

# MATERIAL SAFETY DATA SHEET

MSDS DATE: 23/07/04

FILE NO.: ALX-400-030

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## SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

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**PRODUCT NAME:** Lithium chloride (high purity)  
**SYNONYMS:** N/A  
**PRODUCT CODES:** ALX-400-030

**MANUFACTURER:** ALEXIS Corporation  
**ADDRESS:** Industriestrasse 17  
CH-4415 Lausen

**TELEPHONE:** +41 61 926 8989  
**FAX PHONE:** +41 61 926 8979  
**WEBSITE:** www.axxora.com

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## SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

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<u>Formula:</u>	<u>CAS #</u>	<u>EC #</u>	<u>Annex I Index #</u>
LiCl	7447-41-8	N/A	N/A

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## SECTION 3: HAZARDS IDENTIFICATION

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**Acute health effects:** **HARMFUL by inhalation, ingestion, or skin absorption. May cause skin and eye irritations.**

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## SECTION 4: FIRST AID MEASURES

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**EYES:** Rinse immediately with plenty of water for 15 minutes. Seek immediate medical attention.

**SKIN:** Wash immediately with water for 15 minutes. Remove contaminated clothing. Seek medical attention.

**INGESTION:** Rinse mouth with water. Seek immediate medical attention and call poison control. Provide MSDS and label information if possible.

**INHALATION:** Take into fresh air. If breathing is difficult, administer oxygen.

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## SECTION 5: FIRE FIGHTING MEASURES

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**EXTINGUISHING MEDIA:** Water spray, water foam, polymer foam, carbon dioxide, dry chemicals.

**SPECIAL FIRE FIGHTING PROCEDURES:** In case of fire, watch out for the formation of toxic smoke and gases. Wear self-contained respiration equipment. Prevent contact with skin and eyes.

**UNUSUAL FIRE AND EXPLOSION HAZARDS:** N/A

**HAZARDOUS DECOMPOSITION PRODUCTS:** N/A

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## SECTION 6: ACCIDENTAL RELEASE MEASURES

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**PERSONAL PRECAUTIONS:** Evacuate area. Wear respirator, chemical safety goggles, rubber boots and heavy rubber gloves.

**ACCIDENTAL RELEASE MEASURES:** Avoid formation of dust, sweep up spill and place in sealed container and hold for disposal. Ventilate area and wash spill site after material pickup is complete.

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## SECTION 7: HANDLING AND STORAGE

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**HANDLING AND STORAGE:** Keep locked up. Keep away from heat, sources of ignition and incompatibles such as oxidizing agents. Empty containers pose a fire risk, evaporate the residue under a fume hood. Ground all equipment containing material. Avoid contact with skin and eyes; do not breathe dust. Avoid prolonged or repeated exposure. Immediately remove all contaminated clothing. Wash hands before breaks and after work. Avoid eating, drinking and storage of food in the work room. Store tightly sealed at +4-20°C.

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## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

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**ENGINEERING CONTROLS:** Use only in chemical fume hood. Safety shower and eye bath.  
**VENTILATION:** Government approved respirator.  
**EYE PROTECTION:** Chemical safety goggles.  
**SKIN PROTECTION:** Compatible gloves, protective coat or clothing.  
**SECTION 8 NOTES:** Wash thoroughly after handling. Wash contaminated clothing before reuse.

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## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

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**APPEARANCE:** White to off-white solid.  
**ODOR:** N/A.  
**pH AS SUPPLIED:** N/A  
**BOILING POINT:** N/A  
**MELTING POINT:** N/A  
**FREEZING POINT:** N/A  
**VAPOR PRESSURE (mmHg):** N/A  
**VAPOR DENSITY (AIR = 1):** N/A  
**SPECIFIC GRAVITY (H<sub>2</sub>O = 1):** N/A  
**EVAPORATION RATE:** N/A  
**BASIS (=1):** N/A  
**SOLUBILITY:** Soluble in water.  
**MOLECULAR WEIGHT:** 42.4Da

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## SECTION 10: STABILITY AND REACTIVITY

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**STABILITY:** Stable. Avoid strong oxidizing agents. Protect from moisture.  
**HAZARDOUS DECOMPOSITION:** Hydrogen chloride gas, lithium oxides.  
**HAZARDOUS POLYMERIZATION:** Will not occur.

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## SECTION 11: TOXICOLOGICAL INFORMATION

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**TOXICOLOGICAL INFORMATION:** May be harmful by inhalation, ingestion, skin absorption or if swallowed. May cause skin and eye irritations. May cause irritation to mucous membranes and upper respiratory tract. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

**ACUTE TOXICITY: LD50:** LDLO  
Oral  
Human  
200 mg/kg  
3D  
Remarks: Behavioral:Somnolence (general depressed activity).  
Behavioral:Muscle weakness. Behavioral:Muscle contraction or spasticity.

LD50  
Oral  
Rat  
526 mg/kg

LD50  
Intracerebral  
Rat  
4800 UG/KG  
Remarks: Behavioral: Altered sleep time (including change in righting reflex).  
Behavioral: Somnolence (general depressed activity). Nutritional and Gross  
Metabolic: Changes in: Body temperature decrease.

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LD50  
Oral  
Mouse  
1165 mg/kg

LD50  
Intravenous  
Mouse  
363 MG/KG

Remarks: Brain and Coverings: Recordings from specific areas of CNS. Behavioral: Antipsychotic.

LD50  
Intracerebral  
Mouse  
14040 UG/KG

Remarks: Sense Organs and Special Senses (Nose, Eye, Ear, and Taste): Eye: Etosis. Behavioral: Somnolence (general depressed activity).

## SIGNS AND SYMPTOMS OF EXPOSURE:

Symptoms of exposure may include burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea, and vomiting. Cyanosis and t-wave inversion have occurred in the breast-fed infants of women receiving lithium carbonate therapy. Large doses of lithium ion have caused dizziness and prostration, and can cause kidney damage if sodium intake is limited. Dehydration, weight loss, dermatological effects, and thyroid disturbances have been reported. Central nervous system effects that include slurred speech, blurred vision, sensory loss, ataxia, and convulsions may occur. Diarrhea, vomiting, and neuromuscular effects such as tremor, clonus, and hyperactive reflexes may occur as a result of repeated exposure to lithium ion.

## TARGET ORGAN INFORMATION:

Central nervous system. Kidneys. Cardiovascular system. Thyroid.

## CHRONIC EXPOSURE - CARCINOGEN:

Mouse  
Route of Application: Intraperitoneal  
Exposure Time: 7D  
Result: Tumorigenic: Neoplastic by RTECS criteria. Blood: Lymphomas, including Hodgkin's disease.

## CHRONIC EXPOSURE - MUTAGEN:

Human  
50 MG/L  
Cell Type: lymphocyte  
DNA inhibition

Human  
70 MMOL/L  
Cell Type: HeLa cell  
DNA inhibition

Human  
50 MG/L  
Cell Type: lymphocyte  
Cytogenetic analysis

## CHRONIC EXPOSURE - TERATOGEN:

Result: Lithium and its compounds are possible teratogens by analogy to lithium carbonate which has equivocal human teratogenic data and positive animal teratogenic data.  
Species: Rat  
Dose: 809 MG/KG  
Route of Application: Intraperitoneal  
Exposure Time: (9-16D PREG)  
Result: Specific Developmental Abnormalities: Eye, ear. Specific Developmental Abnormalities: Craniofacial (including nose and tongue). Effects on Embryo or Fetus: Other effects to embryo.  
Species: Mouse  
Dose: 66 GM/KG  
Route of Application: Oral  
Exposure Time: (1-21D PREG/21D POST)  
Result: Specific Developmental Abnormalities: Central nervous system. Effects on Newborn: Biochemical and metabolic. Effects on Newborn: Physical.  
Species: Mouse  
Dose: 1240 MG/KG  
Route of Application: Subcutaneous  
Exposure Time: (12-13D PREG)  
Result: Specific Developmental Abnormalities: Craniofacial (including nose and tongue).

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## SECTION 12: ECOLOGICAL INFORMATION

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ECOLOGICAL INFORMATION: N/A.

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## SECTION 13: DISPOSAL CONSIDERATIONS

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WASTE DISPOSAL METHOD: Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. Observe all federal, state, and local environmental regulations.

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## SECTION 14: TRANSPORT INFORMATION

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### INTERNATIONAL TRANSPORT REGULATIONS:

LAND – ROAD/RAILWAY: ADR/RID: Not available.

SEA: IMDG: Not available.

AIR: IATA-DGR: Not available.

SPECIAL PROVISIONS FOR TRANSPORT: N/A

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## SECTION 15: REGULATORY INFORMATION

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### CLASSIFICATION AND LABELING ACCORDING TO EU DIRECTIVES:

SYMBOL OF DANGER: Xn, Harmful

R-PHRASES: R22 - Harmful if swallowed.  
R36/37/38 - Irritating to eyes, respiratory system and skin.

S-PHRASES: 2S6 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.  
S36/37/39 - Wear suitable protective clothing, gloves, and eye/face protection.

U.S. FEDERAL REGULATIONS: Not available.

HCS CLASSIFICATION: Not available.

WHMIS (CANADA): Not available.

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## SECTION 16: OTHER INFORMATION

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DISCLAIMER: The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Alexis Corporation shall not be held liable for any damage resulting from handling or from contact with the above product.

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