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Product Safety Data Sheet – CR14505 Lithium Battery PSDS

Issue	1.05
Date last amended	February 2025
Last amended by	JG

We

Company Name	Marine Rescue Technologies Ltd
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Declares under its sole responsibility that the product(s) as originally delivered:

Product Name(s)	Lithium Battery Pack
Part Number(s)	714020067
Type Number(s)	CR14505
For use with	AU9, AU9-WF, AU9-HT, AU9-X, AU10, AU10-HT, AU10-X, AU10-HTX, AU10-HTS, AU10-M, AU10M-X, AU10M-HT, AU11, AU11-X, AU11-HT
Chemistry	$LiMnO_2$
Total Weight	37g
Nominal Voltage	6V
Lithium weight/cell	<0.3g
Total lithium weight/battery	<0.6g

Hazards Identification:

Preparation hazards and classification	Not dangerous with normal use. Do not dismantle, open or shred the lithium and manganese dioxide battery ingredients contained within or their ingredients products could be harmful.
Appearance, Colour and Odour	Solid object with no odour, no colour.
Primary Route(s) of Exposure	These chemicals are contained in a sealed enclosure. Risk of exposure occurs only if the cell is mechanically, thermally or electrically abused to the point of compromising the enclosure. If this occurs, exposure to the electrolyte solution contained within can occur by Inhalation, Ingestion, Eye contact and Skin contact.

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Potential Health Effects	**ACUTE (short term):** see Section 8 for exposure controls in the event that this battery has been ruptured, the electrolyte solution contained within the battery would be corrosive and can cause burns. **Inhalation:** Inhalation of materials from a sealed battery is not an expected route of exposure. Vapours or mists from a ruptured battery may cause respiratory irritation. Ingestion: Swallowing of materials from a sealed battery is not an expected route of exposure. Swallowing the contents of an open battery can cause serious chemical burns of mouth, oesophagus, and gastrointestinal tract. **Skin:** Contact between the battery and skin will not cause any harm. Skin contact with contents of an open battery can cause severe irritation or burns to the skin. **Eye:** Contact between the battery and the eye will not cause any harm. Eye contact with contents of an open battery can cause severe irritation or burns to the eye. **CHRONIC (long term):** see page 5 for additional toxicological data
Medical	Not applicable

Composition/Information on Ingredients

Lithium and manganese dioxide battery is a mixture.

Hazardous Ingredients (Chemical Name)	Concentration or concentration ranges (%)	CAS Number
Lithium	2.8-3.2	7439-93-2
Carbon Black	1.0-2.2	1333-86-4
Propylene carbonate	7.5-8.6	108-32-7
1, 2 - Dimethoxyethane	2.0-2.4	110-71-4
Tetrahydrofuran	6.8-7.5	109-99-9
Manganese dioxide	38.2-42.5	1313-13-9

Labeling according to EC directives.
No symbol and risk phrase are required.
Note: CAS number is Chemical Abstract Service Registry Number.

First-aid Measures

Ingestion:	Seek medical advice. Do not induce vomiting or give food or drink.
Inhalation:	Seek medical attention. Provide fresh air.
Skin Contact:	Remove any contaminated clothing and wash affected areas with soap and water.
Eye Contact:	Seek medical attention. Immediately flush eyes with water for a minimum of 15 minutes. Ensure that both upper and lower eyelids are lifted during the flushing process.

Fire Fighting Measures

In case of fire involving lithium batteries, flood the area with water or smother with a class D fire extinguishing material suitable for lithium metal. (e.g. Lith-X).

Note: Water may not completely extinguish burning lithium batteries but will keep adjacent batteries cool reducing the risk of the fire spreading. As burning batteries will burn themselves out, flooding with water will control virtually all fires involving lithium batteries. However, the contents of lithium batteries will react with water to release hydrogen gas. In enclosed spaces this can cause an explosive mixture. Use a smothering agent in enclosed spaces which will extinguish burning lithium batteries.

Fire responders should wear self contained breathing apparatus. Burning lithium manganese dioxide batteries produce toxic and corrosive lithium hydroxide fumes.

Accidental Release Measures

Should batteries leak the following actions are recommended.

Ventilation:	Keep room containing leaking lithium batteries well ventilated.
Respiratory Protection:	Avoid exposure to fumes from open or leaking batteries.
Eye protection:	Wear safety glasses with side shields when handling leaking batteries.
Gloves:	Neoprene or natural rubber gloves should be worn when handling leaking batteries.
Storage:	Leaking batteries should be stored in a leak proof container.

Storage, Handling and Charging

Storage:	Store in a cool, well ventilated area. Elevated temperature may result in shortened battery life.
Handling:	Avoid accidentally short-circuiting batteries. Prolonged short-circuiting can cause the battery temperature to rise and significantly reduce battery life.
Charging:	These batteries are not designed for charging. Do not attempt to recharge the battery. Recharging may result in cell venting or rupture.

Exposure Controls / Personal Protection

No special requirements are required for this battery under normal circumstances.

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Physical and Chemical Properties

Physical State	**Form:** Solid **Colour:** Blue **Odour:** Odourless
pH, with indication of the concentration	Not applicable
Melting point/freezing point	Not available
Boiling Point, initial boiling point and Boiling range	Not available
Flash Point	Not available
Upper/lower flammability or explosive limits	Not available
Vapor Pressure	Not available
Vapor Density: (Air = 1)	Not available
Density/relative density	Not available
Solubility in water	Insoluble
n-octanol/water partition coefficient	Not available
Auto-ignition temperature	130°C
Decomposition temperature	Not available
Odour threshold	Not available
Evaporation rate	Not available
Flammability (soil,gas)	Not available
Viscosity	Not applicable

Stability and Reactivity

Stability	The product is stable under normal conditions.
Conditions to Avoid (e.g. static discharge, shock or vibration)	Do not subject lithium and manganese dioxide battery to mechanical shock. Vibration encountered during transportation does not cause leakage, fire or explosion. Do not disassemble, crush, short or install with incorrect polarity. Avoid mechanical or electrical abuse.
Incompatible Materials	Not available
Hazardous Decomposition Products	This material may release toxic fumes if burned or exposed to fire.
Possibility of Hazardous Reaction	Not available

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Toxicological Information

Irritation	Risk of irritation occurs only if the cell is mechanically, thermally or electrically abused to the point of compromising the enclosure. If this occurs, irritation to the skin, eyes and respiratory tract may occur.
Sensitization	Not Available
Neurological Effects	Not Available
Teratogenicity	Not Available
Reproductive Toxicity	Not Available
Mutagenicity (Genetic Effects)	Not Available
Toxicologically Synergistic Materials	Not Available

Ecological Information

General note:	Water hazard class 1 (Self-assessment): slightly hazardous for water. Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
Anticipated behavior of a chemical product in environment/possible environmental impact/ecotoxicity	Not Available
Mobility in soil	Not Available
Persistence and Degradability	Not Available
Bioaccumulation potential	Not Available
Other Adverse Effects	Not Available

Disposal Considerations

Dispose of battery module in accordance with applicable local regulations.

Transport Information

The lithium and manganese dioxide battery (CR14505) has been proven to have met the requirements of each test of the UN Manual of Tests and Criteria, Part III, subsection 38.3.

This battery must be transported by air on cargo aircraft only in accordance with the International Civil Aviation Organization's (ICAO) Technical Instructions for the Safe Transport of Dangerous Goods by Air, or the International Air Transport Association's (IATA) Dangerous Goods Regulations (DGR), classified as Class 9,

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UN3090, proper shipping name “Lithium metal batteries” and packed according to Packing Instruction 968 Section II (if no more than 2 batteries); or Section IB if more than 2 batteries and not more than 2.5kg net quantity of batteries); or Section IA if more than 2.5kg but not more than 35kg net quantity of batteries.

When supplied within equipment, it must be classified as Class 9, UN3091, proper shipping name “Lithium metal batteries contained in equipment” and must be packed in accordance with packing instruction 970 Section II (if no more than 5kg net quantity of batteries) or Section I (if more than 5kg but not more than 35kg net quantity of batteries).The AU PLB’s can be carried on board aircraft as either checked or carry-on baggage in accordance with Table 8-1 of the ICAO Technical Instructions or Table 2.3.A and para 2.3.5.9 of the IATA DGR. When carried separately, batteries MUST be carried in carry on baggage.

The battery may be transported by road or sea under special provision 188 of The European Agreement concerning the International Carriage of Dangerous Goods by Road (ADR) or the International Maritime Dangerous Goods (IMDG) Code, as appropriate.

Regulatory Information

OSHA hazard communication standard (29 CFR 1910.1200)

☐ Hazardous ☑ Non-hazardous

Other

No information

Marine Rescue Technologies Ltd. has issued this Product Safety Data Sheet to provide user advice on the above listed product(s). The information has been prepared in good faith and is believed to be accurate at the date of preparation. Marine Rescue Technologies Ltd. makes no warranty, either express or implied, with respect to this information.

Signed on behalf of Marine Rescue Technologies Ltd:

Date	Name	Position	Signature
1st February 2025	Ryan Pettit	Managing Director	