息：

Product related hazard informations:

产品的分类和标识应与有害物质指令一致。

The product has been classified and marked in accordance with directives on hazardous material.

危害物的标志：

Hazard symbols:

有害的

Harmful

标签成份有害物质的确定：

Hazard-determining components of labelling:

锂 氧化钴(III)

Lithium Cobalt(III)oxide

风险警告：

Risk phrases:

刺激皮肤。

Irritating to skin.

严重损害眼睛的风险。

Risk of serious damage eyes.

可能通过吸入和皮肤接触导致过敏作用。

May cause sensitisation by inhalation and skin contact.

安全警告：

Safety phrases:

保持锁住且不能让小孩够到。

Keep locked up and out of the reach of children.

不要呼吸尘土。

Do not breathe dust.

避免和皮肤和眼睛接触。

Avoid contact with skin and eyes.

如果和眼睛接触，立即用大量的水冲洗，并就医。

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

佩戴合适的手套和眼睛/面部的保护。

Wear suitable gloves and eye/face protection.

如果发生事故时或者如果你感觉不适时，立即就医（在可能的情况下,做好标识）。

In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

处置该物质及其容器的危险或特殊废料收集点。

Dispose of this material and its container to hazardous or special waste collection point.

如果因吸入发生事故时：移动伤员到空气新鲜处并保持休息。

In case of accident by inhalation: remove casualty to fresh air and keep at rest.

【第十六项 Section 16: 其他信息(Other Information)】

本物质安全数据内容与格式是根据 29 CFR 1910.1200(g)制作。

The contents and format of this MSDS is in according with 29 CFR 1910.1200(g)

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END OF MSDS

物质安全数据表制作日期：2015年01月05日

MSDS Creation Date: January 05, 2015

物质安全数据表 (MSDS -Material Safety Data Sheet)

【第一项 (Section 1) : 化学品及企业标识 (Chemical Product and Company Identification)】

产品名称 (Product Name) : 锂二氧化锰电池 (Lithium Manganese Dioxide Battery)

产品型号 (Product code) : CR1225

制造商 (Manufacture) : 香港曼柏有限公司

EEMB Co., Ltd

地址 (address) : 香港中环德辅道中148号安泰大厦9楼

9th Floor, Amtel Building, 148 Des Voeux Road Central, Central, Hong Kong □□□□

电话 (Tel) : 852-58082720 传真 (Fax) : 852-58085462

更多信息获取:

Further information obtainable:

紧急情况下的信息: Information in case of emergency:

联系人 (Contact) : Mr. Tony Xu

紧急电话 (Emergency tel) : (+86) -755-83022275

电子邮件 (E-mail) global@eemb.com

【第二项 (Section 2) : 成分/组成信息 (Composition/information on Ingredients)】

化学物质描述

Chemical characterization

描述:

Description:

添加的混合物与无害物质在下列表中。

Mixture of the substances listed below with nonhazardous additions.

危险成份:

Dangerous components:

| 项目 Item 型号 Type | 二氧化锰 Manganese dioxide (MnO ₂) wt% | 石墨 Graphite (C) wt% | 聚四氟乙 烯 Poly(teraf luoroethy lene)(PT FE) wt% | 塑 胶 plastic (pp) wt% | 不 锈 钢 stainless steel wt% | 金 属 锂 lithium wt% | 聚碳酸丙 烯 酯 Poly(prop ylene carbonate (PC) wt% | 乙二醇二 甲 醚 ethylene glycol dimethyl ether (DME) wt% | 高氯酸锂 lithium perchlora te (LiClO ₄) wt% |
|--------------------------|--|------------------------------|--|-------------------------------|------------------------------------|-------------------------|---|--|--|
| CR927 | 26.6 | 2.2 | 0.2 | 7.0 | 51.9 | 2.2 | 3.9 | 4.1 | 1.9 |
| CR1025 | 27.4 | 2.7 | 0.2 | 7.2 | 50.6 | 2.1 | 4.0 | 3.8 | 2.0 |
| CR1130 | 27.3 | 2.9 | 0.2 | 7.2 | 50.2 | 2.1 | 4.1 | 3.9 | 2.1 |
| CR1216 | 25.7 | 2.4 | 0.2 | 7.3 | 52.3 | 1.6 | 4.3 | 4.1 | 2.1 |
| CR1220 | 26.3 | 2.6 | 0.2 | 7.7 | 50.8 | 1.5 | 4.5 | 4.2 | 2.2 |
| CR1225 | 27.9 | 2.7 | 0.2 | 5.0 | 52.0 | 1.5 | 4.4 | 4.2 | 2.1 |
| CR1616 | 21 | 1.6 | 0.2 | 3.6 | 61.6 | 1.3 | 4.4 | 4.2 | 2.1 |

| | | | | | | | | | |
|---------|------|-----|-----|-----|------|-----|-----|-----|-----|
| CR1620 | 25.1 | 2.3 | 0.2 | 4.6 | 56.3 | 1.3 | 4.2 | 4.0 | 2.0 |
| CR1632 | 31.7 | 3.1 | 0.3 | 5.5 | 46.5 | 1.8 | 4.7 | 4.2 | 2.2 |
| CR2016 | 25.4 | 3.1 | 0.2 | 4.1 | 55.2 | 1.1 | 4.6 | 4.1 | 3.2 |
| CR2025 | 26.2 | 2.5 | 0.2 | 3.4 | 55.4 | 1.7 | 4.5 | 4.0 | 2.1 |
| CR2032 | 31.7 | 2.6 | 0.3 | 3.9 | 48.8 | 2.0 | 4.5 | 4.1 | 2.1 |
| CR2320 | 27.3 | 2.7 | 0.2 | 5.4 | 52.5 | 1.3 | 4.6 | 3.7 | 2.3 |
| CR2325 | 28.2 | 2.8 | 0.2 | 5.2 | 51.1 | 1.5 | 5.0 | 3.8 | 2.2 |
| CR2330 | 30.9 | 3.0 | 0.2 | 4.9 | 47.9 | 1.6 | 5.7 | 4.0 | 1.8 |
| CR2335 | 32.1 | 3.5 | 0.3 | 4.6 | 45.1 | 1.9 | 5.3 | 3.8 | 1.7 |
| CR2354 | 46.5 | 4.7 | 0.4 | 3.0 | 34.0 | 2.1 | 4.6 | 3.2 | 1.5 |
| CR2430 | 32.8 | 3.2 | 0.2 | 3.6 | 49.5 | 1.6 | 4.5 | 3.2 | 1.4 |
| CR2450 | 46.9 | 4.6 | 0.2 | 3.2 | 32.9 | 2.2 | 4.9 | 2.9 | 2.0 |
| CR2477 | 52.3 | 5.3 | 0.4 | 2.0 | 25.8 | 3.0 | 5.6 | 3.4 | 2.2 |
| CR2477T | 52.6 | 5.4 | 0.5 | 1.5 | 25.1 | 3.5 | 6.2 | 3.8 | 2.6 |

【第三项 (Section 3) : 危险性概述(Hazards Summarizing)】

对于正常使用没有特别的健康危害。

No specific health hazardous for normal use.

侵入路径

Routes of Entry

眼睛, 皮肤, 吸入, 摄食。

Eyes, Skin, Inhalation, Ingestion.

这些化学物质被盛装在一个密封金属容器中。暴露的风险只能是因为电池被机械打开或者滥用。大多数最可能的风险是急性暴露当电池排空。泄漏的材料暴露于皮肤和眼睛可能导致刺激性。吸入烟气可能导致呼吸刺激。

These chemical are contained in a sealed can.Risk of exposure occurs only if the battery is mechanically or electrically abused.The most likely risk is acute exposure when a battery vents.Leaking material exposure to skin, eyes may cause irritation.Inhalation of fumes may cause respiratory irritation.

暴露的迹象/症状

Sign/Symptoms of Exposure

可能因有害物质泄漏与皮肤接触产生导热和化学烧伤。

May be a reproductive hazard.leaking can cause thermal and chemical burns upon contact with the skin.

【第四项 (Section 4) : 急救措施(First-aid Measures)】

眼睛: 使用大量的水冲洗 15 分钟, 不定时的抬起上下眼睑。就医。

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

皮肤: 移开受污染的衣服, 立即使用大量的水清洗皮肤或淋浴 15 分钟。就医。

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

吸入: 立即从泄漏区离开到新鲜空气处, 在必要时可以使用氧气。

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

摄食

Ingestion

不要诱导呕吐。立即就医。

Do not induce vomiting. Call a physician immediately.

【第五项 (Section 5) : 消防措施(Fire-fighting Measures)】

闪点: 不可用

Flash point: N/A

燃点温度: 不可用

Auto-Ignition Temperature: N/A

灭火介质

Extinguishing Media

水, 二氧化碳, 干粉

Water, CO₂, extinguishing power

消防

Firefighting

如果在临近的区域发生火灾时, 使用水, 二氧化碳, 干粉灭火, 电池在它们原来的容器中当由于火是纸产品燃烧引起时。对于大量未包装的电池时使用合适的灭火工具, 不要使用水。

In case of fire in an adjacent area, use water, CO₂ or extinguishing power if batteries are in their original containers since the fuel of the fire is basically paper products. For bulk quantities of unpackaged batteries use suitable extinguishers. In this case, do not use water.

【第六项 (Section 6) : 泄露应急处理(Accidental Release Measures)】

如果材料被释放或溢出采取的措施

Steps to be Taken in case Material is Released or Spilled

如果电池意外的被损害和泄漏, 用布擦拭并用塑料袋处理后放入钢制的容器中。

If the battery is accidentally broken and leaks out, wipe it up with a cloth, and dispose of it in a plastic bag and put into a steel can.

首先离开区域并允许电池冷却和蒸汽消散。提供最大的空气流通。避免皮肤和眼睛的接触或者吸入蒸汽。使用吸收剂移开溢流出来的物质。

The preferred response is to leave the area and allow the batteries to cool and vapors to dissipate. Provide maximum ventilation. Avoid skin and eye contact or inhalation of vapors. Remove spilled material with absorbent.

废物处置方法

Waste Disposal Method

建议将电池使用完后, 交与电池回收站。

It is recommended to discharge the battery to the end, and to battery recycle bin.

【第七项 (Section 7) : 操作处置与储存(Handling And Storage)】

电池不应该被打开, 损害或者焚化, 在它们可能泄漏或者破裂并释放到环境中之前, 它们被装在一个密封容器中。

The batteries should not be opened, destroyed or incinerated, since they may leak or rupture and release

to the environment the ingredients that they contain in the hermetically sealed container.

不要是电池短路或者充电，迫使过量放电，投入火中。不要撞击或者刺穿电池，或者浸入液体中。

Do not short circuit terminals, or charge the battery, forced over-discharge, throw to fire. Do not crush or puncture the battery, or immerse in liquids.

操作处置和储存预防措施

Precaution to be taken in handling and storing

避免机械或充放电的滥用。存储在温度低，干燥，通风且温度变化较小区域。避免存储在较高温度。

Avoid mechanical or electrical abuse. Storage preferably in cool, dry and ventilated area, which is subject to little temperature change. Storage at high temperature should be avoided.

存储地方周围避免有加热设备，避免长时间在阳光下暴晒。

Do not place the battery near heating equipment, nor expose to direct sunlight for long periods.

其他预防措施

Other Precautions

避免短路或安装错误的正负极。

Do not short or install with incorrect polarity.

【第八项 (Section 8) : 接触控制/个体防护(Exposure Controls/Personal Protection)】

呼吸防护

Respiratory Protective

如果电池泄漏，必须提供足够的通风设备避免因空间狭小时电池泄漏。呼吸保护不需要在正常条件下使用。

In case of battery venting, provide as much ventilation as possible. Avoid confined areas with venting batteries. Respiratory Protection is not necessary under condition of normal use.

其他防护衣或者防护设备

Other Protective Clothing or Equipment

正常条件下不必要的使用

Not necessary under conditions of normal use.

因电池泄漏建议的个人保护：呼吸防护，防护手套，防护衣，带保护的安全玻璃盾。

Personal Protective is recommended for venting batteries: Respiratory Protection, protective gloves, protective clothing and safety glass with side shields.

【第九项 (Section 9) : 理化特性(Physical and Chemical Properties)】

| 一般信息 General Information | |
|--------------------------------------|-------------------|
| 形态 Form: | 固 体 Solid |
| 颜色 Color: | 银白色 Silvery white |
| 气味 Odor: | 单一的 Monotony |
| 变化条件 Change in condition | |
| 熔点/熔化范围 Melting point/Melting range: | 不可用 Not available |
| 沸点/沸点范围 Boiling point/Boiling range: | 不可用 Not available |
| 闪点 Flash point: | 无 效 Not applicant |

| | |
|---|------------------------------------|
| 可燃性 Flammability (solid 固体, gaseous 气体): | 不可用 Not available |
| 燃点温度 Ignition temperature: | 不可用 Not available |
| 自然 Auto Ignition: | 产品不会自然 Product is not selfigniting |
| 爆炸危险: 产品目前没有发生过爆炸事故 Danger of explosion: product does not present an explosion hazard. | |
| 爆炸极限 Explosion limits: | |
| 下限 Lower: | 不可用 Not available |
| 上限 Upper: | 不可用 Not available |
| 氧化特征 Oxidizing properties: | 不可用 Not available |
| 蒸汽压 Vapor pressure: | 不可用 Not available |
| 密度 Density: | 不可用 Not available |
| 相对密度 Relative of density: | 不可用 Not available |
| 蒸发速率 Evaporation rate: | 不可用 Not available |
| 与水的溶解性/混和性 Solubility in / Miscibility with Water: | 不可用 Not available |
| pH 值 pH-value: | 不可用 Not available |
| 粘度 viscosity: | 不可用 Not available |
| 标准电压 Nominal Voltage: | 3.0 伏特 3.0V |

【第十项 (Section 10) : 稳定性和反应性 (Stability and Reactivity)】

稳定性

Stability

稳定性正常

Stable for normal

避免条件

Conditions to Avoid

加热, 着火, 机械滥用和充放电滥用。

Heating, fire, mechanical abuse and electrical abuse.

有害物质分解产物

Hazardous decomposition products

当暴露于火中或者高温中, 电池可能会泄漏有毒烟雾。

When exposed to fire or extreme heat, batteries may emit toxic fumes.

【第十一项 (Section 11) : 毒理学资料 (Toxicological Information)】

吸入, 皮肤和和眼睛的接触当电池被打开时。

Inhalation, skin contact and eye contact are possible when the battery is opened.

当暴露内部物质, 腐蚀性烟气会刺激皮肤, 眼睛和粘膜细胞。过度暴露可能导致非纤维肺损伤和膜刺激的症状。

Exposure to internal contents, the corrosive fumes will be irritation to skin, eyes and mucous membranes. Overexposure can cause symptoms of non-fibrotic lung injury and membrane irritation.

【第十二项 (Section 12) : 生态学资料 (Ecological Information)】

当立即使用或者处理电池时目前没有生态危害。当处理时，避免水，雨和雪。

When promptly used or disposed the battery does not present ecological hazard. When disposed, keep away from water, rain and snow.

【第十三项 (Section 13) : 废弃处置(Disposal)】

适当处置或准备物质的方法

Appropriate Method of Disposal of Substance or Preparation

电池处置按照被认可的地方、州和联邦政府的要求。参照国家环境机构

Dispose of the batteries in accordance with approved local, state, and federal requirements. Consult state environmental agency.

【第十四项 (Section 14) : 运输信息(Transport Information)】

交通运输部法规 DOT regulations:

危害等级 Hazard class : 9

识别号 Identification number : UN3090

包装组 Packing group: II

适合的运输名称 Proper shipping name (专有名词 technical name): 锂二氧化锰电池 Lithium Manganese Dioxide Battery (锂金属电池 lithium Metal Battery)

标签 Label : 9

陆地运输 Land transport ADR/RID (跨国 cross-border)

ADR/RID class: 混合的有害物质和物品 9 Miscellaneous dangerous substances and articles

危险代码 Danger code (Kemler): 9

联合国危险货物编号 UN-Number: 3090

包装等级 Packaging group: II

货物名称 Description of goods: 3090 锂二氧化锰电池 3090 Lithium Manganese Dioxide Battery (锂金属电池 lithium Metal Battery)

国际海上危险货物运输规则 Maritime transport IMDG:

国际海上危险货物运输规则等级 IMDG Class: 9

联合国危险货物编号 UN Number: 3090

标签 Label: 9

包装等级 Packaging group: II

海洋污染物 Marine pollutant: Yes

正确的装运名称 Proper shipping name: 锂二氧化锰电池 Lithium Manganese Dioxide Battery (锂金属电池 lithium Metal Battery)

Air transport ICAO-TI and IATA-DGR:

UN/ID 号 UN/ID Number: 3090

标签 Label: 9

包装等级 Packaging group: II

正确的装运名称 Proper shipping name: 锂二氧化锰电池 Lithium Manganese Dioxide Battery (锂金属电池 lithium Metal Battery)

包装要求 Packing instructions: P1968-P1970

一些关于锂电池的国际运输法规: 国际海上危险货物运输规则 (IMDG) 由国际海事组织(IMO) 编制, 危险物品手册 (DGR) 是由国际航空运输协会 (IATA) 编制和技术指导安全危险货物通

过空中运输是由国际民航组织（ICAO）编制。这些规则是根据联合国建议的联合国手册 UN38.3 要求（UN 测试和标准的手册 38.3 部分）可以作为空运或者海运作的一般物品运输，否则应按照分类 9，危险货物包装组运输。

There are some regulations about the international transport of lithium batteries: the international Maritime Dangerous Goods (IMDG) Code by international Maritime Organization (IMO), Dangerous Goods Regulations(DGR,53rd)by international Air Transport Association(IATA)and Technical Instructions for the Safe Transport of Dangerous Goods by Air (TI) by international Civil Aviation organization (ICAO).These regulation are based on the UN Recommendations on the requirements of UN38.3 (UN Manual of Test and Criteria, Part subsection38.3) could be transported by air and by sea as ordinary goods, otherwise should be transported according to Class 9, Packing Group hazardous goods.

【第十五项 (Section 15) : 法规信息(Regulatory Information)】

Sara

第 355 章节 Section 355 (极危险物质 extremely hazardous substances)

没有组成成分被列出。

None of the ingredient is listed.

第 313 章节 Section 313 (特定有害物质清单 specific toxic chemical listings):

没有组成成分被列出。

None of the ingredient is listed.

加州 65 提案 Proposition 65

导致致癌物质的已知化学品:

Chemical known to cause cancer

没有组成成分被列出。

None of the ingredient is listed.

导致女性生殖毒性物质的已知化学品。

Chemical known to cause reproductive toxicity for females

没有组成成分被列出。

None of the ingredient is listed.

导致男性生殖毒性物质的已知化学品。

Chemical known to cause reproductive toxicity for males

没有组成成分被列出。

None of the ingredient is listed.

导致发育毒性的已知化学品。

Chemicals known to cause developmental toxicity:

没有组成成分被列出。

None of the ingredient is listed.

癌症类别

Cancerogenity categories

美国环保局 EPA (环境保护局 Environmental Protection Agency).

没有组成成分被列出。

None of the ingredient is listed.

IARC(国际癌症研究机构 International Agency for Research on Cancer)

没有组成成分被列出。

None of the ingredient is listed.

NTP(美国国家毒理学规划处 National Toxicology Program)

没有组成成分被列出。

None of the ingredient is listed.

TLV(阈值 Threshold limit values established by ACGIH)

没有组成成分被列出。

None of the ingredient is listed.

NIOSH-Ca (国家职业安全及健康学会 National Institute for Occupational Safety and Health)

没有组成成分被列出。

None of the ingredient is listed.

OSHA- Ca(职业安全 Occupational Safety &健康协会 Health Administration)

没有组成成分被列出。

None of the ingredient is listed.

产品相关的有害信息：

Product related hazard informations:

产品的分类和标识应与有害物质指令一致。

The product has been classified and marked in accordance with directives on hazardous material.

危害物的标志：

Hazard symbols:

有害的

Harmful

标签成份有害物质的确定：

Hazard-determining components of labelling:

锂 氧化钴(III)

Lithium Cobalt(III)oxide

风险警告：

Risk phrases:

刺激皮肤。

Irritating to skin.

严重损害眼睛的风险。

Risk of serious damage eyes.

可能通过吸入和皮肤接触导致过敏作用。

May cause sensitisation by inhalation and skin contact.

安全警告：

Safety phrases:

保持锁住且不能让小孩够到。

Keep locked up and out of the reach of children.

不要呼吸尘土。

Do not breathe dust.

避免和皮肤和眼睛接触。

Avoid contact with skin and eyes.

如果和眼睛接触，立即用大量的水冲洗，并就医。

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

佩戴合适的手套和眼睛/面部的保护。

Wear suitable gloves and eye/face protection.

如果发生事故时或者如果你感觉不适时，立即就医（在可能的情况下,做好标识）。

In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

处置该物质及其容器的危险或特殊废料收集点。

Dispose of this material and its container to hazardous or special waste collection point.

如果因吸入发生事故时：移动伤员到空气新鲜处并保持休息。

In case of accident by inhalation: remove casualty to fresh air and keep at rest.

【第十六项 Section 16: 其他信息(Other Information)】

本物质安全数据内容与格式是根据 29 CFR 1910.1200(g)制作。

The contents and format of this MSDS is in according with 29 CFR 1910.1200(g)

免责声明 DISCLAIMER OF LIABILITY

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结束

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END OF MSDS

物质安全数据表制作日期：2015年01月05日

MSDS Creation Date: January 05, 2015

物质安全数据表 (MSDS -Material Safety Data Sheet)

【第一项 (Section 1) : 化学品及企业标识 (Chemical Product and Company Identification)】

产品名称 (Product Name) : 锂二氧化锰电池 (Lithium Manganese Dioxide Battery)

产品型号 (Product code) : CR1225

制造商 (Manufacture) : 香港曼柏有限公司

EEMB Co., Ltd

地址 (address) : 香港中环德辅道中148号安泰大厦9楼

9th Floor, Amtel Building, 148 Des Voeux Road Central, Central, Hong Kong □□□□

电话 (Tel) : 852-58082720 传真 (Fax) : 852-58085462

更多信息获取:

Further information obtainable:

紧急情况下的信息: Information in case of emergency:

联系人 (Contact) : Mr. Tony Xu

紧急电话 (Emergency tel) : (+86) -755-83022275

电子邮件 (E-mail) global@eemb.com

【第二项 (Section 2) : 成分/组成信息 (Composition/information on Ingredients)】

化学物质描述

Chemical characterization

描述:

Description:

添加的混合物与无害物质在下列表中。

Mixture of the substances listed below with nonhazardous additions.

危险成份:

Dangerous components:

| 项目 Item 型号 Type | 二氧化锰 Manganese dioxide (MnO ₂) wt% | 石墨 Graphite (C) wt% | 聚四氟乙 烯 Poly(teraf luoroethy lene)(PT FE) wt% | 塑 胶 plastic (pp) wt% | 不 锈 钢 stainless steel wt% | 金 属 锂 lithium wt% | 聚碳酸丙 烯 酯 Poly(prop ylene carbonate (PC) wt% | 乙二醇二 甲 醚 ethylene glycol dimethyl ether (DME) wt% | 高氯酸锂 lithium perchlora te (LiClO ₄) wt% |
|--------------------------|--|------------------------------|--|-------------------------------|------------------------------------|-------------------------|---|--|--|
| CR927 | 26.6 | 2.2 | 0.2 | 7.0 | 51.9 | 2.2 | 3.9 | 4.1 | 1.9 |
| CR1025 | 27.4 | 2.7 | 0.2 | 7.2 | 50.6 | 2.1 | 4.0 | 3.8 | 2.0 |
| CR1130 | 27.3 | 2.9 | 0.2 | 7.2 | 50.2 | 2.1 | 4.1 | 3.9 | 2.1 |
| CR1216 | 25.7 | 2.4 | 0.2 | 7.3 | 52.3 | 1.6 | 4.3 | 4.1 | 2.1 |
| CR1220 | 26.3 | 2.6 | 0.2 | 7.7 | 50.8 | 1.5 | 4.5 | 4.2 | 2.2 |
| CR1225 | 27.9 | 2.7 | 0.2 | 5.0 | 52.0 | 1.5 | 4.4 | 4.2 | 2.1 |
| CR1616 | 21 | 1.6 | 0.2 | 3.6 | 61.6 | 1.3 | 4.4 | 4.2 | 2.1 |

| | | | | | | | | | |
|---------|------|-----|-----|-----|------|-----|-----|-----|-----|
| CR1620 | 25.1 | 2.3 | 0.2 | 4.6 | 56.3 | 1.3 | 4.2 | 4.0 | 2.0 |
| CR1632 | 31.7 | 3.1 | 0.3 | 5.5 | 46.5 | 1.8 | 4.7 | 4.2 | 2.2 |
| CR2016 | 25.4 | 3.1 | 0.2 | 4.1 | 55.2 | 1.1 | 4.6 | 4.1 | 3.2 |
| CR2025 | 26.2 | 2.5 | 0.2 | 3.4 | 55.4 | 1.7 | 4.5 | 4.0 | 2.1 |
| CR2032 | 31.7 | 2.6 | 0.3 | 3.9 | 48.8 | 2.0 | 4.5 | 4.1 | 2.1 |
| CR2320 | 27.3 | 2.7 | 0.2 | 5.4 | 52.5 | 1.3 | 4.6 | 3.7 | 2.3 |
| CR2325 | 28.2 | 2.8 | 0.2 | 5.2 | 51.1 | 1.5 | 5.0 | 3.8 | 2.2 |
| CR2330 | 30.9 | 3.0 | 0.2 | 4.9 | 47.9 | 1.6 | 5.7 | 4.0 | 1.8 |
| CR2335 | 32.1 | 3.5 | 0.3 | 4.6 | 45.1 | 1.9 | 5.3 | 3.8 | 1.7 |
| CR2354 | 46.5 | 4.7 | 0.4 | 3.0 | 34.0 | 2.1 | 4.6 | 3.2 | 1.5 |
| CR2430 | 32.8 | 3.2 | 0.2 | 3.6 | 49.5 | 1.6 | 4.5 | 3.2 | 1.4 |
| CR2450 | 46.9 | 4.6 | 0.2 | 3.2 | 32.9 | 2.2 | 4.9 | 2.9 | 2.0 |
| CR2477 | 52.3 | 5.3 | 0.4 | 2.0 | 25.8 | 3.0 | 5.6 | 3.4 | 2.2 |
| CR2477T | 52.6 | 5.4 | 0.5 | 1.5 | 25.1 | 3.5 | 6.2 | 3.8 | 2.6 |

【第三项 (Section 3) : 危险性概述(Hazards Summarizing)】

对于正常使用没有特别的健康危害。

No specific health hazardous for normal use.

侵入路径

Routes of Entry

眼睛, 皮肤, 吸入, 摄食。

Eyes, Skin, Inhalation, Ingestion.

这些化学物质被盛装在一个密封金属容器中。暴露的风险只能是因为电池被机械打开或者滥用。大多数最可能的风险是急性暴露当电池排空。泄漏的材料暴露于皮肤和眼睛可能导致刺激性。吸入烟气可能导致呼吸刺激。

These chemical are contained in a sealed can.Risk of exposure occurs only if the battery is mechanically or electrically abused.The most likely risk is acute exposure when a battery vents.Leaking material exposure to skin, eyes may cause irritation.Inhalation of fumes may cause respiratory irritation.

暴露的迹象/症状

Sign/Symptoms of Exposure

可能因有害物质泄漏与皮肤接触产生导热和化学烧伤。

May be a reproductive hazard.leaking can cause thermal and chemical burns upon contact with the skin.

【第四项 (Section 4) : 急救措施(First-aid Measures)】

眼睛: 使用大量的水冲洗 15 分钟, 不定时的抬起上下眼睑。就医。

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

皮肤: 移开受污染的衣服, 立即使用大量的水清洗皮肤或淋浴 15 分钟。就医。

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

吸入: 立即从泄漏区离开到新鲜空气处, 在必要时可以使用氧气。

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

摄食

Ingestion

不要诱导呕吐。立即就医。

Do not induce vomiting. Call a physician immediately.

【第五项 (Section 5) : 消防措施(Fire-fighting Measures)】

闪点: 不可用

Flash point: N/A

燃点温度: 不可用

Auto-Ignition Temperature: N/A

灭火介质

Extinguishing Media

水, 二氧化碳, 干粉

Water, CO₂, extinguishing power

消防

Firefighting

如果在临近的区域发生火灾时, 使用水, 二氧化碳, 干粉灭火, 电池在它们原来的容器中当由于火是纸产品燃烧引起时。对于大量未包装的电池时使用合适的灭火工具, 不要使用水。

In case of fire in an adjacent area, use water, CO₂ or extinguishing power if batteries are in their original containers since the fuel of the fire is basically paper products. For bulk quantities of unpackaged batteries use suitable extinguishers. In this case, do not use water.

【第六项 (Section 6) : 泄露应急处理(Accidental Release Measures)】

如果材料被释放或溢出采取的措施

Steps to be Taken in case Material is Released or Spilled

如果电池意外的被损害和泄漏, 用布擦拭并用塑料袋处理后放入钢制的容器中。

If the battery is accidentally broken and leaks out, wipe it up with a cloth, and dispose of it in a plastic bag and put into a steel can.

首先离开区域并允许电池冷却和蒸汽消散。提供最大的空气流通。避免皮肤和眼睛的接触或者吸入蒸汽。使用吸收剂移开溢流出来的物质。

The preferred response is to leave the area and allow the batteries to cool and vapors to dissipate. Provide maximum ventilation. Avoid skin and eye contact or inhalation of vapors. Remove spilled material with absorbent.

废物处置方法

Waste Disposal Method

建议将电池使用完后, 交与电池回收站。

It is recommended to discharge the battery to the end, and to battery recycle bin.

【第七项 (Section 7) : 操作处置与储存(Handling And Storage)】

电池不应该被打开, 损害或者焚化, 在它们可能泄漏或者破裂并释放到环境中之前, 它们被装在一个密封容器中。

The batteries should not be opened, destroyed or incinerated, since they may leak or rupture and release

to the environment the ingredients that they contain in the hermetically sealed container.

不要是电池短路或者充电，迫使过量放电，投入火中。不要撞击或者刺穿电池，或者浸入液体中。

Do not short circuit terminals, or charge the battery, forced over-discharge, throw to fire. Do not crush or puncture the battery, or immerse in liquids.

操作处置和储存预防措施

Precaution to be taken in handling and storing

避免机械或充放电的滥用。存储在温度低，干燥，通风且温度变化较小区域。避免存储在较高温度。

Avoid mechanical or electrical abuse. Storage preferably in cool, dry and ventilated area, which is subject to little temperature change. Storage at high temperature should be avoided.

存储地方周围避免有加热设备，避免长时间在阳光下暴晒。

Do not place the battery near heating equipment, nor expose to direct sunlight for long periods.

其他预防措施

Other Precautions

避免短路或安装错误的正负极。

Do not short or install with incorrect polarity.

【第八项 (Section 8) : 接触控制/个体防护(Exposure Controls/Personal Protection)】

呼吸防护

Respiratory Protective

如果电池泄漏，必须提供足够的通风设备避免因空间狭小时电池泄漏。呼吸保护不需要在正常条件下使用。

In case of battery venting, provide as much ventilation as possible. Avoid confined areas with venting batteries. Respiratory Protection is not necessary under condition of normal use.

其他防护衣或者防护设备

Other Protective Clothing or Equipment

正常条件下不必要的使用

Not necessary under conditions of normal use.

因电池泄漏建议的个人保护：呼吸防护，防护手套，防护衣，带保护的安全玻璃盾。

Personal Protective is recommended for venting batteries: Respiratory Protection, protective gloves, protective clothing and safety glass with side shields.

【第九项 (Section 9) : 理化特性(Physical and Chemical Properties)】

| 一般信息 General Information | |
|--------------------------------------|-------------------|
| 形态 Form: | 固体 Solid |
| 颜色 Color: | 银白色 Silvery white |
| 气味 Odor: | 单一的 Monotony |
| 变化条件 Change in condition | |
| 熔点/熔化范围 Melting point/Melting range: | 不可用 Not available |
| 沸点/沸点范围 Boiling point/Boiling range: | 不可用 Not available |
| 闪点 Flash point: | 无效 Not applicant |

| | |
|---|------------------------------------|
| 可燃性 Flammability (solid 固体, gaseous 气体): | 不可用 Not available |
| 燃点温度 Ignition temperature: | 不可用 Not available |
| 自然 Auto Ignition: | 产品不会自然 Product is not selfigniting |
| 爆炸危险: 产品目前没有发生过爆炸事故 Danger of explosion: product does not present an explosion hazard. | |
| 爆炸极限 Explosion limits: | |
| 下限 Lower: | 不可用 Not available |
| 上限 Upper: | 不可用 Not available |
| 氧化特征 Oxidizing properties: | 不可用 Not available |
| 蒸汽压 Vapor pressure: | 不可用 Not available |
| 密度 Density: | 不可用 Not available |
| 相对密度 Relative of density: | 不可用 Not available |
| 蒸发速率 Evaporation rate: | 不可用 Not available |
| 与水的溶解性/混和性 Solubility in / Miscibility with Water: | 不可用 Not available |
| pH 值 pH-value: | 不可用 Not available |
| 粘度 viscosity: | 不可用 Not available |
| 标准电压 Nominal Voltage: | 3.0 伏特 3.0V |

【第十项 (Section 10) : 稳定性和反应性 (Stability and Reactivity)】

稳定性

Stability

稳定性正常

Stable for normal

避免条件

Conditions to Avoid

加热, 着火, 机械滥用和充放电滥用。

Heating, fire, mechanical abuse and electrical abuse.

有害物质分解产物

Hazardous decomposition products

当暴露于火中或者高温中, 电池可能会泄漏有毒烟雾。

When exposed to fire or extreme heat, batteries may emit toxic fumes.

【第十一项 (Section 11) : 毒理学资料 (Toxicological Information)】

吸入, 皮肤和眼睛的接触当电池被打开时。

Inhalation, skin contact and eye contact are possible when the battery is opened.

当暴露内部物质, 腐蚀性烟气会刺激皮肤, 眼睛和粘膜细胞。过度暴露可能导致非纤维肺损伤和膜刺激的症状。

Exposure to internal contents, the corrosive fumes will be irritation to skin, eyes and mucous membranes. Overexposure can cause symptoms of non-fibrotic lung injury and membrane irritation.

【第十二项 (Section 12) : 生态学资料 (Ecological Information)】

当立即使用或者处理电池时目前没有生态危害。当处理时，避免水，雨和雪。

When promptly used or disposed the battery does not present ecological hazard. When disposed, keep away from water, rain and snow.

【第十三项 (Section 13) : 废弃处置(Disposal)】

适当处置或准备物质的方法

Appropriate Method of Disposal of Substance or Preparation

电池处置按照被认可的地方、州和联邦政府的要求。参照国家环境机构

Dispose of the batteries in accordance with approved local, state, and federal requirements. Consult state environmental agency.

【第十四项 (Section 14) : 运输信息(Transport Information)】

交通运输部法规 DOT regulations:

危害等级 Hazard class : 9

识别号 Identification number : UN3090

包装组 Packing group: II

适合的运输名称 Proper shipping name (专有名词 technical name): 锂二氧化锰电池 Lithium Manganese Dioxide Battery (锂金属电池 lithium Metal Battery)

标签 Label : 9

陆地运输 Land transport ADR/RID (跨国 cross-border)

ADR/RID class: 混合的有害物质和物品 9 Miscellaneous dangerous substances and articles

危险代码 Danger code (Kemler): 9

联合国危险货物编号 UN-Number: 3090

包装等级 Packaging group: II

货物名称 Description of goods: 3090 锂二氧化锰电池 3090 Lithium Manganese Dioxide Battery (锂金属电池 lithium Metal Battery)

国际海上危险货物运输规则 Maritime transport IMDG:

国际海上危险货物运输规则等级 IMDG Class: 9

联合国危险货物编号 UN Number: 3090

标签 Label: 9

包装等级 Packaging group: II

海洋污染物 Marine pollutant: Yes

正确的装运名称 Proper shipping name: 锂二氧化锰电池 Lithium Manganese Dioxide Battery (锂金属电池 lithium Metal Battery)

Air transport ICAO-TI and IATA-DGR:

UN/ID 号 UN/ID Number: 3090

标签 Label: 9

包装等级 Packaging group: II

正确的装运名称 Proper shipping name: 锂二氧化锰电池 Lithium Manganese Dioxide Battery (锂金属电池 lithium Metal Battery)

包装要求 Packing instructions: P1968-P1970

一些关于锂电池的国际运输法规: 国际海上危险货物运输规则 (IMDG) 由国际海事组织(IMO) 编制, 危险物品手册 (DGR) 是由国际航空运输协会 (IATA) 编制和技术指导安全危险货物通

过空中运输是由国际民航组织（ICAO）编制。这些规则是根据联合国建议的联合国手册 UN38.3 要求（UN 测试和标准的手册 38.3 部分）可以作为空运或者海运作的一般物品运输，否则应按照分类 9，危险货物包装组运输。

There are some regulations about the international transport of lithium batteries: the international Maritime Dangerous Goods (IMDG) Code by international Maritime Organization (IMO), Dangerous Goods Regulations(DGR,53rd)by international Air Transport Association(IATA)and Technical Instructions for the Safe Transport of Dangerous Goods by Air (TI) by international Civil Aviation organization (ICAO).These regulation are based on the UN Recommendations on the requirements of UN38.3 (UN Manual of Test and Criteria, Part subsection38.3) could be transported by air and by sea as ordinary goods, otherwise should be transported according to Class 9, Packing Group hazardous goods.

【第十五项 (Section 15) : 法规信息(Regulatory Information)】

Sara

第 355 章节 Section 355 (极危险物质 extremely hazardous substances)

没有组成成分被列出。

None of the ingredient is listed.

第 313 章节 Section 313 (特定有害物质清单 specific toxic chemical listings):

没有组成成分被列出。

None of the ingredient is listed.

加州 65 提案 Proposition 65

导致致癌物质的已知化学品:

Chemical known to cause cancer

没有组成成分被列出。

None of the ingredient is listed.

导致女性生殖毒性物质的已知化学品。

Chemical known to cause reproductive toxicity for females

没有组成成分被列出。

None of the ingredient is listed.

导致男性生殖毒性物质的已知化学品。

Chemical known to cause reproductive toxicity for males

没有组成成分被列出。

None of the ingredient is listed.

导致发育毒性的已知化学品。

Chemicals known to cause developmental toxicity:

没有组成成分被列出。

None of the ingredient is listed.

癌症类别

Cancerogenity categories

美国环保局 EPA (环境保护局 Environmental Protection Agency).

没有组成成分被列出。

None of the ingredient is listed.

IARC(国际癌症研究机构 International Agency for Research on Cancer)

没有组成成分被列出。

None of the ingredient is listed.

NTP(美国国家毒理学规划处 National Toxicology Program)

没有组成成分被列出。

None of the ingredient is listed.

TLV(阈值 Threshold limit values established by ACGIH)

没有组成成分被列出。

None of the ingredient is listed.

NIOSH-Ca (国家职业安全及健康学会 National Institute for Occupational Safety and Health)

没有组成成分被列出。

None of the ingredient is listed.

OSHA- Ca(职业安全 Occupational Safety &健康协会 Health Administration)

没有组成成分被列出。

None of the ingredient is listed.

产品相关的有害信息：

Product related hazard informations:

产品的分类和标识应与有害物质指令一致。

The product has been classified and marked in accordance with directives on hazardous material.

危害物的标志：

Hazard symbols:

有害的

Harmful

标签成份有害物质的确定：

Hazard-determining components of labelling:

锂 氧化钴(III)

Lithium Cobalt(III)oxide

风险警告：

Risk phrases:

刺激皮肤。

Irritating to skin.

严重损害眼睛的风险。

Risk of serious damage eyes.

可能通过吸入和皮肤接触导致过敏作用。

May cause sensitisation by inhalation and skin contact.

安全警告：

Safety phrases:

保持锁住且不能让小孩够到。

Keep locked up and out of the reach of children.

不要呼吸尘土。

Do not breathe dust.

避免和皮肤和眼睛接触。

Avoid contact with skin and eyes.

如果和眼睛接触，立即用大量的水冲洗，并就医。

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

佩戴合适的手套和眼睛/面部的保护。

Wear suitable gloves and eye/face protection.

如果发生事故时或者如果你感觉不适时，立即就医（在可能的情况下,做好标识）。

In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

处置该物质及其容器的危险或特殊废料收集点。

Dispose of this material and its container to hazardous or special waste collection point.

如果因吸入发生事故时：移动伤员到空气新鲜处并保持休息。

In case of accident by inhalation: remove casualty to fresh air and keep at rest.

【第十六项 Section 16: 其他信息(Other Information)】

本物质安全数据内容与格式是根据 29 CFR 1910.1200(g)制作。

The contents and format of this MSDS is in according with 29 CFR 1910.1200(g)

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END OF MSDS

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