



DANIAMANT

MATERIAL SAFETY DATA SHEET

Products: Rescue Dan M / Rescue Dan M1 / Rescue Dan W1 / Rescue Dan MR / Rescue Dan WR / Rescue SOL / Rescue Dan R.INT1

SECTION 1: IDENTIFICATION.

Product Name	Marine safety light systems.
Manufacturers Name	Daniamant ApS
Address	Industrivej 24C, DK-3550 Slangerup, Denmark
Telephone No	+45 47 37 38 00
Fax	+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	% optional
Lithium Metal	7439-93-2	<3.3%
PC		<5%
Mangnese Dioxide		<25%
Carbon		<6.5%
DME		<2%
DOL		<4.3%
LiAlClO ₄		<1.33%

Reference : Sax's dangerous properties of industrial materials.

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.
Manganese Dioxide:	Poison by intravenous and intratracheal routes moderately toxic by subcutaneous route. Experimental reproductive effects. A powerful oxidiser, flammable by chemical reaction. Must not be heated or rubbed in contact with easily oxidizable matter
DME:	Experimental teratogen. Other experimental reproduction effects readily forms an explosive peroxide. A very dangerous fire hazard when exposed to flame, heat or oxidisers. When heated to decomposition it emits acrid smoke and fumes.
LiAlClO₄:	Moderately toxic. Skin, eye, and mucous membrane irritant an oxidiser which is incompatible with nitromethane acetone hydrogen and oxygen. When heated to decomposition it emits very toxic fumes.

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.
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 / Manganese 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.

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 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.

Appearance:	Light in a plastic housing.
Odour:	If leaking, smells of medical ether.
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.

Hazardous reactions: Lithium metal reacts with water to produce highly flammable gasses.

Hazardous Decomposition Reaction: 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.
MEDICAL CONDITIONS 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:	Slowly bio-degradable.
Environmental fate:	None known environmental hazards at present.

SECTION 13: DISPOSAL.

Disposal. DO NOT INCINERATE or subject cells to temperatures in excess of 100°C. Such abuse can result in loss of seal, leakage, and/or cell explosion. Dispose only through a recognised disposer.
DO NOT ATTEMPT TO DISMANTLE THIS PRODUCT.

SECTION 14: TRANSPORT INFORMATION.	
UN Hazard Code:	Exempt from transport packing, marking and labelling regulations under surface ADR & IMDG Special Provision 188, IATA Packing Instruction 970 Part 1.
UN Number	3091
UN Proper Shipping Name	Lithium Metal Batteries Contained in Equipment.
Packing Group	II
Lithium Content	<0.99g (1 cell)
Watt Hour Rating	6.00wh
Note	Packages should be labelled with the Lithium Battery Handling label.
SECTION 15: REGULATORY INFORMATION.	
Classification	Non Hazardous
Hazard Symbol	N/A
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	
The above information is given based on the present state of our knowledge of this product and is, to the best of our knowledge and belief, accurate at the time of publication. No warranty given, either express or implied, with respect to the accuracy, reliability or completeness of the information contained herein and we will assume no liability resulting from its use. The users must satisfy themselves that the information provided is entirely suitable for their particular use.	

Issue Date: 17/03/2009