

**Cooper Industries/Cooper Power Systems: Lithium Batteries Contained in Equipment EKA-1600-001-11X  
EKA-1600-001-21X**

**1. PRODUCT AND COMPANY IDENTIFICATION**

<b>COMMON NAME:</b>	Lithium Batteries Contained in Equipment EKA-1600-001-11X,EKA-1600-001-21X		
<b>CHEMICAL NAME:</b>	Lithium Thionylchloride Battery		
<b>PRODUCT DESCRIPTION:</b>	Water Node Containing Lithium Battery		
<b>FORMULA:</b>	Not Available		
<b>PRODUCT CAS NO.:</b>	Mixture		
<b>SUPPLIER:</b>	Cooper Industries/Cooper Power Systems		
<b>ADDRESS:</b>	20201 Century Blvd Suite 250		
<b>CITY, STATE, ZIP:</b>	Germantown, MD. 20874		
<b>PHONE:</b>	301-515-7118	<b>EMERGENCY PHONE:</b>	<b>CHEMTREC (800) 924-9300</b>

**2. HAZARDOUS INGREDIENTS: COMPOSITION/INFORMATION**

INGREDIENT	% WEIGHT	PEL-OSHA	TLV-ACGIH	LD <sub>50</sub> /LC <sub>50</sub> ROUTE/SPECIES
Polycarbonate Case	35-45			
Lithium Thionylchloride Battery	15-20			
Cable Assembly	2-14			
Epoxy Resin	4-5			
Dimethylhydropolysiloxane CAS # 68037-59-2	3-5			No Data
PCB Assembly	2-4			
Screws and Hardware	3			

- As sampled by a method that does not collect vapors.

**LITHIUM BATTERY COMPOSITION/INFORMATION**

INGREDIENT	WEIGHT	PEL-OSHA	TLV-ACGIH	LD <sub>50</sub> /LC <sub>50</sub> ROUTE/SPECIES
Lithium (Li)	4.9g	N/A	Not Established	No Data
Thionylchloride (SOCl <sub>2</sub> )	44%	4.9 mg/m <sup>3</sup>	4.9 mg/m <sup>3</sup>	No Data
Lithium Aluminium Tetrachloride	6%			No Data
Acetyln Black (Carbon C)	5.1 G			No Data

OSHA Regulatory Status: This product is considered hazardous under criteria of this rule.

### 3. HAZARDS IDENTIFICATION

#### EMERGENCY OVERVIEW

Product as Manufactured in not anticipated to create a physical or chemical hazard. Leaking Battery Fluid May be corrosive. Under Fire Conditions toxic, combusive, products may be produced and battery may explode.

#### POTENTIAL HEALTH EFFECTS

EYE: None Anticipated under normal conditions.

SKIN: None Anticipated under normal conditions

INGESTION: None Anticipated under normal conditions

INHALATION: None Anticipated under normal conditions

HMIS Ratings : Health 1    Fire: 0    HMIS Reactivity: 0

#### IF Cell or Battery Leaks :

Primary Routes of Entry: Inhalation

ACUTE: Vapors are very irritating to the skin, eye, and mucous membranes. Inhalation of Thionyl Chloride may result in pulmonary edema.

SIGNS AND SYMPTOMS: Eye and mucous membrane irritation

CHRONIC: Overexposure can cause symptoms of non-fibrotic lung injury

CARCINOGENICITY:      IARC: No      NTP: No      OSHA: No

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Asthma, other respiratory disorders, skin allergies, and eczema

TARGET ORGANS.

### 4. FIRST AID MEASURES

EYE: Flush eyes with large amounts of lukewarm water for 15 minutes. Hold eyelids apart , see immediate medical attention. Contact results in acidic burns.

SKIN: Wash skin thoroughly with soap and water. Avoid hot water and rubbing skin    If burns develop, seek medical attention. Contact results in acidic burns

INGESTION: Give 4-8 ounces of water or milk to dilute and seek immediate medical attention. Never give anything by mouth to anyone that is or could rapidly become unconscious. Do Not induce Vomiting

INHALATION: Remove to fresh air. If breathing is difficult, administer oxygen. If breathing has stopped, give artificial respiration. Seek immediate medical attention.

## 5. FIRE FIGHTING MEASURES

### FLAMMABLE PROPERTIES

FLASH POINT: > Not applicable

FLAMMABLE LIMITS: LEL: Not Applicable UEL: Not Applicable

### NFPA HAZARD CLASSIFICATION:

HEALTH: 1 FLAMMABILITY: 1 INSTABILITY: 0

EXTINGUISHING MEDIA: DO Not Use Water, Lith X-Powder, Class D fire extinguisher, Dry Lithium Chloride, Graphite Powder, G-I.

FIRE AND EXPLOSION HAZARDS: DO not short Circuit, recharge, over discharge, (discharge below 0.0 volts), puncture, crush, or expose to temperatures above 150°C. Cell may leak, vent, or explode. If a bright white flame is present lithium content is exposed and is on fire. Use a Class D Extinguisher. DO Not use water.

FIRE FIGHTING INSTRUCTIONS Cover with Lith-X powder, Class D Fire Extinguisher dry lithium chloride or graphite powder, Do not use water, moist sand, CO<sub>2</sub> Class ABC, or Soda ash extinguisher. Wear protecting breathing apparatus a positive pressure Self Contained Breathing Apparatus (SCBA) or Air Purifying Respirator (APR)

## 6. ACCIDENTAL RELEASE MEASURES

**Accidental Releases:** DO not breathe vapors or touch liquid with bare hands ( see section 4)

**Waste Disposal Methods:** Evacuate area, If possible , a trained person should attempt to stop or contain the leak by neutralizing spill with soda lime or baking soda . A NIOSH approved Acid Gas Fiber Mask or Self-Contained Breathing Apparatus should be worn. Seal leaking battery and soda lime or baking soda in a plastic bag and dispose of as hazardous waste.

**Other:** Follow North American Emergency Response Guide (NAERG)#138 for cells involved in an accident , cells that have vented or have exploded.

## 7. HANDLING AND STORAGE

**Storage:** Cells should be stored at room temperature , approx. 21°C (70°C)

**Precautions:** Do not short circuit or expose to temperature above 150°C. DO not recharge, over discharge, puncture or crush.

**Other Conditions:** Do not store cells in high humidity environments for long periods of time.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

RESPIRATORY PROTECTION: NIOSH approved Acid Gas Filter Mask, or Self Contained Breathing Apparatus.

SKIN PROTECTION: Nit rile or PVC Gloves should be 15ml (0.015 in) or thicker.

EYE PROTECTION: Safety goggles or glasses as necessary to prevent contact.

ENGINEERING CONTROLS Negative Pressure Chemical Fume hood

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>APPEARANCE:</b>	Gray
<b>ODOR:</b>	Thionyl Chloride –Colorless to pale yellow sharp pungent odor
<b>BOILING POINT:</b>	No Data
<b>VAPOR PRESSURE:</b>	Thionyl Chloride 92mm 20 <sup>0</sup> C
<b>VAPOR DENSITY (Air = 1):</b>	Thionyl Chloride 4.1
<b>SOLUBILITY IN WATER:</b>	Thionyl Chloride decomposes violently on contact with water
<b>SPECIFIC GRAVITY:</b>	Thionyl Chloride 1.63
<b>MELTING POINT:</b>	No Data
<b>pH:</b>	Not Applicable
<b>Water Reactive:</b>	Thionyl Chloride hydrolizes to form SO <sub>2</sub> and HCl gasses and strongly acidic wastewater.

## 10. STABILITY AND REACTIVITY

STABILITY: Stable

INCOMPATIBLE MATERIALS/CONDITIONS: Temperatures in excess of 150<sup>0</sup>C, High Humidity for Extended periods.

HAZARDOUS DECOMPOSITION PRODUCTS: Sulfur Dioxide, (g), Hydrogen Chloride (g)

HAZARDOUS POLYMERIZATION: Will not occur.

## 11. TOXICOLOGICAL INFORMATION

### Acute Toxicity:

Thionyl Chloride

LC<sub>50</sub> (Inhalation) : 1274 ppm (rat 1-hr)

LD<sub>50</sub> N/A

Eye Effects: Corrosive

Skin Effects: Corrosive

Aluminum Chloride:

LC<sub>50</sub> (Oral Rat): 3450 mg/kg

Fetotoxicity: Has adverse affects on growth and behavior

Gallium (□) Chloride

LC<sub>50</sub> N/A

Eye Effects : N/A

Other Effects: N/A

## 12. ECOLOGICAL INFORMATION

DO not let internal components enter marine environments. Avoid releases into waterways, wastewater, or groundwater

### 13. DISPOSAL CONSIDERATIONS

**Proper Shipping Name :** Waste Lithium Batteries

**UN Number** UN 3091

**Hazard Class:** Class 9 (Misc.)

**Packing Group** II

**Labels Required:** Miscellaneous Hazardous Waste

**Waste Disposal Code :** D003

Other: A lithium Thionyl chloride batteries should be disposed of by a certified hazardous waste facility.

### 14. Transportation Information

**PROPER SHIPPING NAME:** Lithium Batteries Contained in Equipment

**HAZARD CLASS:** Class 9

**IDENTIFICATION NUMBER:** UN 3091

**SHIPPING LABEL:** Class 9 Label

**PACKING GROUP:** II

### 15. REGULATORY INFORMATION

OSHA STATUS: The internal component (thionyl chloride) is hazardous under the criteria of Federal OSHA Hazard Communication Standard 29 CFR 1920.1200

**16. OTHER INFORMATION**

**KEY:**

ACGIH:	American Conference of Governmental Industrial Hygienists
CAS:	Chemical Abstracts Service
DOT:	Department of Transportation
IARC:	International Agency for Research on Cancer
MSHA:	Mine Safety and Health Administration
NFPA:	National Fire Protection Association
NIOSH:	National Institute for Occupational Safety and Health
NTP:	National Toxicology Program
OSHA:	Occupational Safety and Health Administration
PEL:	Permissible Exposure Limit
SARA:	Superfund Amendment and Reauthorization Act
TDG:	Transportation of Dangerous Goods
TLV:	Threshold Limit Value
WHMIS:	Workplace Hazardous Materials Information System

**DISCLAIMER**

The information in this MATERIAL SAFETY DATA SHEET should be provided to all who will use, handle, store, transport, or otherwise be exposed to this material. This information has been prepared for the guidance of plant engineering, operations and management, and for persons working with or handling this material. Cooper Industries/Cooper Power Systems believes this information to be reliable and up-to-date as of the date of publication, but makes no warranty that it is.