

PRODUCT SAFETY DATA SHEET

PRODUCTS: DAN R.INT2

SECTION 1: IDENTIFICATION

PRODUCT NAME	Marine Safety Light Systems R.INT2
MANUFACTURERS NAME	DANIAMANT A/S
ADDRESS TELEPHONE NO. FAX NO.	Industrivej 24C, DK-3550 Slangerup, Denmark. +45 47 37 39 00 +45 47 37 38 09
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	Weight grams	OSHA/PEL	ACGIH TLV 5 TEL
Lithium Metal	7439-93-2	231-102-5	0.89	N/A	N/A
Thionyl chloride (SOCL ₂)	7719-09-7	231-748-8	8.5		
Carbon (c)	7440-44-0	231-153-3	1.02		
LiAlCl ₄	14024-11-4	237-850-9	1.1		
	Reference : Sax's dangerous properties of industrial materials.				
	NOTE: This product does 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.
THIONYL CHLORIDE	Poison. May be fatal if inhaled. Causes severe burns. May cause serious eye damage.

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:	Tissue damage to throat and gastro/respiratory tract if swallowed.
FURTHER TREATMENT	All cases of eye contamination, persistent skin irritation and casualties who have swallowed this substance or been affected by breathing its vapours should be seen by a doctor.
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

If cells are directly involved in fire, DO NOT USE SAND, DRY POWDER OR SODA ASH, GRAPHITE, METAL CLASS D EXTINGUISHERS OR A FIRE BLANKET. Copious quantities of a water based foam is the only recommended extinguishing media for fires involving cells. If a fire is in an adjacent area, and cells are packed in their original containers, the fire can be fought based on fuelling material e.g. paper and plastic products. Avoid fume inhalation.

In the case where significant quantities of Lithium / Thionyl Chloride 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.

EXTINGUISHING MEDIA: Copious quantities of a water based foam.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Do not breathe vapours or touch liquid with bare hands. If the skin has come into contact with the electrolyte it should be washed thoroughly with water. Earth or sand should be used to absorb the exudation, seal leaking battery and earth in a heavy-duty polythene bag and dispose of as special waste.

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

HANDLING	Do not short circuit or expose to temperatures above the temperature rating of the battery. Do not recharge, over-discharge, force discharge, immerse, puncture or crush.
STORAGE	Store in a cool place but prevent condensation on cells and batteries. Elevated temperatures can result in shortened battery life and degrade performance. Do not store batteries in high humidity environments for long periods. 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.
ODOUR	If leaking, smells of medical ether
STABILITY IN WATER	Product is waterproof
REACTION IN 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.

HAZARDOUS REACTIONS	Lithium metal reacts with water to produce highly flammable gasses.
HAZARDOUS DECOMPOSITION REACTIONS	Toxic fumes and may form peroxides.

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.
GENERALLY AGGRAVATED BY EXPOSURE.	In the event of exposure to internal contents, eczema, skin allergies, lung injuries, asthma and other respiratory disorders may occur.

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.
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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 II
IMDG Packing instructions for road and sea	P903, Special Provisions 230, 188.
Lithium Content	0.9 g
Total Battery Weight	29g (Individual Cell 29g)
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	R11 R14/15 R20 R21 R22 R29 R36/37 R35 R41 R42/43	Highly flammable Reacts violently with water liberating extremely flammable gases Harmful by inhalation Harmful in contact with skin Harmful if swallowed Contact with water liberates toxic gas Irritating to respiratory system and skin. Causes burns Risk of serious damage to the eyes May cause sensitisation by inhalation and skin contact
Safety Phrases	S2 S8 S22 S24 S26 S36 S37 S39 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 Wear eye/face protection 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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