

PRODUCT SAFETY DATA SHEET

SECTION 1: IDENTIFICATION

Product Name	MOB ALERTING UNITS AU9 100mW AU9-HT AU9-LW 100mW AU9-D 100mW AU9-X
Manufacturers Name	MARINE RESCUE TECHNOLOGIES LTD
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Description	Lithium powered MOB Alerting Units are designed to be stored for up to five years before use. The battery cells are hermetically sealed. Pressurised primary lithium/iron disulphide and as supplied are protected by a moulded plastic casing. In this state the units constitute no definable hazard to health. However disassembly, abuse or destruction of the battery cell will expose the contents and the following health and safety hazards.

SECTION 2: HAZARD IDENTIFICATION

The battery is sealed hermetically. Thus, the ingredients have no hazard potential, except if the battery is violated or dismantled.

In case of mistreatment and the ingredients are released, a spontaneously flammable gas mixture may be released under certain circumstances (measures according to chapter 4 to 6).

Attention: If batteries are treated wrong the danger of burns or bursts occurs. Batteries must not be heated above 100°C or incinerated. The battery contents must not get in contact with water. If the negative electrode gets in contact with water or humidity hydrogen gas is formed, which may inflame spontaneously.

SECTION 3: COMPOSITION/INFORMATION on INGREDIENTS

Ingredients

Contents	CAS#	Hazard Symbols	R Phrases	Material
1 – 3 %	7439-93-2	F, C	14/15 – 34	Lithium
13 – 40 %	1313-13-9	Xn	20/22	Manganese dioxide
< 10 %	108-32-7	Xi	36	Propylene carbonate
< 10 %	110-71-4	FT	60 – 61 – 11 – 19 – 20	1,2-Dimethoxy ethane
< 5 %	7791-03-09	Xi	36/37/38	Lithium perchlorate

Heavy Metals

Contents	CAS#	Material
< 1 mg/kg	7440-43-9	Cadmium
< 10 mg/kg	7439-92-1	Lead
< 0,1 mg/kg	7439-97-6	Mercury (non intentionally Introduced see Chpt 12)

Other Ingredients

Contents	CAS#	Material
33 – 74 %		Steel and nickel
3 – 10%		Plastic
0 – 0.5 %		Glas/Ceramic

Important Note: The materials in this section may only represent a hazard if the integrity of the battery is compromised or if the battery is physically or electrically abused, The protective / seal outer case in which the battery is housed is designed to prevent this from happening.

SECTION 4: FIRST-AID MEASURES

Measures at accidental release

After inhalation:	Fresh air. Seek for medical assistance
After skin contact:	Remove solid particles immediately. Flush Affected areas with plenty of water (at least 15 min). Remove contaminated clothing Immediately. Seek medical assistance
After eye contact:	Flush the eye gently with plenty of water (at least 15 min) Seek medical assistance
After ingestion:	Drink plenty of water. Avoid vomiting. Seek medical assistance. No trials for neutralization

SECTION 5: FIRE-FIGHTING MEASURES

Suitable extinguishing media:	Metal fire extinction powder, rock salt or dry sand Shall be used
Extinguishing media with limited Suitability	Carbon dioxide (CO ₂) is not suitable. Water has to be avoided
Special protection equipment during fire-fighting	Contamination cloth including breathing apparatus
Special hazard	Cells may explode and release metal parts
Attention	Do not let used extinguished media penetrate into surface water or ground water. Dispose off properly

SECTION 6: ACCIDENTAL RELEASE MEASURES

Person related measures	Wear personal protective equipment adapted to the situation (protection gloves, cloth, face protection, breathing protection)
Environment protection measures	Bind release ingredients with powder (rock salt,sand) Dispose of accordingly to the local law and rules Avoid leached substances to penetrate into the earth , canalization or water
Treatment for cleaning	If battery casing is dismantled, small amounts of Electrolyte may leak. Package the battery tightly Including ingredients together with lime, sand or Rock salt. Then clean with water

SECTION 7: HANDLING AND STORAGE

Guideline for safe handling:	Always follow the warning information on the batteries and in the manuals of the devices. Only use the recommended battery type Keep batteries away from children In case of battery change always replace all batteries by new ones of identical type & brand Do not swallow batteries Do not throw batteries into water Do not throw batteries into fire Do not short circuit batteries Do not recharge primary batteries
Storage:	Storage at room temperature (approx. 20°C) Avoid large temperature changes. Avoid direct sunlight. At higher temperatures the electrical performance may be reduced.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Under normal conditions (during discharge) release of ingredients does not occur

No engineering controls are required for handling batteries that have not been damaged.
Personal protective equipment for damaged batteries should include chemical resistant gloves and safety glasses. In the event of a fire, SCBA should be worn along with thermally protective outer garments.

SECTION 9: PHYSICAL and CHEMICAL PROPERTIES

APPEARANCE	Device is housed in a sealed IP68-plastic housing
STABILITY in WATER	Product is waterproof - IP68
REACTION WITH WATER	Only if damaged
BOILING POINT	N/A
VAPOUR PRESSURE MM HG	N/A
VAPOUR DENSITY	Not soluble in water
SOLUBILITY IN WATER	N/A
APPEARANCE & ODOUR	N/A
SPECIFIC GRAVITY	N/A
MELTING POINT	N/A
EVAPORATION RATE	N/A

SECTION 10: STABILITY and REACTIVITY

This product is stable under ordinary conditions of use and storage.
Damaged batteries will react with water. Non-discharged batteries contain elemental Lithium. This is water reactive. This reaction gives off heat and hydrogen gas. A thermal reaction may occur.
Hazardous decomposition products: Carbon Monoxide (CO), Hydrogen Fluoride (HF)

SECTION 11: TOXICOLOGICAL INFORMATION

Irritancy:	The electrolytes contained in this battery can irritate eyes with any contact. Prolonged contact with the skin or mucus membranes may cause irritation.
Sensitization:	No information is available at this time.
Carcinogenicity:	No information is available at this time.
Reproductive toxicity:	No information is available at this time
Teratogenicity:	This product contains a know teratogen as indicated in the chemical information in Section 2
Mutagenicity:	No information is available at this time

SECTION 12: ECOLOGICAL INFORMATION

Mammalian effects:	None known if used / disposed of correctly
Eco-toxicity:	None known if used / disposed of correctly
Bioaccumulation potential:	None known if used / disposed of correctly
Environmental fate:	None known if used / disposed of correctly

SECTION 13: DISPOSAL CONSIDERATIONS

DISPOSAL: Only through a recognised disposer.
DO NOT ATTEMPT TO DISMANTLE THIS PRODUCT.
Batteries must be completely discharged prior to disposal
And / or terminals must be taped or capped to prevent short circuit.

SECTION 14: TRANSPORT INFORMATION

Due to the fact that the cells/batteries contain less than 1g of Lithium they are exempt from most regulations

Battery Spares Kits (-20deg.c or -40deg.c)
AU9 100mW
AU9-HT
AU9-LW 100mW
AU9-D 100mW
AU9-X

ALL THE ABOVE COMPLETE WITH LITHIUM BATTERIERS

UN NAME Lithium batteries
Lithium batteries contained in equipment

SECTION 15: REGULATORY INFORMATION

CLASSIFICATION	Class 9
HAZARD SYMBOL	Miscellaneous
RISK PHRASES	R11, highly flammable R14/15, reacts violently with water liberating extremely flammable gases R21, harmful in contact with skin R22, harmful if swallowed R36/37, irritating to respiratory system R35, causes burns R41, risk of serious damage to the eyes R42/43, may cause sensitisation by inhalation and skin contact
SAFETY PHRASES	S2, keep out of the reach of children S8, keep away from moisture S22, do not breathe dust S24 avoid contact with skin S26 in case of contact with eye, rinse immediately with plenty of water S36 wear suitable protective clothing S37 wear suitable gloves S45 in case of incident, seek medical attention

SECTION 16: OTHER INFORMATION

The information contained herein is furnished without warranty of any kind.

Users should consider this data only as a supplement to other information gathered by them and must make independent determinations of the suitability and completeness of information from all sources to assure proper use and disposal of these materials and the safety and health of employees and customers.