

**Material Safety Data Sheet**

May be used to comply with  
 OSHA's Hazard Communication Standard.  
 29 CFR 1910.1200 Standard must be  
 consulted for specific requirements.

**U.S. Department of Labor**

Occupational Safety and Health Administration  
 (Non-Mandatory Form)  
 Form Approved  
 OMB No. 1218-0072

<b>Identity</b> (As Used on Label and List) <b>KEEPER II/Lithium/Thionyl Chloride Battery</b>	<i>Note: Blank spaces are not permitted. If any item is not applicable, or no information is available, the space must be marked to indicate that</i>
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**Section I**

Manufacturer's Name <b>Eagle-Picher Technologies, LLC</b>	Emergency Telephone Number <b>417-776-2256 800-424-9300 (CHEMTREC)</b>
Address (Number, Street, City State, and Zip Code) <b>P.O. Box 130 14212 Bethel Road Seneca, MO 64865</b>	Telephone Number for Information <b>417-776-2256</b>
	Date Prepared <b>1-Jul-98</b>
	Signature of Preparer (optional)

**Section II - Hazardous Ingredients/Identity Information**

Hazardous Components (Specific Chemical Identity, Common Name(s))	OSHA PEL	ACGIH TLV	Other Limits Recommended	% (optional)
Lithium metal Cas #7439-93-2			N/A-reactive alkali metal	
Thionyl chloride (SOCl <sub>2</sub> ) Cas #007719-09-7	1/0 ppm	5/0 ppm		

**Section III - Physical/Chemical Characteristics**

Boiling Point	N/A	Specific Gravity (H <sub>2</sub> O=1)	N/A
Vapor Pressure (mm Hg.)	N/A	Melting Point	N/A
Vapor Density (Air=1)	N/A	Evaporation Rate (Butyl Acetate=1)	N/A

Solubility in Water

N/A

Appearance in Odor

N/A

**Section IV - Fire and Explosion Hazard Data**

Flash Point (Method Used) N/A	Flammable Limits	LEL	UEL
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Extinguishing Media

Do not use water. Use dry chemical, soda ash, sand.

Special Fire Fighting Procedures

Use self contained breathing apparatus and full protective equipment.

Unusual Fire and Explosion Hazards

Do not recharge, disassemble, heat above 125°C (257°F), incinerate or expose contents to water.

Vent, rupture or explosion may result and cause severe burns.

(Reproduce Locally)

OSHA 174, Sept. 1985

**Section V - Reactivity Data**

Stability	Unstable		Conditions to Avoid: Vent rupture or explosion will release thionyl chloride
	Stable	XX	

Incompatibility (Materials to Avoid)

SOC<sub>12</sub> Water, humid air, alkalis, and temperature above 140°C (284°F)

Hazardous Decomposition or Byproducts

SOC<sub>12</sub> In presence of water or humid air, hydrochloric acid & sulfur oxide.

Hazardous Polymerization	May Occur		Conditions to Avoid
	Will Not Occur	XX	

**Section VI - Health Hazard Data**

Routes(s) of Entry	Inhalation?	Skin?	Ingestion?
Eyes	Yes	Yes	Yes

Health Hazards (Acute and Chronic)

SOC<sub>12</sub> - Will burn and irritate eyes & skin. Upper respiratory irritant. Continuous inhalation of fumes may cause lung damage.

Carcinogenicity	NTP?	IARC Monographs?	OSHA Regulated?
N/A			

Signs and Symptoms of Exposure

SOC<sub>12</sub> - Eye and skin irritation, pungent odor and respiratory irritation.

Medical Conditions Generally Aggravated by Exposure

N/A

Emergency and First Aid Procedures

If free(SOC<sub>12</sub>) is present, evacuate areas and provide ventilation, wash exposed area with soda ash or sodium bicarbonate solution. Seek medical attention.

**Section VII - Precautions for Safe Handling and Use**

Steps to Be Taken in Case Material is Released or Spilled

Avoid contact if vent rupture or explosion has occurred. Other wise protect from heat, short circuit of terminals, an accumulation of shorted batteries, which may cause dangerous elevated temperatures

Waste Disposal Method

Dispose of waste according to federal EPA, state and local regulations.

Precautions to be taken in Handling and Storing

Do not short circuit, heat above 125°C (257°F), recharge, disassemble, incinerate or expose to water.

Other Precautions

**Section VIII - Control Measures**

Respiratory Protection (*Specific Type*)

Self-contained breathing apparatus

Ventilation	Local Exhaust	Specific
	Mechanical ( <i>General</i> )	Other
N/A		

Protective Gloves	Eye Protection
Neoprene	Recommended

Other Protective Clothing or Equipment

N/A

Work/Hygienic Practices

N/A