

## PRODUCT SAFETY DATA SHEET

### PRODUCTS: LJ1

#### SECTION 1: IDENTIFICATION

<b>PRODUCT NAME</b>	Marine Safety Light Systems LJ1
<b>MANUFACTURERS NAME</b>	<b>DANIAMANT LIMITED</b>
<b>ADDRESS TELEPHONE NO. FAX NO.</b>	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)
<b>EMERGENCY NOS.</b>	<b>FOR CHEMICAL EMERGENCY, SPILL, LEAK, FIRE EXPOSURE OR ACCIDENT CALL CHEMTREC DAY OR NIGHT:</b>  <b>00 1 703 527 3887 (SHIPMENT TO AND FROM USA) (CHEMTREC OFFICE)</b>  <b>800 424 9300 (INTERNAL N. AMERICA MOVEMENTS) (CHEMTREC OFFICE)</b>  <b>D806 CHEMTREC COMPANY CODE 205617 COMPANY NUMBER</b>
<b>DESCRIPTION</b>	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 manganese dioxide lithium 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

	<b>HAZARDOUS COMPONENTS:</b>				
	<b>CAS NUMBER</b>	<b>EC Number</b>	<b>% OPTIONAL</b>	<b>OSHA/PEL</b>	<b>ACGIH TLV 5 TEL</b>
<b>Lithium Metal</b>	7439-93-2	231-102-5	<2.5%	N/A	N/A
<b>Sulphur Dioxide</b>	7446-09-5	231-195-2	<25%	5ppm	5ppm
<b>Acetonitrile</b>	75-05-8	200-835-2	<6%	40ppm	40ppm
<b>Carbon Black</b>	1333-86-4	215-609-9	<5%	3.5ppm	3.5ppm
	Reference : Sax's dangerous properties of industrial materials.				
	NOTE: This product does not contain asbestos.				

### SECTION 3: HAZARD IDENTIFICATION

<b>LITHIUM METAL:</b>	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.		
<b>SULPHUR DIOXIDE:</b>	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.		
<b>ACETONITRILE</b>	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.		
<b>ROUTES FOR ENTRY:</b>			
<b>Sulphur Dioxide:</b>	<b>Inhalation:</b> Yes	<b>Skin:</b> Yes	<b>Ingestion:</b> Yes
<b>HEALTH HAZARDS (ACUTE &amp; CHRONIC)</b>			
<b>Carcinogenicity:</b>	None		
<b>Signs and Symptoms of Exposure:</b>	Sulphur Dioxide – irritation of nose, throat, yes, and/or skin, suffocating odour.		
<b>Medical Condition:</b>	Generally aggravated by exposure – sulphur dioxide – asthma and other respiratory diseases.		
<b>Emergency and First Aid Procedures:</b>	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.

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

Other materials are either 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.

<b>Flash Point:</b>	NON-FLAMMABLE (open flame)
<b>Extinguishing Media:</b>	Use water or CO2 on burning lithium pressurised manganese dioxide lithium cells or batteries. Use a Class D fire extinguisher agent only on a raw lithium fire.
<b>Special Fire Fighting Procedures:</b>	Use self-contained breathing apparatus.
<b>Unusual Fire and Explosion Hazards:</b>	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 Nickel 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

<b>APPEARANCE</b>	Light in a plastic housing.
<b>STABILITY IN WATER</b>	Product is waterproof.
<b>REACTION WITH WATER</b>	Only if damaged.
<b>BOILING POINT</b>	N/A
<b>VAPOUR PRESSURE. Mm/hg</b>	N/A
<b>VAPOUR DENSITY</b>	N/A
<b>SOLUBILITY IN WATER</b>	Not soluble in water.
<b>APPEARANCE &amp; ODOUR</b>	N/A
<b>SPECIFIC GRAVITY</b>	(H2O = 1) >1
<b>MELTING POINT</b>	190°C Plastic Case
<b>EVAPORATION RATE</b>	N/A

## SECTION 10: STABILITY AND REACTIVITY

<b>HAZARDOUS REACTIONS</b>	Flammable when in contact with moisture.
<b>HAZARDOUS DECOMPOSITION REACTIONS</b>	Toxic fumes.

## SECTION 11: TOXICOLOGICAL INFORMATION

<b>SIGNS &amp; SYMPTOMS</b>	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.
<b>INHALATION</b>	Lung irritation.
<b>SKIN CONTACT</b>	Skin irritation.
<b>EYE CONTACT</b>	Eye irritation.
<b>INGESTION</b>	Tissue damage to throat and gastro/respiratory tract if swallowed.
<b>GENERALLY AGGRAVATED BY EXPOSURE.</b>	In the event of exposure to internal contents, eczema, skin allergies, lung injuries, asthma and other respiratory disorders may occur.

## SECTION 12: ECOLOGICAL INFORMATION

<b>MAMMALIAN EFFECTS</b>	None known if used / disposed of correctly.
<b>ECO-TOXICITY</b>	None known if used / disposed of correctly.
<b>BIOACCUMULATION POTENTIAL</b>	None known if used / disposed of correctly.
<b>ENVIRONMENTAL FATE</b>	None known if used / disposed of correctly.

## SECTION 13: DISPOSAL

<b>DISPOSAL</b>	Only through a recognised disposer. DO NOT ATTEMPT TO DISMANTLE THIS PRODUCT.
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## SECTION 14: TRANSPORT INFORMATION

<b>UN Hazard Code</b>	Class 9
<b>UN Number</b>	3091
<b>UN Proper Shipping Name</b>	Lithium Metal Batteries Contained in Equipment.
<b>IATA Packing Instructions for air</b>	970, Section II

<b>Packing instructions for road and sea</b>	P903 Special Provisions 230, 188.
<b>Lithium Content</b>	0.78g (Lithium metal cell)
<b>Total Battery Weight</b>	25g (Weight of Individual Cell 25g)
<b>Labelling</b>	As per IATA, IMDG & ADR requirements
<b>Battery Test Criteria</b>	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

<b>Risk Phrases</b>	R11 R14/15 R21 R22 R36/37 R35 R41 R42/43	Highly flammable Reacts violently with water liberating extremely flammable gases Harmful in contact with skin Harmful if swallowed Irritating to respiratory system and skin. Causes burns Risk of serious damage to the eyes May cause sensitisation by inhalation and skin contact
<b>Safety Phrases</b>	S2 S8 S22 S24 S26 S36 S37 S45	Keep out of reach of children Keep away from moisture Do not breathe dust Avoid contact with skin In case of contact with eyes, rinse immediately with plenty of water. Wear suitable protective clothing Wear suitable gloves In case of incident seek medical attention

## SECTION 16: OTHER INFORMATION

<b>Disclaimer</b>	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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