

DISTRIBUTED BY:
SAL CHEMICAL
3036 BIRCH DRIVE
WEIRTON, WV 26062
304-748-8200

Emergency Phone:
(308) 931-7767

Saskatoon
Chemicals



REC'D JUN 06 2003

Material Safety Data Sheet

CALCIUM HYPOCHLORITE

calcium hypochlorite - 65% - GRANULAR

PRODUCT IDENTIFIER

Synonym(s): Calcium oxychloride, bleaching powder, chlorinated lime and granulated chlorine

Chemical Family: Salt of hypochlorous acid

Molecular Formula: Ca(OCl)₂

PIN - UN/NA Number(s): UN1748, UN2880

Product Use: Disinfection in swimming pools and drinking water supplies; treatment of industrial cooling water; slime control; odor control; sewage and waste water treatment

HAZARDOUS INGREDIENTS

Ingredients: (by weight %)

65%	Calcium hypochlorite
4%	Calcium hydroxide
31%	Inerts

CAS Registry Number - Calcium hypochlorite: 7778-54-3

CAS Registry Number - Calcium hydroxide: 1305-82-0

PHYSICAL DATA

Physical State: Solid

Odor and Appearance: White, free flowing granular solid, with a strong chlorine odor

Odor Threshold: Not available

Specific Gravity: 2.00 - 2.20 @ 20°C (water = 1 @ 4°C)

Vapor Pressure: Not applicable

Vapor Density: Not applicable

Evaporation Rate: Not applicable

Boiling Point: Not applicable

Melting Point: Decomposes at temperatures above 100°C

pH: 11.5 (5% solution)

Coefficient of Water/Oil Distribution: Not applicable

HEALTH HAZARD DATA

Route of Entry and Effects of Short Term (Acute) Exposure

Inhalation: Dust and mist irritate the nose and throat. When mixed with acids, chlorine gas is released. This gas causes irritation of the respiratory tract. Prolonged exposure to high concentrations of chlorine gas may result in severe lung damage.

Eye Contact: Exposure to calcium hypochlorite can cause eye irritation. Concentrated solutions cause burns which may result in permanent eye damage if not promptly treated.

Skin Contact: Calcium hypochlorite dust and solutions can cause irritation, and in severe cases, chemical burns.

Ingestion: When ingested, there will be burning in the mouth and throat. Calcium Hypochlorite can cause abdominal cramps and nausea which may lead to convulsions, coma and death.

Route of Entry and Effects of Long Term (Chronic) Exposure: Skin irritation may occur from repeated or prolonged skin contact.

Exposure Limits

Time-Weighted Average (TLV-TWA): Not available

Irritancy: Not available

Sensitization to Product: Not available

Animal Toxicity Data

LC50: (Inhalation, rats) - 148 mg/l (65% Calcium Hypochlorite)

LD50: (Oral, rats) - 1300 mg/kg (65% Calcium Hypochlorite)

Carcinogenicity: Not carcinogenic (IARC and ACGIH)

Reproductive Toxicity: Not available

Mutagenicity: Not available

Name of Toxicologically Synergistic Products: Not available

SPECIAL PROTECTION INFORMATION

Personal Protective Equipment

Respiratory Protection: Dust mask or NIOSH approved canister type respirators suitable for chlorine.

Eye/Face Protection: Chemical safety goggles. A face shield may be necessary.

Skin Protection: Impervious gloves, body suits, boots, and/or other resistant protective clothing. Have a safety shower/eye wash fountain readily available in the immediate work area.

Materials for Protective Clothing: Butyl rubber; natural rubber; neoprene; nitrile/polyvinyl chloride; polyurethane; polyvinyl chloride.

Engineering Controls: Local exhaust ventilation required where exposure to dust might occur.

Procedures to be Followed in Case of a Leak or Spill

Precautions: Restrict access to area until completion of clean-up. Wear adequate personal protective equipment. Extinguish or remove all ignition sources. Ventilate area.

Clean-up: Do not touch spilled material. Prevent material from entering sewers or confined spaces. Shovel into clean, dry, labelled containers. Flush area with water. Contaminated materials may be dissolved in water, then treated with a reducing agent such as sodium sulphite. Care should be taken while handling contaminated materials, due to fire risk.

Waste Disposal: Consult appropriate Federal, State/Provincial and local regulatory authorities to ascertain proper disposal procedures. Care should be taken not to mix waste calcium hypochlorite with incompatible material. Calcium hypochlorite should be dissolved in water, and the available chlorine treated using a reducing agent such as sodium sulphite.

Handling Procedures: Avoid generating dust. Avoid mixing pure material with contaminated material. Use smallest possible amounts in designated areas with adequate ventilation.

Storage Requirements: Store in original container. Store tightly closed containers in a clean, cool, open or well ventilated area. Keep out of sun.

Special Shipping Requirements: Transportation in Canada is governed by Transport Canada. Refer to the Transportation of Dangerous Goods (TDG) Regulations for special shipping requirements for calcium hypochlorite. Transport in the U.S. is governed by the Department of Transport (DOT). Refer to DOT regulations (CFR 49) for special shipping requirements for calcium hypochlorite (UN #'s UN1748, UN2880).

Inhalation: Remove source of contamination or move victim to fresh air. If breathing has stopped, trained personnel should begin artificial respiration or, if the heart has stopped, cardiopulmonary resuscitation (CPR) immediately. Obtain medical attention immediately.

Eye Contact: Immediately flush the contaminated eye(s) with lukewarm, gently flowing water for 20 minutes, holding the eyelid(s) open. Take care not to rinse contaminated water into the non-affected eye. Obtain medical attention immediately.

Skin Contact: As quickly as possible, flush contaminated area with lukewarm, gently running water for at least 15 minutes. Under running water, remove contaminated clothing, shoes and leather goods. Obtain medical attention immediately.

Ingestion: Never give anything by mouth if victim is rapidly losing consciousness, or if unconscious or convulsing. Have victim rinse mouth thoroughly with water. Do not induce vomiting. Have victim drink one cup (240-300 ml, 8-10 oz.) of water to dilute material in stomach. If vomiting occurs naturally, rinse mouth and repeat administration of water. If breathing has stopped, trained personnel should begin artificial respiration or, if the heart has stopped, cardiopulmonary resuscitation (CPR) immediately. Obtain medical attention immediately.

FIRE OR EXPLOSION HAZARD

Conditions of Flammability: Not available

Means of Extinction: Drench with water, and cool surrounding products and area with water. Water in contact with hot Hypochlorites can release hydrochloric acid or chlorine gas. Use appropriate self-contained breathing apparatus when any material is involved in a fire.

Fire extinguishing agents - Use water only.

Flash Point and Method of Determination: Not combustible (does not burn). Be aware that calcium hypochlorite can decompose violently at temperatures above 100°C, releasing heat and oxygen gas.

Upper Flammable Limit: Not applicable

Lower Flammable Limit: Not applicable

Auto Ignition Temperature: Not applicable

Hazardous Combustion Products: Oxygen, chlorine and chlorine monoxide

Explosion Data: Sensitivity to mechanical impact: Not available

Explosion Data: Sensitivity to static discharge: Not available

REACTIVITY DATA

Conditions of Chemical Instability: Heat, acids and organic compounds may cause hazardous decomposition of calcium hypochlorite. Water added to a container of calcium hypochlorite may generate enough heat to initiate the hazardous decomposition of this material.

Materials to Avoid and Conditions of Reactivity: Calcium hypochlorite should be kept away from household soap, suntan lotions, paint products, solvents, acids, beverages, lighted cigarettes, combustible materials, garbage, dirt, dirty rags, organic materials and other pool chemicals. Mixing with any of the above materials can initiate a hazardous decomposition of calcium hypochlorite. Calcium hypochlorite should not be mixed with anything but water.

AMMONIA, UREA AND AMINES - form reactive, toxic chloramines

ACIDS - release chlorine gas

METAL OXIDES - can react violently

COMMENTS - Calcium hypochlorite is a strong oxidizing agent. Mix only into water. Contamination may start a chemical reaction with generation of heat, liberation of hazardous gases, and possible fire and explosion.

Hazardous Decomposition Products: Chlorine and oxygen

Hazardous Polymerization: Does not occur

REGULATORY INFORMATION

TDG: Class 5.1 - Oxidizing Substance
Class 9.2 - Substance Hazardous To The Environment

WHMIS: Class C - Oxidizing Material
Class E - Corrosive Material

PREPARATION INFORMATION

MSDS prepared by: Technical Department
Saskatoon Chemicals Ltd.
Box 1586
Saskatoon, Saskatchewan, Canada
S7K 3R3
Phone (306) 931-7767

Date prepared: June 4, 1993

REGULATORY INFORMATION

Manufacturer: Saskatoon Chemicals Ltd.
Supplier: Saskatoon Chemicals Ltd.