



深圳市广亿能科技有限公司

ShenZhen guangyineng Technology Co., Ltd

电话: 0755-27949191 27949595 传真: 0755-27949010

地址: 深圳市宝安区西乡宝民二路亚尼斯大厦 A506 室

报告编号 (Report ID): SDS202101002

Material Safety Data Sheet for Extra Heavy Duty Battery (R) Series

Document Number: MSDS-R 03P, R6P, R14P, R20P, R1P ® ****Not for recharge** 不可充電** (Version : 2021)

SECTION I – Manufacturer Information 生產商資料
Manufacturer's Name 生產商 : ShenZhen guangyineng Technology Co., Ltd
Emergency & Information Phone No 緊急和查詢電話 : 0755-27949191
Address : A506, Nisi building, No.25, Baoming No.2 Road, Xixiang, Baoan District, Shenzhen, Guangdong.
Signature of Prepare (Optional)
SECTION II – Hazardous Ingredients
IMPORTANT NOTE : Use under normal conditions, the Zinc Chloride Battery is hermetically sealed. 高氯化鋅電池在正常使用下是密封的 Ingestion: Swallowing a battery can be harmful. Contents of an open battery can cause serious chemical burns of mouth, esophagus, and gastrointestinal tract. <u>IMMEDIATELY SEE DOCTOR</u> ; Do not induce vomiting or give food or drink. 誤服: 吞服電池是有害的, 誤服了的電池會導致化學性燒傷, 使食道嚴重灼傷, 萬一誤服應立即盡快找就診的醫生診斷, 不要給誤服者飲食或企圖把誤服之電池吐出 Inhalation: Contents of an open battery can cause respiratory irritation. 吸入: 吸入了開封的電池會刺激呼吸道 Skin Contact: Contents of an open battery can cause skin irritation and/or chemical burns. 皮膚接觸: 接觸了開封的電池會導致皮膚過敏或可能引致化學燒傷 Eye Contact: Contents of an open battery can cause severe irritation and chemical burns. 眼睛接觸: 如眼睛不慎接觸了已開封的電池會導致眼睛刺痛或可能引致化學燒傷

SECTION III – Identity Information 成份表		
Substance Name/Cas # 名稱代號	PEL (OSHA)	% Weight
Zinc 鋅 7440 – 66 – 6	15 mg/m ³ TWA (Total Dust) 5mg/m ³ TWA (respirable fraction)	28%
Carbon 炭 1333-86-4	35 mg/m ³ TWA (as carbon black)	8%
Manganese Dioxide 二氧化錳 1313 – 13 - 9	5mg/m ³ Ceiling (as Mn)	22%
Zinc Chloride 綠化鋅 7646-85-7	1 mg/m ³ TWA (fume)	4%
Steel 鐵 65997 – 19 – 5	None established	20%
Distilled Water 純水 7732- 18 - 5	None established	15%
Others 其他 N/A	None established	Balance



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SECTION IV – Physical / Chemical Characteristics 物理特性

Evaporation Rate (Butyl Acetate) : N.A.

Solubility in Water 溶解度 : N.A.

Appearance and Odor 形狀和氣味, Cylindrical Shape, Odorless 圓柱型 : 無氣味

SECTION V – Chemical Characteristics 學特性

Boiling Point 沸點 : N.A.

Specific Gravity 比重 (H₂O = 1) : N.A.

Melting Point 熔點 : N.A.

Vapor Pressure 蒸氣壓 (mm Hg) : N.A.

Vapor Density 蒸氣密度 (AIR = 1) : N.A.

SECTION VI – Control Fire Measures

In case of fire, it is permissible to use any class of extinguishing medium on these batteries or their packing material. Cool exterior of batteries if exposed to fire to prevent rupture.

Fire fighters should wear self-contained breathing apparatus.

如遇上電池所引發之火警, 可用任何認可之滅火器救火和他們的包裝材料, 請勿把破裂的電池投入火堆中, 滅火時應穿上有自動提供氧氣的滅火衣

SECTION VII – Reactivity Data 反應性數據

Stability 穩定性: stable 穩定

Conditions to Avoid 避免條件 : Stable 穩定

Hazardous Decomposition or Byproducts : 副產品或分解物是危險的

The Zinc Chloride Battery do not meet any of the criteria established in 40 CFR 261.2 of reactivity

高氯化鋅電池的反應性達不到 40CFR 261.2 的標準

SECTION VIII – First Aid Measures 急救處理措施

Ingestion: Do not induce vomiting or give food or drink. Seek medical attention immediately. Call National Battery Ingestion Hotline for advice.

誤服 : 不要給誤服者飲食或企圖把誤服之電池吐出, 應立即盡快找就近的醫生診斷, 聯絡國際電池熱線尋求意見

Inhalation : Provide fresh air and seek medical attention.

吸入 : 提供新鮮的空氣和盡快找就近的醫生診斷



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Skin Contact : Remove contaminated clothing and wash skin with soap and water. If a chemical burn occurs or if irritation persists, seek medical attention

皮膚接觸：把受污染的衣物移走和應立即用肥皂水清洗患處

Eye Contact : Immediately flush eyes thoroughly with water for at least 15 minutes, lifting upper and lower lids, until no evidence of the chemical remains. Seek medical attention.

眼睛接觸：盡快用清水沖洗 15 分鐘，眨動上下眼皮，直至沒有化學物殘留在眼睛，盡快找就近的醫生診斷

SECTION IX – Accidental Release or Spillage 處理意外釋放或溢出之電池

Ventilation Requirements: Room ventilation may be required in areas where there are open or leaking batteries

通風設備：如發生漏液或破損，應把電池移往室內通風地方

Eye Protection: Wear safety glasses with side shields if handling an open or leaking battery

眼部護理：應把已打開或漏液之電池，放入已盛載了水的水杯內

Gloves: Use neoprene or natural rubber gloves if handling an open or leaking battery.

Battery materials should be collected in a leak-proof container

手套：已打開或漏液之電池在處理時，應帶上橡膠手套和放入防漏之容器內

SECTION X – Storage

Storage : Store in a cool, well ventilated area. Elevated temperatures can result in shortened battery life.

存放：電池應存放在通風及清涼的地方，高溫存放會縮短電池之壽命

Mechanical Containment: If potting or sealing the battery in an airtight or watertight container is required, consult your guangyineng Battery Limited representative for precautionary suggestions. Batteries normally evolve hydrogen which, when combined with oxygen from the air can produce a combustible or explosive mixture unless vented. If such a mixture is present, short circuits, high temperature, or static sparks can cause an ignition.

Do not obstruct safety release vents on batteries, Encapsulation (potting) of batteries will not allow cell venting and can cause high pressure rupture.

機械密封：電池必須在一個防水氣和空氣之情況下做焊接或密封之加工，諮詢廣億能科技有限公司查詢有關之安全建議。電池在正常使用下會產生氫氣，當開蓋後和空氣結合後會產生易燃或易爆的氣體，放在通風通道例外。短路，高溫，靜電火花也容易產生火點

不要忽略已開封電池之安全。已封裝之電池是不容許打開外殼和有機會引起高壓擊破。



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SECTION XI – Handling

Handling: Accidental short circuit for a few seconds will not seriously affect the battery. Prolonged short circuit will cause the battery to lose energy, and can cause the safety release vent to open. Sources of short circuits include

Handling: Accidental short circuit for a few seconds will not seriously affect the battery. Prolonged short circuit will cause the battery to lose energy, and can cause the safety release vent to open. Sources of short circuits include jumbled batteries in bulk containers, metal jewelry, metal covered tables or metal belts used for assembly of batteries into devices.

處理：短暫短路對電池不會有嚴重之影響，短路時間會對電池之容量構成影響，產生高熱影響安全。把其他電池或金屬物品混合和放在同一容器內，會對電池產生短路，被破壞之池在結構內會形成短路

SECTION XII – Charging

Charging: This battery is manufactured in a charged state. Its is not designed for recharging. Recharging can cause battery leakage or in some case, high pressure rupture. Inadvertent charging can occur if a battery is installed backwards

充電：電池在生產時已有足夠電量，此款電池設計是不適用在充電池上，把電池再充電有機會令電池漏液及因高壓造成破壞，如不慎把電池充電可令電池發生反充。

SECTION XIII – Exposure Controls / Person Protection 接觸控制/個人保護

Ventilation Requirements 通風系統之要求：N.A.

Respiratory Protection 呼吸道保護：N.A..

Eyes Protection 眼睛保護：N.A.

Gloves 手套：N.A.

SECTION XIV – Ecological Information 生態資料：N.A.

SECTION XV – Regulatory Information:

Batteries are not classified as dangerous goods by US Department of Transportation or the major international regulatory bodies and are therefore not regulated.

SARA/TITLE III – As an article, this battery and its contents are not subject to the requirements of the Emergency Planning and Community Right to Know Act.

在美國運輸局和主要國際之條例中，鋅錳鹼性電池是不介定在危險品的種類內。

SARA/TITLE III – 文章中，此類電池沒有在有關急介定之項目中。



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SECTION XVI – Transport Information 運輸資訊

The Batteries in all forms of transportation (e.g. Truck, air, or sea) must be packaged in a safe and responsible manner. Regulatory concerns from all agencies for safe packaging require that batteries be packaged in a manner that prevents short circuits and be contained in (Strong Carton / Packaging) that prevents spillage of contents.

所有電池之運送方式(e.g. 航運, 空運和陸運)必須要已負責任之態度和安全包裝來運送。所有代理在監管安全包裝的問題上, 電池必須要裝放在(加厚紙箱/包裝)防止短路和防電池溢出之包裝容器內。

SECTION XVII – Transport Regulations 運輸規則

Zinc Chloride Battery (sometime referred to as “**Dry Cell**”) are not listed as dangerous goods under the **ADR** European Agreement Concerning the International Carriage of Dangerous Goods by Road, The IMDG International Maritime Dangerous Goods Code, UN Dangerous Good Regulations, IATA Dangerous Goods Regulation, ICAO Technical Instructions and the U.S. hazardous materials regulations (49 CFR). These batteries are not subject to the dangerous goods regulations provided they meet the requirement contained in the following special provisions.

高氯化鋅電池(有需要時可參考“干電池”, 因干電池類在 **ADR** European Agreement Concerning the International Carriage of Dangerous Goods by Road, The IMDG International Maritime Dangerous Goods Code, UN Dangerous Good Regulations, IATA Dangerous Goods Regulation, ICAO Technical Instructions and the U.S. hazardous materials regulations (49 CFR)的危險品類別中。

此電池在下列的航運條例中也不屬於危險品:

SECTION XVIII – Transport Catalogue 運輸類別

Regulatory Parties	Special Provisions
ADR	Not Regulated
IMDG	Not Regulated
UN, ICAO	Not Regulated
US DOT	49 CFR 172.102 Provision 130
IATA,	A123,

Ref: Summary of Packing Instruction (IATA Dangerous Goods Regulations 62th Edition 2021) the minimum requirements necessary to transport as non-restricted goods are as follows

總括在包裝指引(IATA 危險品條例 2021 年 62 版), 在非違禁品運輸中最基本之要求如下:



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All Zinc Chloride Batteries are packed in such a way to prevent short circuits or the generation dangerous quantities of heat and meet the special provisions listed above. In addition, **The IATA Dangerous Goods Regulations ICAO Technical Instructions require the words “Not Restricted” and the Special Provision No: A123 be provided on the air waybill, when an air waybill is issued.

所有高氯化鋅電池必需包裝在防止短路或在防止產生過熱之數量內和達到有關特別指引之要求下。另外,有關國際危險品的規例中的 ICAO 技術指示 “Not Restricted”字眼, 在 A123 的特別條例中必須展示在空運提單中



SECTION XIX – Information on Toxicological Characteristics

Acute Toxicity	No Data available
Skin Corrosion / irritation	No Data available
Serious eye damage/irritation	No Data available
Respiratory sensitization	No Data available
Skin sensitization	No Data available
Carcinogenicity	No Data available
Germ Cell Mutagenicity	No Data available
Reproductive Toxicity:	No Data available
STOT-Single Exposure	No Data available
STOT – Repeated Exposure	No Data available
Aspiration Hazard	No Data available

SECTION XX – Other Information : Mercury 汞 < 5ppm, Lead 鉛 < 4000ppm, Cadmium 鉍 < 5ppm

SECTION XXI – Regulatory Information

Alkaline button cell are not classified as dangerous goods by US Department of Transportation or the major international regulatory bodies and are therefore not regulated.

SARA/TITLE III – As an article, this battery and its contents are not subject to the requirements of the Emergency Planning and Community Right to know Act.

在美國運輸局和主要國際之條例中,鋅錳鹼性扣式電池是不介定在危險品的種類內。

SARA/TITLE III – 文章中, 此類電池沒有在有關緊急介定之項目中。