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检验
INSPECTION
CNAS IB0071

NO.2623030070

SAFETYDATASHEET

Product Name:	Lithium battery CR2, Voltage:3V, Capacity:850mAh(Lithium battery inside Lifejacket light RSYD-A2)
Effective Date:	2023-04-11
Compiler:	Chen Yushuang
Checker:	Liu Wanqing
Approver:	Dongxuesheng

上海化工院检验有限公司 检验检测专用章

Shanghai Institute of Chemical Industry Testing Co., Ltd.

Jiaxing Rongsheng Lifesaving Equipment Co.,Ltd

SAFETY DATA SHEET

Lithium battery CR2, Voltage:3V, Capacity:850mAh(Lithium battery inside Lifejacket light RSYD-A2)

SECTION1 PRODUCT AND COMPANY IDENTIFICATION

Product name: Lithium battery CR2, Voltage:3V, Capacity:850mAh(Lithium battery inside Lifejacket light RSYD-A2)

Company: Jiaxing Rongsheng Lifesaving Equipment Co.,Ltd

Address: NO.159, YAOJIA ROAD. WANGDIAN TOWN, XIUZHOU DISTRICT, JIAXING CITY, ZHEJIANG,314011,P.R. CHINA

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Recommend use of the chemical and restrictions on use: /

SDS Number: 2623030070

Effective Date: 2023-04-11

SECTION2 HAZARDS IDENTIFICATION

The product is outside of the scope of GHS system.

Main Hazards:

Fire or Explosion Hazards:

Lithium metal emits spontaneously flammable gas in contact with water, and the electrolyte may contain flammable liquid.

Health Hazards:

Lithium metal is corrosive to eyes and skin, and may cause burns or corrosion in contact. The electrolyte in the battery causes skin irritation and eye irritation.

SECTION3 INFORMATION ON INGREDIENTS

Product name: Lithium battery CR2, Voltage:3V, Capacity:850mAh(Lithium battery inside Lifejacket light RSYD-A2)

Ingredient	Concentration	CAS No.	EC No.
Manganese Dioxide	60.0-65.0%	1313-13-9	215-202-6
Aluminium	8.0-10.0%	7429-90-5	231-072-3
Propylene carbonate	6.0-8.0%	108-32-7	203-572-1

1,2-Dimethoxyethane	6.0-8.0%	110-71-4	203-794-9
Carbon	5.0-7.0%	7782-42-5	231-955-3
Lithium	4.5-5.5%	7439-93-2	231-102-5
Lithium perchlorate	1.0-2.0%	7791-03-9	232-237-2

SECTION4 FIRST-AID MEASURES

Skin Exposure:

If in contact with the internal materials of battery, remove the contaminated clothing and footwear, immediately flush with plenty of water for at least 20 minutes. Call a physician.

Eye Exposure:

If in contact with the internal materials of battery, lift your eyelids immediately and rinse them with running water for more than 20 minutes. Call a physician.

Inhalation Exposure:

If the internal materials of battery are inhaled, immediately remove to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Call a physician.

Oral Exposure:

Do not induce vomiting if the internal materials of battery are swallowed. Call a physician immediately.

Most Important Symptoms/Effects, Acute and Delayed:

No data available.

Indication of Immediate Medical Attention and Special Treatment Needed, If Necessary:

No data available.

SECTION5 FIRE FIGHTING MEASURES

Suitable Extinguishing Media:

Suitable: Dry graphite powder, dry sand.

Specific Hazards Arising from the Chemical:

Lithium metal can ignite spontaneously in the air when heated to a molten state. It can release hydrogen and energy when reacting with water or acids, which causes fire or even explosion. A molten stream is generated immediately after burning and will disperse and emit thick white smoke, which will shade the fire scene.

Special Protective Action for Fire-fighters:

Protective Equipment: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes. Fire-extinguishing work is done from the windward. Uninvolved persons should evacuate to a safe place.

SECTION6 ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures:

Use personal protective equipment. Ensure adequate ventilation. Keep people away from and upwind of spill/leak. Entry to noninvolved personnel should be controlled around the leakage area by roping off. Remove all sources of ignition. Water treatment is strictly prohibited. Cut off the source of leakage as much as possible.

Environmental Precautions:

Avoid leakage getting into the earth, ditches or waters.

Methods and Materials for Containment and Cleaning Up:

In case of small leakage, use dry sand or other non-combustible materials to cover the leakage, and then cover with plastic cloth to reduce scattering and avoid rain. In case of powder leakage, cover the leakage with plastic cloth or canvas to reduce scattering. Keep it dry, and remove it under the guidance of an expert.

SECTION7 HANDLING AND STORAGE

Precautions for Safe Handling:

Operators should be trained and strictly abide by operating procedures. Wear appropriate protective clothing and safety gloves. Keep away from ignition sources, heat and flame. No smoking at working site. Handling is performed in an explosion-proof ventilation system and equipment. Do not let the lithium metal contact with water. Avoid disassembling the battery at will and reversing battery polarity within the battery assembly. The battery must be firmly packed in inner packaging so as to effectively prevent short circuits and short circuits caused by movement. In case of leakage of the materials in the battery, avoid directly contact with eyes and skin. Avoid inhalation. Incompatibilities: Acids. Halogens, Combustible materials and Corrosive substances.

Conditions for Safe Storage, Including Any Incompatibilities:

Store in a cool, dry, and well-ventilated area. Keep away from ignition sources, heat and flame. Avoid exposure to moisture. Incompatibilities: Acids. Halogens, Combustible materials and Corrosive substances The battery must be firmly packed in inner packaging so as to effectively prevent short circuits and short circuits caused by movement. Storage place should be equipped with appropriate varieties and quantities of fire fighting equipment and leakage emergency treatment equipment.

SECTION8 EXPOSURE CONTROL/PPE

Control Parameters:

GBZ 2.1-2019 Occupational Exposure Limits for Hazardous Agents in the Workplace - Part 1: Chemical Hazardous Agents:

Manganese Dioxide: Manganese and its inorganic compounds (calculated as Manganese dioxide): PC-TWA 0.15 mg/m^3

Graphite dust: PC-TWA $4mg/m^3$ (total dust) $2mg/m^3$ (inhalable dust)

Aluminum metal and aluminum alloy dust: PC-TWA $3mg/m^3$ (total dust)

ACGIH:

Manganese Dioxide:TLV-TWA 0.2 mg(Mn)/m^3

Graphite : TLV-TWA 2 mg/m^3

Appropriate Engineering Controls:

Mechanical exhaust required. Safety shower and eye bath.

Individual Protection Measures:

Eye/Face Protection:

Wear chemical safety glasses.

Skin Protection:

Hand Protection: Wear safety gloves.

Body Protection: Wear appropriate protective clothing.

Respiratory Protection:

Wear government approved respirator if needed.

Thermal hazards:

No data available.

Other Protect:

No smoking, drinking and eating at working site. Wash thoroughly after handling.

SECTION9 PHYSICAL/CHEMICAL PROPERTIES

Appearance:	Silver grey and yellow cylinder plastics film shell
Odor:	Odorless
pH Value:	8-9
Solubility:	Partial soluble in water
Boiling Point, Initial Boiling Point and Boiling Range:	No data available
Melting Point/Freezing Point:	>300℃
Flash Point (Closed Cup):	No data available
Density/Relative Density:	No data available
Kinematic Viscosity:	No data available
Lower/Upper Explosion Limit/Flammability Limit:	No data available
Vapour Pressure:	No data available
Relative Vapor Density:	No data available
Partition Coefficient N-Octanol/Water(Log Value):	No data available
Autoingnition Temperature:	No data available
Decomposition Temperature:	No data available
Particle characteristics:	No data available
Flammability (Solid, Gas):	No data available

SECTION10 STABILITY AND REACTIVITY

Reactivity:

No data available.

Chemical Stability:

Stable under normal temperatures and pressures.

Possibility of Hazardous Reactions:

No data available.

Conditions to Avoid:

Avoid misoperation, exposure to heat and open flame. Avoid mechanical or electrical abuse and overcharge. Prevent short circuits. Prevent movement which could lead to short circuits. Avoid exposure to moisture.

Incompatible Materials:

Acids. Halogens, Combustible materials and Corrosive substances.

Hazardous Decomposition Products:
Carbon oxides, metal oxides, etc.

SECTION11 TOXICOLOGICAL INFORMATION

Acute Toxicity:
No data available.

Skin Corrosion/Irritation:
Lithium metal is corrosive to skin, and may cause burns or corrosion in contact. The electrolyte in the battery causes skin irritation.

Serious Eye Damage/Irritation:
Lithium metal is corrosive to eyes, and may cause burns or corrosion in contact. The electrolyte in the battery causes eye irritation.

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.

Specific Target Organ Toxicity -Single Exposure:
No data available.

Specific Target Organ Toxicity -Repeated Exposure:
No data available.

Aspiration Hazard:
No data available.

SECTION12 ECOLOGICAL INFORMATION

Toxicity:
No data available.

Persistence and Degradability:
No data available.

Bioaccumulative Potential:
No data available.

Mobility in Soil:
No data available.

Other Adverse Effects:
No data available.

SECTION13 DISPOSAL CONSIDERATION

Disposal Methods:
The disposal of discarded battery shall comply with the requirements of relevant laws, regulations, policies and standards such as the "Law of the People's Republic of China on the Prevention and Control of Environmental Pollution by Solid Waste" and "Technical Policy for the Prevention and Control of Waste Battery Pollution". Contact a licensed professional waste disposal service to dispose of wastes. Used battery being transported for disposal or reclamation should be carefully checked prior to shipment to ensure the integrity of each battery and its suitability for transport.

SECTION14 TRANSPORT INFORMATION

Lithium Metal Battery Contained in Lifejacket light RSYD-A2 during Transport:

	The product has passed the test items of Manual of Tests and Criteria Section 38.3. The content of lithium is less than 1 g.
RID/ADR(2023 Edition):	The product is not subject to the other provisions of RID/ADR according to special provision 188. According to 2.2.9.1.7(g), Manufacturers and subsequent distributors of cells or batteries manufactured shall make available the test summary as specified in the Manual of Tests and Criteria, Part III, sub-section 38.3, paragraph 38.3.5.
IATA DGR (64th Edition):	The product shall meet the General Requirements and section II of Packaging Instruction 970. According to 3.9.2.6.1(g), Manufacturers and subsequent distributors of cells or batteries manufactured after 30 June 2003 shall make available the test summary as specified in the Manual of Tests and Criteria, Part III, sub-section 38.3, paragraph 38.3.5.
IMO IMDG Code(2020 Edition):	The product is not subject to the other provisions of IMO IMDG Code according to special provision 188. According to 2.9.4.7, Manufacturers and subsequent distributors of cells or batteries manufactured shall make available the test summary as specified in the Manual of Tests and Criteria, Part III, sub-section 38.3, paragraph 38.3.5.

SECTION15 REGULATORY INFORMATION

Domestic Regulations:

Lithium Metal Battery Contained in the Equipment during Transport:

Regulations Concerning Road Transportation Of Dangerous Goods(JT/T 617-2018):

UN Number: 3091

Name and Description: Lithium metal batteries contained in equipment

The product has passed the test items of Manual of Tests and Criteria Section 38.3. The product is not subject to JT/T 617-2018 according to special provision 188.

List Of Dangerous Goods(GB 12268-2012):

UN Number: 3091

Shipping Name: Lithium metal batteries contained in equipment

Packing Group: II

The product has passed the test items of Manual of Tests and Criteria Section 38.3. The product is not subject to GB 12268-2012 according to special provision 188.

List of Dangerous Goods by Rail(2009 Edition):

Number: 91014

Name of Product: Lithium batteries contained in equipment

International Regulations:

Directive 2006/66/EC and 2013/56/EU:

The label, disposal and recycling of the battery shall meet the requirements of EU Directive 2006/66/EC and 2013/56/EU.

ICAO TI:

1. Unless be exempted according to ICAO TI, the lithium ion cell/batteries (UN 3480, PI 965) and lithium metal cell/batteries (UN 3090, PI 968) are forbidden for carriage on passenger aircraft.
2. Unless be approved according to ICAO TI, Lithium ion cells/batteries (UN 3480, PI 965) must be offered for transport at a state of charge (SoC) not exceeding 30% of their rated design capacity.

SECTION16 OTHER INFORMATION

Preparation Date:

2023-04-11

Preparation Department:

Shanghai Institute of Chemical Industry Testing Co., Ltd. Tel(Fax):+86-21-52815377/31765555

Revision:

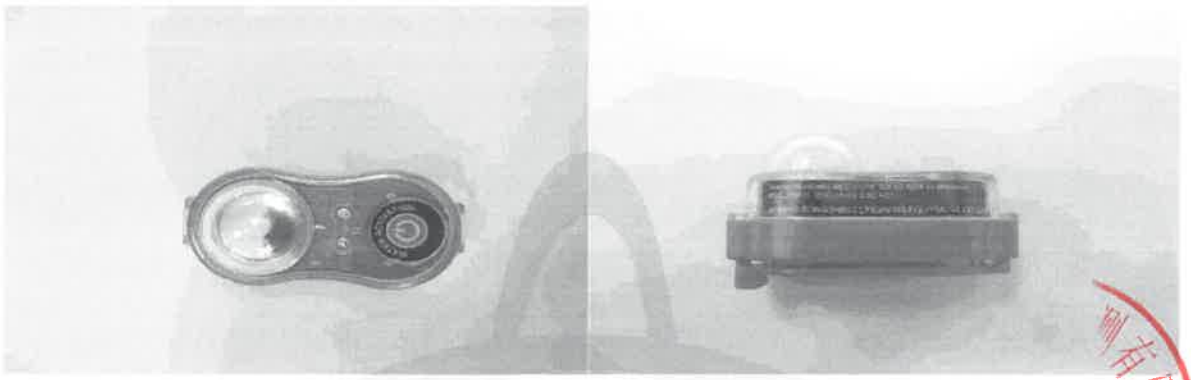
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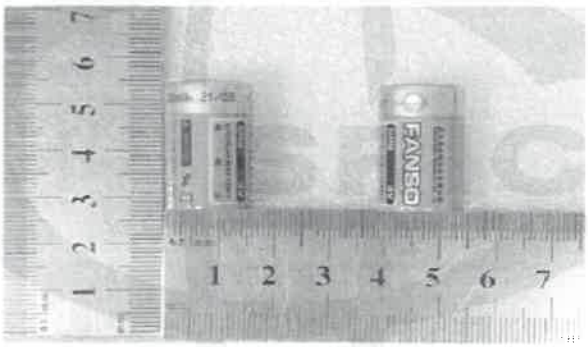
Abbreviations and Acronyms:

CAS: Chemical Abstracts Service EC: European Commission ACGIH: American Conference of Governmental Industrial Hygienists PC-TWA: Permissible concentration-time weighted average TLV-TWA: Threshold limit value-time weighted average ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road RID: Regulations concerning the International Carriage of Dangerous Goods by Rail IMO IMDG CODE: International Maritime Organization International Maritime Code for Dangerous Goods IATA DGR: International Air Transport Association Dangerous Goods Regulations EU: European Union ICAO TI: International Civil Aviation Organization Technical Instructions for the Safe Transport of Dangerous Goods by Air PI:Packaging Instruction

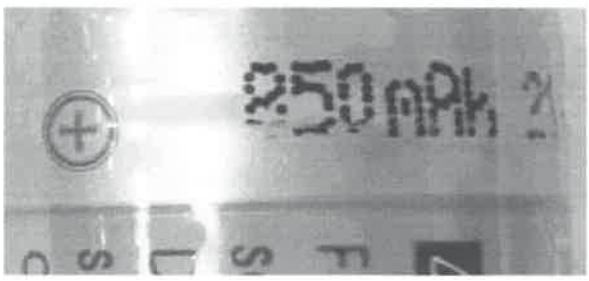
Other Information:

This SDS is only compiled for battery and based on the information such as ingredients provided by the applicant and our current knowledge. This SDS shall be used only as a guide. If the battery is used as a component in another product, the information in this SDS may not be applicable. The users of this SDS must make independent judgments on the correctness and completeness and then decide its suitability according to the actual situation. The users should take the relevant legal responsibilities for the consequences of use.









END OF REPORT