PRODUCT SAFETY DATA SHEET
PRODUCTS: LJ2/RB2/RM Lite GB/RM1/RM Combi LD/R.EXT 1

SECTION 1: IDENTIFICATION	
PRODUCT NAME	Marine Safety Light Systems LJ2, RB2, RM Lite GB, RM1, RM Combi LD
MANUFACTURERS NAME	**DANIAMANT LIMITED**
ADDRESS **TELEPHONE NO.** **FAX NO.**	Unit 3, The Admiral Park, Airport Service Road, Portsmouth, Hants. PO3 5RQ UK +44 (0) 23 9267 5100 (Switchboard) +44 (0) 23 9267 5101 (Fax)
EMERGENCY NOS.	**FOR CHEMICAL EMERGENCY, SPILL, LEAK, FIRE EXPOSURE OR ACCIDENT CALL CHEMTREC DAY OR NIGHT:** **00 1 703 527 3887 (SHIPMENT TO AND FROM USA) (CHEMTREC OFFICE)** **800 424 9300 (INTERNAL N.AMERICA MOVEMENTS) (CHEMTREC OFFICE)** **D806 CHEMTREC COMPANY CODE 205617 COMPANY NUMBER**
DESCRIPTION	Lithium powered marine safety light systems are designed to be stored for up to five years before use. The battery cells are hermetically sealed. Pressurised primary lithium/sulphur dioxide and as supplied are electronically protected by a fuse and from external environment 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: INFORMATION OF INGREDIENTS					
	HAZARDOUS COMPONENTS:				
	CAS NUMBER	**EC Number**	**% OPTIONAL**	**OSHA/PEL**	**ACGIH TLV 5 TEL**
Lithium Metal	**7439-93-2**	**231-102-5**	**<2.5%**	**N/A**	**N/A**
Sulphur Dioxide	**7446-09-5**	**231-195-2**	**<25%**	**5ppm**	**5ppm**
Acetonitrile	**75-05-8**	**200-835-2**	**<6%**	**40ppm**	**40ppm**
Carbon Black	**1333-86-4**	**215-609-9**	**<5%**	**3.5ppm**	**3.5ppm**
	Reference : Sax's dangerous properties of industrial materials. **NOTE: These products do not contain asbestos.**				

SECTION 3: HAZARD IDENTIFICATION

LITHIUM METAL:	This is flammable when in contact with water. It reacts violently to produce hydrogen and lithium hydroxide. Use only soda ash, sodium chloride or graphite to extinguish flames.		
SULPHUR DIOXIDE:	This is a colourless gas with a pungent choking odour. The fumes are toxic when in contact with fire. The vapour will cause irritation of the eyes and throat, which can result in bronchitis, asphyxia and conjunctivitis. See First Aid notes below.		
ACETONITRILE:	This is a colourless volatile liquid with an ether like odour, which is highly flammable. The toxic fumes should not be inhaled as they can cause fatigue and abdominal pain. In severe cases,there may be delirium, convulsions, or paralysis and coma. See First Aid notes below.		
ROUTES FOR ENTRY:			
Sulphur Dioxide	**Inhalation:** Yes	**Skin:** Yes	**Ingestion:** Yes

HEALTH HAZARDS (ACUTE & CHRONIC)

Carcinogenicity:	None
Signs and Symptoms of Exposure:	Sulphur Dioxide – irritation of nose, throat, ears and/or skin. Suffocating odour.
Medical Conditions:	Generally aggravated by exposure – sulphur dioxide – asthma and other respiratory diseases.
Emergency and First Aid Procedures:	If cell vents, personnel should be evacuated from contaminated areas.
	Artificial respiration should be given if breathing stops. Flush any material from skin.

SECTION 4: FIRST AID MEASURES

In the unlikely event of the battery becoming damaged the user may come into contact with the above components.

EYES:	Irrigate thoroughly with water for at least 15 minutes. Obtain medical attention.
INHALATION:	Remove from exposure, rest and keep warm. In severe cases, or if exposure has been great, obtain medical attention.
SKIN:	Drench the skin thoroughly with water. Remove contaminated clothing and wash before re-use. Unless contact has been slight, obtain medical attention.
INGESTION:	Wash out mouth thoroughly with water and give plenty of water to drink. Obtain medical attention.
	Other materials are inert or have low hazard associated with their exposure.

SECTION 5: FIRE FIGHTING MEASURES

In the case where significant quantities of lithium / sulphur dioxide batteries have been involved in a fire, account must be taken of the possibility that flammable gases might be evolved should water come into contact with the cold battery residues. These gases might include Acetylene, Hydrogen and Cyanide. It is recommended that ventilation should be maximised should this scenario be realised.

Flash Point:	NON-FLAMMABLE (Open flame)
Extinguishing Media:	Use water or CO2 on burning lithium sulphur dioxide cells or batteries. Use a Class D fire extinguisher agent only on a raw lithium fire.
Special Fire Fighting Procedures:	Use a self-contained breathing apparatus.
Unusual Fire and Explosion Hazards:	Battery may vent when subject to excessive heat-exposing contents. **IF cells are directly involved in a fire, DO NOT USE WATER, SAND, CO2, DRY POWDER OR SODA ASH EXTINGUISHERS.**

SECTION 6: ACCIDENTAL RELEASE MEASURES

Dispose only via approved landfill site or incineration by an approved source. Steps to be taken in case material is released or spilled. Remove personnel from area until fumes dissipate.
Provide maximum ventilation to clear any hazardous gases, waste disposal method. Dispose of cell or battery in accordance with local, state and Federal Environmental regulations.

SECTION 7: HANDLING AND STORAGE

Handle and store in cool, well-ventilated area. Keep out of direct sunlight and away from heat sources.

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

External corrosion of the Nickle plated can and tags could result in the formation of toxic metal salts. Avoid ingestion. Observe personal hygiene. Wash hands after contact.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE	Light in a plastic housing.
STABILITY IN WATER	Product is waterproof.
REACTION WITH WATER	Only if damaged.
BOILING POINT	N/A
VAPOUR PRESSURE mm/hg	N/A
VAPOUR DENSITY	N/A
SOLUBILITY IN WATER	Not soluble in water
APPEARANCE & ODOUR	N/A
SPECIFIC GRAVITY	(H20 = 1) >1
MELTING POINT	190°C Plastic Case
EVAPORATION POINT	N/A

SECTION 10: STABILITY AND REACTIVITY	
HAZARDOUS REACTIONS	Flammable when in contact with moisture.
HAZARDOUS DECOMPOSITION REACTIONS	Toxic fumes.

SECTION 11: TOXICOLOGICAL INFORMATION	
SIGNS & SYMPTOMS	NONE, unless battery ruptures. In the event of exposure to internal contents, corrosive fumes will be very irritating to skin, eyes and mucous membranes. Over-exposure can cause symptoms of non-fibrotic lung injury and membrane irritation.
INHALATION	Lung irritation.
SKIN CONTACT	Skin irritation.
EYE CONTACT	Eye irritation.
INGESTION	Tissue damage to throat and gastro / respiratory tract if swallowed.
MEDICAL CONDITIONS	In the event of exposure to internal contents, eczema, skin allergies, lung injuries, asthma and other respiratory disorders may occur.
GENERALLY AGGREVATED BY EXPOSURE.	

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	
DISPOSAL	Only through a recognised disposer DO NOT ATTEMPT TO DISMANTLE THIS PRODUCT.

SECTION 14: TRANSPORT INFORMATION

UN Hazard Code	Class 9
UN Number	UN3090
UN Proper Shipping Name	Lithium Metal Batteries.
IATA Packing Instructions for air	968, Section I
IMDG/ADR Packing instructions for road and sea	P903, Special Provision 230
Lithium Content	2.4g (lithium metal cell)
Total Battery Weight	LJ2/RB2/R.EXT1 – 137grams / Rescue Master Combi – 125 grams / Rescue Master 1 and LiteGB – 125 grams.
Labelling	As per IATA, IMDG & ADR requirements
Battery Test Criteria	Tested to UN ST/SG/AC.10/11/Rev.5/Amend.1 Criteria III Section 38.3. (Test Certificate available on request). Each cell and battery incorporate a safety venting device. Each cell and battery is equipped with an effective means of preventing external short circuits and reverse current flow.

SECTION 15: REGULATORY INFORMATION

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 eyes, 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

Disclaimer	This PSDS is provided for information only The information and recommendations set forth herein are made in good faith and are believed to be accurate as of the date of preparation. However, the company makes no warranty, either expressed or implied with respect to this information and disclaims all liability from reliance on. It is the shippers responsibility to ensure that they are trained and competent in handling and shipping lithium batteries by all transport modes.

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