Material Safety Data Sheet

Tadiran Ltd. Israel, Tadiran Electronics
Manufacturer

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Address

(516) 621-4980
Phone Number (for information)

(817) 430-1242
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Tadiran High Temperature Lithium Battery 3.9V
Identity (Trade Name As Used On Label)

MSDS Number*

CAS Number*

January 1, 1999
Date Prepared

Prepared By*

Note: Blank spaces are not permitted. if any item is not applicable, or no information is available, the space must be marked to indicate

SECTION 1 - MATERIAL IDENTIFICATION AND INFORMATION

COMPONENTS - Chemical Name & Common Names (Hazardous Components 1% or greater; Carcinogens 0.1% or greater)	%*	OSHA PEL	ACGIH TLV	OTHER LIMITS RECOMMENDED
Thionyl Chloride ($SOCl_2$)	5	2 ppm	2 ppm	
Lithium (Li)	4			
Carbon (C)	4			
Aluminum Chloride ($AlCl_3$)	5			
Lithium Chloride (LiCl)	1			
Sulphuryl Chloride (SO_2Cl_2)	39			
Lithium Bromide (LiBr)	0.4			
Glass Separator	0.6			
Non-Hazardous Ingredients	41			
TOTAL	100			

SECTION 2 - PHYSICAL / CHEMICAL CHARACTERISTICS

Boiling Point	N/A	Specific Gravity (H_2O = 1)	N/A
Vapor Pressure (mm Hg and Temperature)	N/A	Melting point	N/A
Vapor Density (Air = 1)	N/A	Evaporation Rate (= 1)	N/A
Solubility in Water	N/A	Water Reactive	The battery ingredients can form H_2SO_4, HCl, SO_2 and H_2, upon contact with water (only when forced open)
Appearance and Odor	N/A		

SECTION 3 - FIRE AND EXPLOSION HAZARD DATA

Flash Point and Method Used	N/A	Auto-Ignition Temperature	N/A	Flammability Limits in Air % by Volume	N/A	LEL	N/A	UEL	N/A

Extinguisher Media	LIT-X-Extinguisher (trademark for a graphite-based powder)
Special Fire Fighting Procedures	Do not use: water, sand, carbon dioxide, soda-acid or halogenated hydrocarbons extinguishers. Wear protective breathing apparatus, cover with Lit-X powder.
Unusual Fire and Explosion Hazards	Do not expose to temperatures above 150°C , incinerate, puncture, crush, recharge, overdischarge or short circuiting.

*Optional

SECTION 4 - REACTIVITY HAZARD DATA

STABILITY X Stable ☐ Unstable	Conditions To Avoid	Fire, heat over 150°C, force opening, recharging, incinerating, expose content to water or high humidity for extended periods.
Incompatability (Materials to Avoid)		Expose internal contents to water
Hazardous Decomposition Products		Sulfur Dioxide (SO_2), Hydrogen Chloride (HCl), Hydrogen (H_2), Chlorine (Cl_2), Bromine (BR_2) and Sulphuric Acid (H_2SO_4)
HAZARDOUS POLYMERIZATION ☐ May Occur X Will Not Occur	Conditions To Avoid	N/A

SECTION 5 - HEALTH HAZARD DATA

PRIMARY ROUTES OF ENTRY	X Inhalation X Skin Absorption	X Ingestion ☐Not Hazardous	**CARCINOGEN LISTED IN**	☐ NTP ☐ IARC Monograph	☐ OSHA
HEALTH HAZARDS	Acute	When exposed internal content- vapors very irritating to eyes, mucous membrane and skin.			
	Chronic	Overexposure can cause symptoms of nonfibrotic lung injury and membrane irritation.			
Signs and Symptoms of Exposure		When exposed to internal contents: distinct order, coughing, acidic taste, eye and mucous irritation.			
Medical Conditions Generally Aggravated by Exposure		Lungs injuries, Asthma, other respiratory disorders, Eczema, skin allergies.			
EMERGENCY FIRST AID PROCEDURES		- Seek medical assistance for further treatment, observation and support if necessary.			
Eye Contact		When exposed to internal content, flush with plenty of water for at least 15 minutes. Hold eyelids apart, seek immediate medical treatment			
Skin Contact		When exposed to internal content, flush with plenty of water. If burns developed seek medical treatment.			
Inhalation		Move out of the contaminated area to fresh air. If breathing is difficult, administer oxygen and seek immediate medical treatment.			
Ingestion		N/A			

SECTION 6 - CONTROL AND PROTECTIVE MEASURES

Respiratory Protection (Specify Type)	Acid Gas Filter Mask		
Protective Gloves	Butyl Rubber Gloves	Eye Protection	Chemical Worker Safety Glasses
VENTILATION TO BE USED	X Local Exhaust	☐ Medical (general)	☐ Special
	☐ Other (specify)		
Other Protective Clothing and Equipment	Chemical Laboratory Garments		
Hygienic Work Practices	N/A		

SECTION 7 - PRECAUTIONS FOR SAFE HANDLING AND USE / LEAK PROCEDURES

Steps to be Taken if Material Is Spilled Or Released	Ventilate the contaminated area. Do not breath vapors or touch cell content with bare hands.
Waste Disposal Methods	Bury in ground 1 meter deep or dispose of with special equipment or use professional battery disposal service by **Recovery & Reclamation Inc.** (915) 4473-272 or B.D.T. (716) 6346-794
Precautions to be Taken in Handling and Storage	The following is recommended:"Warning:Fire, explosion and severe hazard. Do not recharge, disassemble, heat above 100°C, incinerate or expose contents to water"
Other Precautions and/or Special Hazards	Do not store batteries for long periods in high humidity, do not short circuit, recharge, overdischarge, expose to temperature above 150°C, crush or puncture.

NFPA Rating* Health___ Flammability___ Reactivity___ Special___	HMIS Rating* Health___ Flammability___ Reactivity___ Personal Protection___