

GEOLINK MATERIAL SAFETY DATA SHEET PRIMACELL LITHIUM/THIONYL CHLORIDE BATTERY
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1. Material Identification and Information

Lithium	}	-100%
Thionyl Chloride SOCl ₂		
Aluminium Chloride AlCl ₃		
Lithium Chloride LiCl		

2. Physical/Chemical Characteristics

Boiling Point	SOCl ₂ :	77°C
Specific Gravity	SOCl ₂ :	1.63
Vapour Pressure	SOCl ₂ :	92mm Hg @ 20°C
Melting Point	SOCl ₂ :	-105°C
Vapour Density (air=1)	SOCl ₂ :	4.1
Solubility in Water	SOCl ₂ :	Decomposes
Water Reactive	SOCl ₂ :	Hydrolyzes to form SO ₂ and HCl
Appearance and Odour	SOCl ₂ :	Colourless to pale yellow; sharp irritating odour

3. Fire and Explosion Hazard Data

Extinguisher Media:	Dry Lithium Chloride, graphite powder, pyrene G-1, Lith-X
Special Fire Fighting Procedures:	Cover with dry Lithium Chloride or Lith-X powder. Do NOT use water, moist sand, carbon dioxide or soda-acid extinguisher. Wear protective breathing apparatus
Unusual fire and explosion hazards:	Do not short circuit, recharge, over-discharge, puncture, crush or expose to temperatures above 150°C.

4. Reactivity Hazard Data

Stability:	Stable
Conditions to Avoid:	Temperature in excess of 150°C High humidity for extended periods of time
Hazardous Decomposition Products:	Sulphur Dioxide, Hydrogen Chloride

5. Health Hazard Data

Primary routes of entry Inhalation

Health Hazards: and	Acute -	vapours very irritating to skin, eyes mucous membranes
	Chronic -	Overexposure can cause symptoms of non-fibrotic lung injury
Signs and Symptoms of Exposure:	Eye and mucous membrane irritation	

Medical Conditions Generally Aggravated by Exposure:	Asthma, other respiratory disorders, skin allergies, eczema
Emergency First Aid Procedures:	Seek medical assistance for further treatment
	Eye Contact: Flush with running water for at least 15 minutes. Hold eyelids apart. Seek immediate medical treatment
	Skin Contact: Rinse with large amounts of running water. If burns develop, seek medical Treatment
	Inhalation: Remove to fresh air. If breathing is difficult, administer oxygen and seek medical treatment

6. Control And Protective Measures

Respiratory Protection:	Acid Gas Filter Mask
Protective Gloves:	Butyl Rubber Gloves
Eye Protection:	Chemical Worker Safety Glasses
Ventilation To Be Used:	Local exhaust
Other Protective Clothing and Equipment:	Chemical Laboratory Safety Glasses and Apron

7. Precautions For Safe Handling and Use

Steps To Be Taken If Or Released:	Do not breathe vapours or touch liquid with bare hands
Waste Disposal Methods:	Neutralise spill with soda lime, seal leaking battery and soda lime in plastic bag and dispose of as hazardous waste
Precautions To Be Taken in Handling and Storage:	Do not short circuit, do not expose to temperatures above 150°C. Do not recharge, over-discharge, puncture or crush
Other Precautions and/or Special Hazards:	Do not store batteries in high humidity environments for long periods

8. Transportation Information

US DOT (per 49CFR 172.01)

Proper Shipping Name:	Lithium Batteries, Liquid Cathode
UN#:	UN 3090
Hazard Classification:	Flammable Solid or Class 9 (Miscellaneous)
Labels Required:	FLAMMABLE SOLID or MISCELLANEOUS
Other:	DOT E-7052 Exemption required CARGO AIRCRAFT ONLY

ICAO or IATA

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UN#:	UN 3090
Hazard Classification:	Class 9 (Miscellaneous)
Labels Required:	MISCELLANEOUS
Other:	CARGO AIRCRAFT ONLY