PRODUCT SAFETY DATA SHEET
PRODUCTS: RL6

SECTION 1: IDENTIFICATION	
PRODUCT NAME	Marine Safety Light Systems RL6
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 Iron-Disulfide 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	Amount	OSHA (PEL)	ACGIH (TLV)
Lithium-Aluminium Alloy (Li-Al)	**7439-93-2**	**231-102-5**	**4 – 6%**	**N/A**	**N/A**
Iron Disulfide (FeS_2)	**1309-36-0**	**215-167-7**	**25 – 40%**	**N/A**	**N/A**
Propylene Carbonate (PC)	**108-32-7**	**203-572-1**	**<5%**	**N/A**	**N/A**
1,2 – Dimethoxyethane (DME)	**110-71-4**	**203-794-9**	**<5%**	**N/A**	**N/A**
1,3 – Dioxolane (DOL)	**646-06-0**	**211-463-5**	**<10%**	**N/A**	**N/A**
Lithium Perchlorate	**7791-03-9**	**232-237-2**	**<1%**	**N/A**	**N/A**
Graphite	**7782-42-5**	**231-955-3**	**1-3%**	**15 mg/m^3**	**2 mg/m^3**
Stainless Steel (Fe)	**7439-89-6**	**231-096-4**	**30-40%**	**N/A**	**N/A**
Aluminium (Al)	**7429-90-5**	**231-072-3**	**2-5%**	**10 mg/m^3**	**5 mg/m^3**
Carbon Black	**1333-86-4**	**215-609-9**	**1-2%**	**3.5 mg/m^3**	**3.5 mg/m^3**
Polypropylene	**9003-07-0**	**618-352-4**	**2-5%**	**N/A**	**N/A**
Adhesive CMC	**9085-26-1**		**0.1-2%**	**N/A**	**N/A**
Adhesive SBR	**9003-55-8**	**618-370-2**	**0.1-2%**	**N/A**	**N/A**

Reference: Sax's dangerous properties of industrial materials.
NOTE: This product does not contain asbestos.

SECTION 3: HAZARD IDENTIFICATION

EMERGENCY OVERVIEW

CAUTION: Battery can explode or leak if heated, disassembled, shorted, recharged, exposed to fire or high temperature or inserted incorrectly. Keep in original package until ready to use. Do not carry batteries loose in your pocket or purse. Keep batteries away from children. Under certain misuse conditions and by abusively opening the battery, exposed lithium can react with water or moisture in the air causing potential thermal burns or fire. Liquid released from damaged battery is flammable and may present a fire hazard.

Potential Health Effects:	The chemicals and metals in this product are contained in a sealed can. Exposure to the contents will not occur unless the battery leaks, is exposed to high temperatures or is mechanically, physically, or electrically abused. Contact with battery contents may cause severe irritation.
Eye Contact:	Contact with battery contents may cause severe irritation.
Skin Contact:	Contact with battery contents may cause irritation.
Inhalation:	Inhalation of vapours or fumes released due to heat or a large number of leaking batteries may cause respiratory and eye irritation. High concentration may cause central nervous system effects including headache, dizziness and nausea.
Ingestion:	Swallowing is not anticipated for larger batteries due to battery size. Irritation to the internal/external mouth areas may occur following exposure to a leaking battery.

SECTION 4: FIRST AID MEASURES

EYE CONTACT:	If battery is leaking and material contacts the eye, flush thoroughly with copious amounts of running water for 30 minutes. Seek immediate medical attention.
SKIN CONTACT:	If battery is leaking and material contacts the skin, remove any contaminated clothing and flush exposed skin with copious amounts of running water for a t least 15 minutes. If irritation, injury or pain persists, seek medical attention.
INHALED:	If battery is leaking, contents may be irritating to respiratory passages. Move to fresh air. If irritation persists, seek medical attention.
SWALLOWED:	If battery is leaking and mouth area irritation or burning has occurred, rinse the mouth and surrounding area with tepid water for at least 15 minutes. Get medical attention immediately for treatment and to rule out the involvement of the gastrointestinal tract.
NOTE TO PHYSICIAN:	The primary toxic ingredients are lithium, lithium bis-trifluoromethanesulfonimide and sulfolane. Anticipated potential leakage volume is 1 to 5 mL depending upon battery size. Maximum leakage from an AA cell is 1.8 mL.
EMERGENCY AND FIRST AID PROCEDURES:	If cell vents, personnel should be evacuated from contaminated areas. Other materials are either inert or have low hazard associated with their exposure.

SECTION 5: FIRE FIGHTING MEASURES

Fire and Explosion Hazards:	Batteries may burst and release hazardous decomposition products when exposed to a fire situation.
Extinguishing Media:	Use dry chemical, alcohol foam, water or carbon dioxide as appropriate for the surrounding fire. For incipient fires, carbon dioxide extinguishers are more effective than water.
Special Fire Fighting Procedures:	Fire fighters should wear positive pressure self-contained breathing apparatus and full protective clothing. Fight fire from a distance or protected area. Cool fire exposed batteries to prevent rupture. Use caution when handling fire-exposed containers (batteries may explode in heat of fire).
Hazardous Combustion Products:	Thermal degradation may produce hazardous fumes of lithium; hydrofluoric acid, oxides of carbon and sulphur and other toxic by-products.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Notify safety personnel of large spills. Irritating and flammable vapours may be released from leaking or ruptured batteries. Eliminate all ignition sources. Evacuate the area and allow the vapours to dissipate. Clean-up personnel should wear appropriate protective clothing to avoid eye and skin contact and inhalation of vapours or fumes. Increase ventilation. Carefully collect batteries and place in an appropriate container for disposal. Remove spilled liquid with absorbent and contain for disposal.

SECTION 7: HANDLING AND STORAGE

Avoid mechanical or electrical abuse. DO NOT short circuit or install incorrectly. Batteries may explode pyrolize or vent if disassembled, crushed, recharged or exposed to high temperatures. Install in accordance with equipment instructions.

Storage: Store batteries in a dry place at normal room temperature.

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

Ventilation:	No special ventilation is needed for normal use.
Respiratory Protection:	None required for normal use.
Skin Protection:	None required for normal use. Use butyl rubber gloves when handling leaking batteries.
Eye Protection:	None required for normal use. Wear safety goggles when handling leaking batteries.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE	Light in a plastic housing.
STABILITY IN WATER	Product is waterproof.
REACTION WITH WATER	Only if damaged.
FLASH POINT	Not applicable unless individual components exposed.
FLAMMABILITY	Not applicable unless individual components exposed.
RELATIVE DENSITY	Not applicable unless individual components exposed.
SOLUBILITY IN WATER	Not applicable unless individual components exposed.
SOLUBILITY OTHER	Not applicable unless individual components exposed.

SECTION 10: STABILITY AND REACTIVITY

Hazardous materials are housed within a hermetically sealed unit, under normal conditions this unit is Non-Hazardous.

STABILITY	This product is stable.
INCOMPATIBILITY/CONDITIONS TO AVOID	Contents are incompatible with strong oxidizing agents and acids. Do not heat, crush, disassemble, short circuit or recharge.
HAZARDOUS DECOMPOSITION PRODUCTS:	Thermal decomposition may produce hazardous fumes of lithium; hydrofluoric acid, oxides of carbon and sulphur and other toxic by-products. Iron disulphide will react with oxidizers to form sulphur dioxide and with acids to form hydrogen sulphide.
HAZARDOUS POLYMERIZATION:	Will not occur.

SECTION 11: TOXICOLOGICAL INFORMATION

ACUTE TOXICITY DATA:

Iron Disulfide	No data available.
1,3 – Dioxolane	LD50 oral rat 5200 mg./kg, LD50 dermal rabbit 15,000 mg/kg, LC50 inhalation rat 68.4 mg/L/4 hr
Lithium bis-Trifluoromethanesulfonimide	LD50 oral rat 160-210 mg/kg
Sulfolane	LD50 oral rat 1941 mg/kg, LD50 dermal rabbit 4009 mg/kg, LC50 inhalation rat >12 mg/L/4 hr
Chronic Effects:	The chemicals in this product are contained in a sealed can and exposure does not occur during normal handling and use. No chronic effects would be expected from handling a leaking battery.
Target Organs:	Skin, eyes and respiratory system.
Carcinogenicity	None of the components of this product are listed as carcinogens by ACGIH, IARC, NTP or OSHA.

SECTION 12: ECOLOGICAL INFORMATION

1,3-Dioxolane	EC50 daphnia magna 6950 mg/L/48 hr, LC50 sheepshead minnow 8294-12057 mg/L/96 hr.
Sulfolane	LC50 mosquito fish 1930 mg/L/96 hr.
This product is not expected to present an environmental hazard.	

SECTION 13: DISPOSAL

DISPOSAL	DO NOT INCINERATE or subject cells to temperature in excess of 100°C. Such abuse can result in loss of seal. Leakage and/or cell explosion. Dispose of in accordance with appropriate local regulations. DO NOT ATTEMPT TO DISMANTLE THIS PRODUCT

SECTION 14: TRANSPORT INFORMATION

UN Hazard Code	Class 9
UN Number	3091
UN Proper Shipping Name	Lithium Metal Batteries Contained in Equipment
IATA Packing Instructions for air	970, Section I
Packing instructions for road and sea	P903, Special Provision 230
Lithium Content	3.60grams (Lithium metal battery pack)
Total Battery Weight	62g (Weight of Individual Cell 15.5g)
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 incorporates 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	R8	Contact with combustible material may cause fire.
	R11	Highly flammable.
	R14/15	Reacts violently with water liberating extremely flammable gasses.
	R17	Spontaneously flammable in air.
	R19	May form explosive peroxides.
	R20	Harmful by inhalation.
	R22	Harmful if swallowed.
	R34	Causes burns.
	R36/37/38	Irritating to eyes, respiratory system and skin.
	R41	Risk of serious damage to the eyes.
Safety Phrases	S1/2	Keep locked up and out of the reach of children.
	S8	Keep away from moisture.
	S16	Keep away from sources of ignition – no smoking.
	S17	Keep away from combustible material.
	S24/25	When using do not eat drink or smoke.
	S26/27	In case of contact with eyes, rinse immediately with plenty of water.
	S29	Do not empty into drains.
	S33	Take precautionary measures against static discharges.
	S36	Wear suitable protective clothing.
	S37	Wear suitable gloves.
	S38	In case of insufficient ventilation wear suitable respiratory equipment.
	S43	In case of fire, see fire fighting precautions.
	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.

11 November 2025