

MATERIAL SAFETY DATA SHEET

Section 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: 20X Lithium Chloride Solution

Product Number: 3000010

Intended use of product: Refer to Argylla Technologies instruction literature for proper and intended use

Manufacturer's Name, in & outside U.S.: Argylla Technologies, LLC

Manufacturer's Street Address: 1500 E. 17th St. Tucson, Arizona 85719

Supplier's name, in & outside U.S.: Argylla Technologies, LLC

Supplier's Address: 1500 E. 17th St. Tucson, Arizona 85726

Mailing Address of Manufacturer/Supplier: P.O. Box 26906 Tucson, Arizona 85726

MSDS Preparation Date: 09042007

MSDS Responsible Name: Argylla Technologies, LLC

Responsible Phone Number: 1-800-234-6642

MSDS Number: 002

Section 2. CHEMICAL COMPOSITION, INFORMATION ON INGREDIENTS

Substance/Preparation: Preparation

Ingredient	CAS No.	%	LD ₅₀	Species/route	LD _{Lo}	Species
Lithium Chloride	7447-41-8	10-40%	526mg/kg	Rat/oral	200mg/kg	Human
Water	7732-18-5	60-90%	4180mg/kg	Mouse/IPN	180g/kg/28h	Human

Abbreviations: LD₅₀: lethal dose 50% kill, LD_{Lo}: lowest published lethal dose

Section 3. HAZARDS IDENTIFICATION

Route of Entry:

(X) Skin Contact (X) Skin Absorption (X) Eye Contact (X) Inhalation (X) Ingestion

Emergency Overview: Harmful.

Harmful if swallowed.

Irritating to respiratory tract, eye and to skin.

Target organ(s): kidneys, central nervous system, thyroid, cardiovascular system

Section 4. FIRST AID MEASURES

Ingestion/oral exposure: If swallowed by a conscious person, wash out mouth with water and consult a physician immediately

Inhalation exposure: If inhaled, remove to fresh air. If breathing becomes difficult contact a physician.

Dermal/Skin contact: In case of contact immediately wash skin with soap and copious amounts of water

Eye exposure: If eyes are contacted, check for and remove contact lenses. Flush eyes with excessive water for at least 15 minutes; assure adequate flushing by separating the eyelids with fingers. Cold water may be used. Seek immediate medical attention.

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Section 5. FIRE FIGHTING MEASURES

Flammability: Nonflammable

Upper Flammable Limit (% by vol): Not available **Lower Flammable Limit (% by vol):** Not available

Flashpoint, °C: Not available

Autoignition temperature, °C: Not available

Explosion Data: Not available

Hazardous Combustion Products: Emits toxic chlorine fumes when heated to decomposition

Means of extinction: Extinguish with dry chemical powder, water spray or carbon dioxide

Protective Clothing (Fire): Wear a self-contained breathing apparatus

NFPA: Health: 2 Fire: 0 Stability: 0

Section 6. ACCIDENTAL RELEASE MEASURES

Personal Precautions: Wear self-contained breathing apparatus, rubber boots and heavy rubber gloves

Spill / Environmental Clean-up Methods: Evacuate area. Ventilate area in which leak or spill occurred. Remove all ignition sources. Wear protective equipment as described in Section 8. Inhibit entry of non-critical and unprotected personnel from area. Contain and recover liquid when possible or absorb with sand or vermiculite, placing in closed containers. Refrain from using combustible absorbent materials (e.g. sawdust) and do not flush to sewer.

Section 7. HANDLING AND STORAGE

Handling Procedures: Avoid breathing inhalation of vapors or spray mist. Use in presence of adequate ventilation. Avoid contact with eyes, skin and clothing. Do not ingest. Keep container closed. Wash hands thoroughly after handling.

Storage Requirements: Keep container closed tightly. Maintain in cool, well-ventilated area.

Containment Materials: Use and store in original container

Section 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational Exposure Limits

ACGIH TLV: Not listed

OSHA PEL: Not listed

Specific Engineering Controls: Proximal to quick-drench safety shower and eyebath. Use in presence of adequate ventilation to keep vapor concentrations low.

Personal Protective Equipment:

Gloves: compatible chemical-resistant gloves

Eye: chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.33.

Clothing: wear lab coat to prevent skin exposure

Footwear: wear close-toed shoes

Respirator: A respiratory protection program that meets OSHA's 29 CFR 1910.134 & ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator's use. If the respirator is the sole means of protection, use a full-face supplied air respirator.



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Section 9. PHYSICAL AND CHEMICAL PROPERTIES	
Physical State: Liquid	Appearance: Clear, colorless
Molecular Weight: 42.39 AMU	Boiling Point: Not tested
Odor: Not tested Odor threshold: Not tested	Specific Gravity: Not tested
pH: Not tested	Solubility in Water: not tested
Vapor Density: Not tested(Air=1) (deionized water)	Vapor Pressure, mmHg: not tested
Evaporation Rate: not tested	Freezing Point: not tested
Dispersion Properties: see <i>Solubility in Water</i>	

Section 10. STABILITY AND REACTIVITY
Stability and Reactivity: The product is stable.
Incompatibility with other Substances: Reactive with bromine trifluoride, strong acids and oxidizing agents.
Hazardous Decomposition Products: Hydrogen chloride gas , lithium oxides, carbon oxides, nitrogen oxides. Lithium chloride emits toxic fumes of chlorine when heated to decomposition.
Hazardous Polymerization: Will not occur

Section 11. TOXICOLOGICAL INFORMATION
Irritancy of product: Causes skin irritation and eye irritation. Material irritant to mucous membranes and upper respiratory tract. Harmful if swallowed.
Target organ(s): Thyroid, cardiovascular system, kidneys, central nervous system
Symptoms of Acute/Chronic exposure: May include burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea, and vomiting.
Effects of Chronic Exposure: 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 falling 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 including 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. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.
Carcinogenicity (IARC): not listed
Carcinogenicity (ACGIH): not listed
Reproductive Toxicity: Has shown some evidence of reproductive effects in laboratory animals
Embryotoxicity: not listed
Teratogenicity: not listed; has shown some evidence that it may cause congenital malformation in fetus
Mutagenicity: not listed

Section 12. ECOLOGICAL INFORMATION
Aquatic Toxicity: Not listed

Section 13. DISPOSAL CONSIDERATIONS
Waste Information: Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in chemical incinerator equipped with an afterburner and scrubber. Waste is to be disposed of in accordance with federal, state and local environmental control regulations.

Section 14. TRANSPORT INFORMATION
DOT Classification: Not a DOT controlled material (United States). This substance is considered to be nonhazardous for transport.
IATA: Non-hazardous for air transport.

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Section 15. REGULATORY INFORMATION

U.S. Federal Regulations:

Indication of danger: Harmful.

TSCA: CAS #7447-41-8 listed inventory item

SARA: not listed

EUROPEAN ADDITIONAL CLASSIFICATION:

R22-36/37/38- Irritant to eyes, respiratory tract & skin

S26/36/37/39- Wear suitable protective clothing, gloves and eye/face protection

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by CPR.

Section 16. OTHER INFORMATION



Validated by Argylla Technologies Administration on 01/23/2006

Verified by Argylla Technologies Administration.

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