GME Pty Ltd. ABN: 93 000 346 814 ACN: 000 346 814
gme.net.au **T:** (02) 8867 6000 | **F:** (02) 8867 6199 | **Sales:** 1300 463 463 | **Email:** enquiries@gme.net.au
Head Office: 17 Gibbon Road, Winston Hills, NSW 2153, Australia | PO Box 96, Winston Hills, NSW 2153, Australia

SAFETY DATA SHEET

Issue: 44896-4 SDS.SY.005.01 Date: 1/11/2021

SECTION 1- IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product identifier:	MT610G
Other names:	Personal Locator Beacon (PLB), ACCUSAT™
Recommended use:	1. The unit is a Personal Locator Beacon (PLB) and is designed to provide a distress alerting and location function. When activated the PLB flashes and radio signals are emitted on internationally recognised VHF and UHF distress channels. 2. MT610G variant is equipped with an integral GPS receiver which can provide location co-ordinates for inclusion in the UHF distress transmission. 3. A PLB may find typical application in air, sea and land deployments which require a robust and portable emergency beacon which will be manually activated when required. The MT610G will not sink when in water but is not designed to operate without assistance when floating. 4. The integral power source, which cannot normally be accessed without opening the unit, is comprised of two (2) batteries, which are electrically isolated from one another using components on the main circuit board. Current limiting circuitry is provided in case of circuit fault. Each battery consists of two (2 cells) high energy density, primary LiMnO2 (Lithium manganese dioxide), cells connected in series. The battery is not to be removed or tampered with – to be used for intended purpose only.
Supplier Details **Name:** **Address:** **Telephone no.:** **Emergency phone number:**	 GME Pty Ltd 17 Gibbon Road, Winston Hills, NSW, 2153, Australia 61 2 8867 6000 61 2 8867 6000

SECTION 2- HAZARD(S) IDENTIFICATION

- The PLB is designed to withstand moderately high levels of shock and vibration consistent with the expected long-term conditions of installation and subsequent deployment. The primary lithium batteries have been tested and certified in accordance with IEC 60086-4:2019 Primary Batteries - Part 4: Safety of lithium batteries.
- In an undamaged state the chassis forms an environmentally sealed enclosure which protects the printed circuit board, electronic components and integral battery.
- In the unlikely event of the chassis being penetrated, the LiMnO2 cells may be exposed to damage and could exhibit the following:

Hazard	Category	Pictogram	Signal Word	Hazard Code	Hazard Statement
Flammable Gases:	Catgegory 1		Danger	H220	Extremely flammable gas
Flammable Liquids	Category 2		Danger	H225	Highly flammable liquid and vapour
Substances & mixtures which, in contact with water, emit flammable gases	Category 1		Danger	H260	In contact with water releases flammable gases, which may ignite spontaneously
Oxidising Liquids	Category 2		Danger	H272	May intensify fire, oxidiser
Skin corrosion/ irritation:	Category 1B		Danger	H314	Causes severe skin burns and eye damage

Skin corrosion/ irritation	Category 2		Warning	H315	Causes skin irritation
Eye Irritation	Category 2A		Warning	H319	Causes serious eye irritation
Acute Toxicity	Category 4		Warning	H302 H332	Harmful if swallowed Harmful if inhaled
Specific target organ toxicity	Category 3		Warning	H335	May cause respiratory irritation
Reproductive Toxicity	Category 1B		Danger	H360FD	May damage fertility. May damage the unborn child.
- Lithium content: 0.6g (typ.) per cell; 1.2g per battery, Total (2 batteries in total) = 2 x 1.2g Lithium per unit.					

SECTION 3- COMPOSITION / INFORMATION ON INGREDIENTS

Components (Lithium Battery):	**% (typical)**	**CAS Number**	**Hazard Code**
Manganese Dioxide (MnO2)	13-40 %	1313-13-9	H302, H332
Lithium (Li)	1-3 %	7439-93-2	H260, H314
Propylene Carbonate	<10 %	108-32-7	H319
1,2-Dimethoxy Ethane	<10 %	110-71-4	H225, H360-FD, H332
1,3-Dioxolane	<5 %	646-06-0	H225
Lithium Perchlorate	<5 %	7791-03-9	H272, H315, H319, H335
Heavy Metals and RoHS Relevant Substances			
Content	**CAS No.**	**Material**	
<1mg/kg	7440-43-9	Cadmium	
<10mg/kg	7439-92-1	Lead	
<0.1mg/kg	7439-97-6	Mercury	
<5 mg/kg		Hexavalent Chromium	
<5 mg/kg		PBB	
<5 mg/kg		PBDE	
Other Ingredients			
Content	**CAS No.**	**Material**	
23.3 %		Steel & Tin	
56.3 %		Plastic	
SVHC Substances according to REACH			
Content	**CAS No.**	**Material**	
>0.02 %	110-71-4	1,2-dimethoxyethane; ethylene glycol dimethyl ether	

SECTION 4- FIRST AID MEASURES

Under normal conditions of use:	
After inhalation:	Not a health hazard
After skin contact:	Not a health hazard
After eye contact:	Not a health hazard
After ingestion:	Drink plenty of water. Avoid vomiting. Seek medical assistance, contact a doctor or Poisons Information Centre immediately.

If exposed to internal materials within cell due to damaged outer casing, the following actions are recommended:	
After inhalation:	Electrolyte from battery: Move to fresh air immediately. Seek medical treatment immediately.
After skin contact:	Electrolyte from battery: Wash the affected area under lukewarm running water using a mild soap. Seek medical attention if irritation develops or persist.
After eye contact:	Electrolyte from battery: Flush eyes with plenty of clean water for at least 15 minutes immediately, without rubbing. Seek immediate medical treatment.
After ingestion:	Drink plenty of water. Avoid vomiting. Seek medical assistance, contact a doctor or Poisons Information Centre immediately.

Seek medical assistance for further treatment, observation and support if necessary.

SECTION 5 - FIRE FIGHTING MEASURES

Extinguisher Media:	For lithium metal fires (marked by deep red flames) use metal fire extinction powder extinguisher - class D, Alcohol resistant foam, or dry sand shall be used. If only water is available, it can be used in large amounts as a cooling agent. Carbon dioxide CO2 is not suitable for lithium metal fires but may be used as a general extinguishing media.
Special Fire-Fighting Procedures:	Do not inhale vapour. Protective clothing including breathing apparatus.
Special Hazard:	Battery cells may explode and release metal parts.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Steps to be taken if Material Is Spilled Or Released

Personal Precautions & Emergency Procedures:	In the case of the battery cells venting/out-gasing, provide as much ventilation as possible and avoid confined spaces. Wear personal protective equipment appropriate to the situation (protective gloves & clothing, eyes & face)
Environmental Precautions:	Bind/contain released materials with powder (rock salt or sand). Prevent released materials penetrating into the earth or ground water system.
Methods, Materials for Containment and Cleaning up:	Package the unit tightly including any released materials with lime, sand or rock salt. Dispose of according to the local laws and regulations, then clean the contaminated area with water. Then clean the contaminated area with water.

SECTION 7 - HANDLING AND STORAGE

Precautions to be Taken in Handing and Storage

Precautions for Safe Handling:	No special protective clothing is required for handling of an undamaged PLB. Do not puncture, incinerate or crush PLB and/or batteries. Do not short-circuit the batteries. Do not recharge the batteries.
For Safe Storage:	Store in a cool, dry place. Avoid extreme temperatures.

SECTION 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

When the PLB chassis or battery cells are not compromised and under normal operating conditions, the release of the hazardous material does not occur. Should the cells be compromised, any contact of electrolyte and extruded lithium with the skin and eyes should be avoided. Inhalation should also be avoided.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

When the PLB chassis or battery cells are not compromised and under normal operating conditions, the release of the hazardous material does not occur.

SECTION 10 - STABILITY AND REACTIVITY

Dangerous Reactions:	Heating above 100°C may cause the batteries to burst, releasing the contents; and Heating above 170°C will melt lithium resulting in a severe fire and explosion hazard.

SECTION 11 - TOXICOLOGICAL INFORMATION

This product does not elicit toxicological properties during routine handling and use.

Sensitization	Teratogenicity	Reproductive Toxicity
NO	NO	NO

If the cells are opened through misuse or damage, discard immediately. Internal components of cell are irritants and sensitizers.

SECTION 12 - ECOLOGICAL INFORMATION

The Lithium batteries used in the PLB do not contain heavy metals as defined by the European directives 2006/66/EC Article 21.
Some materials within the cell are bio-accumulative. Under normal conditions, these materials are contained and pose no risk to persons or the surrounding environment.

SECTION 13 - DISPOSAL CONSIDERATIONS

Waste Disposal Methods
Dispose in accordance with the appropriate Federal, State and Local Regulations.
Opened cells should be treated as hazardous waste.
Lithium batteries and cells are best disposed of as a non-hazardous waste when discharged, if they are partially or fully charged they are considered a reactive hazardous waste because of significant amounts of un-reacted lithium in the battery.

SECTION 14 - TRANSPORT INFORMATION

U.N Number:	**3091**
Shipping Name:	**Lithium Metal Batteries Contained in Equipment**
DG Class:	**Class 9 – Miscellaneous- Lithium Batteries**
Packaging Group:	**IATA: NIL**
Packaging Instruction:	**IATA: PI 970 Section II**
Hazchem Code:	**4W**
Emergency Guidelines:	**ICAO: ERG Code: 9FZ**
Battery Mass:	**69g**

Air Transport (Domestic and International):
Classified as Dangerous Goods by the criteria of International Air Transport Association (IATA) Dangerous Goods Regulations for transport by air.

- UN No.: 3091
- Class: 9
- Shipping Name: LITHIUM METAL BATTERIES CONTAINED IN EQUIPMENT
- Packing Group: None
- Packing Instruction: 970 Section II
- Special Provisions: A48, A88, A99, A154, A164, A181

Marine Transport (Domestic and International):

- UN No.: 3091
- DG Class: 9
- Shipping Name: LITHIUM METAL BATTERIES CONTAINED IN EQUIPMENT
- Packing Group: None
- Packing Instruction: P903, P908, P909, P910, P911 LP903, LP904, LP905, LP906
- Special Provisions: 188, 230, 310, 376, 377
- EmS: F-A, S-I

Note: The lithium metal batteries are classified: Class 9 – UN3091 – Lithium metal batteries, non-rechargeable, contained in or packed with the equipment, but not attached to the source.

SECTION 15 - REGULATORY INFORMATION

Battery chemistry not classified as Hazardous according to the Globally Harmonised System of Classification and Labelling of Chemicals (GHS) including Work, Health and Safety regulations, Australia.

Battery chemistry not classified as a Scheduled Poison according to the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).

SECTION 16 - OTHER INFORMATION

Other Precautions and /or Special Hazards: N/A

Disclaimer: The information included herein has been prepared in accordance with Safe Work Australia, preparation of safety data sheets for hazardous chemicals code of practice (2019), and is believed to be accurate and represents the best information available to us, however we make no warranty, express or implied, with respect to such information, and, we assume no liability resulting from its use. Users should make their own investigations to determine suitability of this information for their particular use.

---------- **END OF SDS** ----------