

MATERIAL SAFETY DATA SHEET

I - PRODUCT IDENTIFICATION

Product: Protech Calcium Hypochlorite Granular, hydrated 65%
Synonyms: Calcium oxychloride, bleaching powder, chlorinated lime and granulated chlorine
Chemical Family: Salt of hypochlorous acid
Formula: $\text{Ca}(\text{OCl})_2$
CAS Number: 7778-54-3
UN Number: UN2800

II - TRANSPORTATION DATA

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 Transportation (DOT). Refer to DOT regulations (CFR 49) for special shipping requirements for calcium hypochlorite (UN1748, UN2880).

U.S. Department of Transportation - 49 CFR

Emergency Telephone Number: Chemtrec 800-424-9300

III - HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

<u>Chemical or Common Name</u>	<u>Percent</u>	<u>CAS Number</u>
Calcium hypchlorite	65%	7778-54-3
Calcium hydroxide	4%	1305-62-0
Inerts	31%	

IV - PHYSICAL/CHEMICAL CHARACTERISTICS

Odor: strong chlorine odor
Appearance: white, free flowing granular solid
Total acidity: 11.5 (5% solution)
Physical state: solid
Specific Gravity ($\text{H}_2\text{O}=1$): 2.00-2.20 @ 20°C
Melting Point: decomposes at temperatures above 100°C

V - FIRE AND EXPLOSION HAZARD DATA

Flash Point:

Not combustible (does not burn). Be aware that calcium hypochlorite can decompose violently at temperatures above 100°C, releasing heat and oxygen

gas.

Flammable Limits

LEL: not available

UEL: not available

Extinguishing Media:

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.

USE WATER ONLY.

Unusual Explosion Hazards:

Sensitivity to mechanical impact: not available

Sensitivity to static discharge: not available

VI - REACTIVITY DATA

Stability:

Unstable Stable

Conditions to Avoid:

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.

Incompatibility:

Calcium hypochlorite should be kept away from household soap. Suntan lotions, paint products, solvents, acids, beverages, lighted cigarettes, combustible materials, garbage, dirt, dirty rages, 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:	from reactive, toxic chloramines
ACIDS:	releases 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 or By-Products:

Chlorine and oxygen

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:

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

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

Waste Disposal Method:

Consult appropriate Federal, state 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 sulfite.

Precautions to Be Taken in Handling and Storage:

Avoid generating dust. Avoid mixing pure material with contaminated material. Use smallest possible amounts in designated areas with adequate ventilation. Store in original container. Store tightly closed containers in a clean, cool, open or well-ventilated area. Keep out of sun.

VIII - HEALTH HAZARD DATA

Effects of Acute Exposure to Material:

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.

Inhalation: dust or 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

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

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

Effects of Chronic Exposure to Material:

Skin Contact: skin irritation may occur from repeated or prolonged skin contact.

Emergency and First Aid Procedures:

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.	
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.	
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.	
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.	
Animal Toxicity:		
LC50:	inhalation, rats	148 mg/l (65% calcium hypochlorite)
LD50:	oral, rats	1300 mg/kg (65% calcium hypochlorite)

IX - CONTROL MEASURES

Exposure Control/Personal Protection:

- Respiratory: dust mask or NIOSH approved canister type respirators suitable for chlorine
- Ventilation: local exhaust ventilation required where exposure to dust might occur.
- Skin: 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
- Material: butyl rubber, natural rubber, neoprene, nitrile/polyvinyl chloride, polyurethane; polyvinyl chloride.
- Eye: chemical safety goggles. A face shield may be necessary.

X - ADDITIONAL INFORMATION

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

International, Federal, State and Local regulations should be consulted to determine compliance with all required reporting requirements.

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