

MATERIAL SAFETY DATA SHEET

I - PRODUCT IDENTIFICATION

Product: Lithium Hypochlorite
General Use: Swimming Pool sanitizer
Chemical Family: Hypochlorite

II - TRANSPORTATION DATA

U.S. Department of Transportation - 49 CFR

Proper Shipping Name: Lithium Hypochlorite, Dry
Hazard Class/Division Number: 5.1
ID Number: 1471
Packing Group: II
Emergency Telephone Number: Chemtrec 800-424-9300

III - HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

<u>Chemical or Common Name</u>	<u>Percent</u>	<u>CAS#</u>	<u>EINECS#</u>
Lithium Hypochlorite	29	13840-33-0	237-558-1
Sodium Sulfate	13	7757-85-6	231-820-9
Potassium Sulfate	06	7778-80-5	231-915-5
Lithium Chloride	04	7447-41-8	231-212-3
Lithium Carbonate	02	554-13-2	209-062-5
Lithium Chlorate	02	36355-96-1	
Lithium Hydroxide	01	1310-65-2	215-183-4

IV - PHYSICAL/CHEMICAL CHARACTERISTICS

Odor: chlorine odor
Appearance: white, granular solid
Total acidity: 11 (1% solution @ 25°C)
Physical state: solid
Solubility in Water: 43g/100g water
Specific Gravity (H₂O=1): 0.9 – 1.0 g/cc
Thermal Decomposition: 135°C

V - FIRE AND EXPLOSION HAZARD DATA

Flash Point:

Not applicable
Auto-ignition Temperature:
Not applicable

General Hazard:

Strong oxidizer. Contact with combustible material may cause a fire.

Extinguishing Media:

In case of fire or smoke, call the fire department. Do not attempt to extinguish the fire without a self-contained breathing apparatus. Do not let the fire burn. Flood with copious amounts of water. DO NOT use ABC or other dry chemical extinguishers since there is the potential for a violent reaction.

Special Fire-fighting Procedures:

Firefighters should wear full protective clothing and self contained breathing apparatus. Thoroughly decontaminate fire fighting wearing apparel after the incident.

VI - REACTIVITY DATA

Stability:

Unstable Stable

Conditions to Avoid:

High temperature. Poor ventilation. Contamination. Moisture/high humidity.

Incompatibility:

This is a strong oxidizing agent. Avoid contact with water on concentrated material in the container. Keep away from household soap, suntan lotion, paint products, solvents, acids, beverages, lighted cigarettes, combustible materials, garbage, dirt, dirty rags, organic materials and other swimming pool/spa chemicals in their concentrated forms. Mixing with any of the above material can initiate a hazardous decomposition. Contact with acids or moisture evolves chlorine gas. Reacts with ammonia, urea and amines (can form reactive and toxic chloramines). Metal oxides can cause decomposition.

Hazardous Combustion Products:

Oxygen and toxic chlorine gases.

Hazardous Polymerization:

May Occur Will Not Occur

VII - PRECAUTIONS FOR SAFE HANDLING AND USE

Steps To Be Taken In Case Material Is Spilled Or Released:

Using appropriate protective clothing and safety equipment, contain spilled material. Do not add water to spilled material. Using clean dedicated equipment, sweep and scoop all spilled material, contaminated soil, and other contaminated material and place into clean dry containers for disposal. Do not use floor sweeping compounds to clean up spills. Do not close containers containing wet or damp material. They should be left open to disperse any hazardous gases that may form. Do not transport wet or damp material. Keep

product out of sewers, watersheds and water systems. Do not contaminate water, food, or feed by storage or disposal or cleaning of equipment. Dispose of according to local, state and federal regulations.

Waste Disposal Method:

Pesticide wastes are toxic. Improper disposal of excess pesticide or rinsate is a violation of Federal Law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency or the Hazardous Waste Representative at the nearest EPA Regional Office for guidance. Do not contaminate water, food, or feed by storage or disposal or cleaning of equipment. Do not put product, spilled product, or filled or partially filled containers into the trash or waste compactor. Contact with incompatible materials could cause a reaction or fire.

Do not reuse container. Rinse thoroughly before discarding in trash.

Precautions to Be Taken in Handling and Storage:

Handling:

STRONG OXIDIZING AGENT: Do not mix with other chemicals. Mix only with water. Never add water to product. Always add product to large quantities of water. Use clean dry utensils. Do not add this product to any dispensing device containing remnants of any other product. Such use may cause a violent reaction leading to fire or explosion. Contamination with moisture, organic matter or other chemicals will start a chemical reaction and generate heat, hazardous gas, possible fire and explosion. In case of contamination or decomposition, do not reseal container. If possible, isolate container in open air or well ventilated area. Flood area with large volumes of water.

Storage:

Keep this product in original closed container when not in use. Store in a cool, dry, well ventilated area away from heat or open flame. Do not contaminate water, food or feed by storage or disposal or cleaning of equipment. Do not store above 125°F (52°C)

VIII - HEALTH HAZARD DATA

Immediate Concerns:

DANGER: highly corrosive: Causes skin and eye damage. May be fatal if swallowed. Do not get in eyes, on skin, or on clothing. Wear goggles or safety glasses and rubber gloves when handling this product. Irritating to nose and throat. Avoid breathing dust and fumes. Remove contaminated clothing and wash before reuse.

Potential Health Effects:

Eyes:

DANGER: Highly corrosive. Causes eye damage. Do not get in eyes.

Skin:

DANGER: Highly corrosive. Causes skin damage. Do not get on skin.

Ingestion:

May be fatal if swallowed.

Inhalation:

Irritating to nose and throat. Avoid breathing dust or vapors.

NPCA-HMIS Ratings:

Health: 3

Flammability: 0

Reactivity: 1

Personal Protection: B

Primary Route(s) of Entry:

Ingestion: (X)

Inhalation: (X)

Skin Contact: (X)

Eye Contact: (X)

Emergency and First Aid Procedures:

Ingestion: if swallowed: drink large amounts of water. Do not induce vomiting. Avoid alcohol. NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON. Call a physician or poison control center immediately.

Inhalation: if inhaled: remove to fresh air. If breathing is difficult, have trained person administer oxygen. If not breathing give artificial respiration. Call a physician immediately.

Skin Contact: if contact with skin: brush off excess chemical and flush skin with cold water for at least 15 minutes. If irritation persists, get medical attention.

Eye Contact: if contact with eyes occurs: immediately flush with cold water for at least 15 minutes. Then get immediate medical attention.

Note to Physician: lithium hypochlorite is corrosive to eyes, skin and mucous membranes. Consideration should be given to careful endoscopy as stomach or esophageal burns, perforations or strictures may occur. Careful gastric lavage with an endotracheal tube in place should be considered. Observation may be warranted. Treatment is controlled removal of exposure with symptomatic and supportive care.

IX - CONTROL MEASURES

Exposure Guidelines:

No exposure guidelines are established for any of the components of this compound.

Exposure Control/Personal Protection:

Respiratory: a respiratory protection program that meets OSHA 1910.134 and ANSI Z88.2 requirements must be followed whenever workplace

conditions warrant a respirator's use.
Skin: wear rubber gloves when handling this product. Avoid contact with skin.
Eye: wear goggles or safety glasses with side shields when handling this product

Engineering controls:

General room ventilation plus local exhaust should be used to minimize exposure to dust/vapors.

Work Hygienic Practices:

Remove and wash contaminated clothing before reuse.

Other use Precautions:

Facilities storing or utilizing this material should be equipped with any eyewash and safety shower.

X - TOXICOLOGICAL INFORMATION

Acute:

Dermal LD50: 8,100 mg/kg (rabbit)

Oral LD50: 555 mg/kg (rat)

Eye Effects:

This product is corrosive to eyes

Skin Effects:

This product is corrosive to skin

Sensitization:

This product is not a skin sensitizer

Mutagenicity:

This product is not mutagenic in several in vitro tests

Reproductive Effects:

This product did not cause developmental effects in a study with laboratory animals.

XI – ECOLOGICAL INFORMATION

Ecotoxicological information:

This pesticide is toxic to fish and aquatic organisms. Do not discharge effluent containing this product into lakes, streams, ponds or estuaries, oceans, or their waters unless in accordance with the requirements of a National Pollutant Discharge Elimination System permit and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance contact your State Water Board or Regional Office of the EPA.

XII – REGULATORY INFORMATION

United States:

SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT)
313 REPORTABLE INGREDIENTS: This product contains lithium carbonate which is a substance subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-to-Know Act of 1986.

CERCLA (COMPREHENSIVE RESPONSE, COMPENSATION, AND LIABILITY ACT)

CERCLA REGULATORY: This product or its components are not listed..

TSCA (TOXIC SUBSTANCE CONTROL ACT)

TSCA REGULATORY: This product or its components are not subject to export notification.

TSCA STATUS: All components except for Lithium Chlorate, an impurity, are listed.

OSHA HAZARD COMM. RULE

Product is hazardous by definition of the Hazardous Communication Standard.

CLEAN WATER ACT

Not listed

FIFRA (FEDERAL INSECTICIDE, FUNGICIDE, AND RODENTICIDE ACT):

This product is a registered pesticide.

SDWA (SAFE DRINKING WATER ACT):

Not listed

FDA (FOOD AND DRUG ADMINISTRATION):

Not listed

DEA (DRUG ENFORCEMENT PRECURSOR & ESSENTIAL CHEMICALS)
LISTED SUBSTANCE:

Not listed

Canada

WHMIS (WORKER HAZARDOUS MATERIALS INFORMATION SYSTEM):

Proposed WHMIS Classification

C – Oxidizing Material

E – Corrosive Material

XIII - ADDITIONAL INFORMATION

ALWAYS COMPLY WITH ALL APPLICABLE INTERNATIONAL, FEDERAL, STATE AND LOCAL REGULATIONS REGARDING THE TRANSPORTATION, STORAGE, USE AND DISPOSAL OF THIS CHEMICAL.

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