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Division of Standard Communications Pty Ltd ABN: 93 000 346 814 ACN: 000 346 814

www.gme.net.au

www.kingray.net.au

MATERIAL SAFETY DATA SHEET MT403

Drawing 44895-4

STATEMENT OF HAZARDOUS NATURE

COMPANY DETAILS:

Manufacturer's Name: Standard Communications Pty Ltd
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Address: 17 Gibbon Road, Winston Hills New South Wales, 2153, Australia
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 +61 (0)2 8867 6000
 (Contact during Business Hours EST Sydney, Australia)

Date Issued: 1st May 2015

Supersedes: 44895-3



IDENTIFICATION

Shipping Name:	Lithium Batteries Contained in Equipment
UN Number:	3091
Product Name/s:	MT403, MT403G, MT403FF, MT403FG
Other Name/s:	Emergency Position Indicating Radio Beacon (EPIRB), ACCUSAT™
Dangerous Goods Class:	Class 9 - Miscellaneous
ICAO ERG Code:	9W
Packing Group:	II

Significant Ingredients of each Cell:

NAME	APPROXIMATE MASS PER CELL (grams) (Total 10 Cells / Battery)
Active Materials	
Manganese Dioxide (MnO ₂)	5.6
Organic Electrolyte	2.2
Lithium Metal (Li)	0.58

- The unit is an Emergency Position Indicating Radio Beacon (EPIRB) and is designed to be provided on watercraft as a safety aid. When activated the EPIRB strobe flashes and radio signals are emitted on internationally recognised VHF and UHF distress channels.
- MT403 'G' variants are equipped with an integral GPS receiver which can provide location co-ordinates for inclusion in the UHF distress transmission.
- Typically in use the EPIRB is deployed in water, where it is designed to float and self-right such that the antenna is in a substantially vertical orientation.
- The integral power source, which cannot normally be accessed without opening the unit, is comprised of five (5) parallel batteries each isolated via individual current limiting and reverse flow protection circuitry. A battery consists of two (2) series connected LiMnO₂ Lithium (high energy density) long life cells.
- The batteries are not to be removed or tampered with – to be used for purpose only.



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PHYSICAL DESCRIPTION / PROPERTIES

- The enclosure is predominantly constructed of polycarbonate, with a small number of fittings evident on the exterior. When the EPIRB is removed from its mounting bracket the stainless steel tape antenna straightens to be perpendicular to the top face.
- The EPIRB is designed to withstand moderately high levels of shock and vibration consistent with the expected long-term conditions of installation and subsequent deployment.
- In an undamaged state the chassis forms an environmentally sealed enclosure which protects the printed circuit board, electronic components and integral battery.
- Should the chassis be penetrated then the LiMnO₂ cells may be exposed to damage:
 - Damaged cells may release highly corrosive and toxic contents; and
 - Disassembly, abuse or destruction of battery or cell may cause violent explosion with scattering of contents.
- Furthermore in respect to the LiMnO₂ cells:
 - Heating above 100 °C (212 °F) may cause bursting with release of contents; and
 - Heating above 170 °C (338 °F) will melt lithium resulting in a severe fire and explosion hazard.
- Cell / Battery Composition:
 - Nominally 0.58 grams (typ.) Lithium per cell.
 - 5.8 grams (typ.) Lithium per Battery

HEALTH HAZARD INFORMATION

Acute and Chronic Health Effects:

- The cell chemicals are contained in a sealed unit within the EPIRB.
- **Risk of Exposure:** The risk of exposure occurs only if the cell is mechanically or electrically abused. Any contact of electrolyte and extruded lithium with the skin and eyes should be avoided. Inhalation to be avoided.
- **Signs and Symptoms of Exposure:** A shorted Lithium cell can cause thermal and chemical burns upon contact with the skin.
- **Medical Conditions Generally Aggravated by Exposure:** An acute exposure will not generally aggravate any medical condition.

Emergency First Aid:

- **Skin Contact:** In case of skin contact with the contents of a cell, flush immediately with water and contact the Poisons Information Centre.
- **Eye Contact:** For eye contact, flush with copious amounts of water for 15 minutes and contact the Poisons Information Centre.
- **Ingestion of Leaked Material:** For advice contact the Poisons Information Centre or a Doctor at once. Urgent hospital treatment is likely to be needed. If swallowed **DO NOT** induce vomiting.
- **Inhalation of Leaked Material:** Remove patient from contaminated area, lay patient down, keep warm and rested. CPR may be required. Transport to Hospital or Doctor without delay.



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PRECAUTIONS FOR USE

- The batteries and cells are not for replacement by the user. Service of the beacon requires access to specialised equipment and replacement components, and is to be carried out by suitably qualified and authorised personnel only.
- Avoid Mechanical or Electrical Abuse.
- If the cell material is released, remove personnel from the area until the fumes dissipate.
- Provide maximum ventilation to clear out hazardous gases. Cells will not release hazardous gases under normal operation conditions.
- Batteries are capable of long-term storage at temperatures as high as 71⁰C (160⁰F). Storage at lower temperatures will not affect the product. Temperatures above 71⁰C (160⁰F) and storage at elevated temperatures should be avoided.
- **Ventilation:** In the case of cell venting, provide as much ventilation as possible. Avoid confined areas with venting cell.
- Never mix batteries with different chemistries or voltages in equipment as different batteries have different voltages or even polarities which cause short circuits or even venting.
- Do not mix new with old batteries as this can cause the used batteries to over discharge the new battery, resulting in violent venting.
- Respiratory protection is not necessary under conditions of normal use.
- **Personal Protection:** Is recommended for venting cell by wearing respiratory protection, protective gloves, protective clothing and safety glasses with side shields.
- Replace the full set of LiMnO₂ batteries when they no longer power the equipment, as it will prevent voltage reversal and possible venting
- Never attempt to charge LiMnO₂ batteries as they could violently vent or explode.
- Never use damaged LiMnO₂ batteries. Dispose of in accordance with local and State regulations.



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SAFE HANDLING

Storage and Transport (Domestic and International):

In compliance with prevailing IATA Dangerous Goods Regulations for Class 9 Goods.

Waste Disposal Method: Follow applicable Federal, State and Local regulations for disposal/recycling of products with Lithium Batteries.

- Lithium batteries and cells are best disposed of as a non-hazardous waste when discharged.
- If waste lithium cells are still fully charged or only partially discharged, then can be considered a reactive hazardous waste because of significant amounts of un-reacted lithium in the battery. The cells must be neutralised through an approved secondary treatment facility prior to disposal as a hazardous waste.

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