

## MATERIAL SAFETY DATA SHEET

### Calcium Hypochlorite-70%

#### **PRODUCT IDENTIFIER**

**Synonym(s)** : Calcium Oxychloride, bleaching powder, chlorinated lime and granulated chlorine.

**Chemical Family** : Salt of hypochlorous acid.

**Molecular Formula** : Ca (OCL)<sub>2</sub>

**PIN-UN/NA Number** : UN 2880.

**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**

<b>Ingredients:</b> (by weight %)	70% Min., 10% Max. 20%	Calcium Hypochlorite. Moisture. Inerts.
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<b>CAS Registry Number</b>	-	<b>Calcium Hypochlorite</b>	: 7778-54-3
<b>CAS Registry Number</b>	-	<b>Caclium Hydroxide</b>	: 1305-62-0

#### **PHYSICAL DATA:**

**Physical State** : Solid  
**Odor and Appearance** : White, free flowing granular solid, with a strong chlorine odor.  
**Odor Threshold** : Not available  
**Specific Gravity** : 2.050-2.20 @ 20 Degree C (Water = 1 @ 4 Degree C)  
**Vapour Pressure** : Not applicable  
**Vapour Density** : Not applicable  
**Evaporation Rate** : Not applicable  
**Boiling Point** : Not applicable  
**Melting Point** : Decomposes at temperature above 150 Degree C.  
**pH** : 11.5 (5% solution)  
**Coefficient of Water/Oil Distribution** : Not applicable.

#### **HEALTH HAZARD DATA:**

Route of Entry and Effect 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 results in severe lung damage.

Eye Contact: Exposure to Calcium Hypochlorite can cause eye irritation. Concentrated solutions cause burns which may results in permanent eye damage if not promptly treated.

**Skin Contact** : Calcium Hypochlorite dust and solution can cause irritation and severe cases, chemicals burns.

**Ingestion**: When igested, there will be burning in the mouth and throat. Calcium Hypochlorite can use cause abdominal cramp and nausea which may lead to convulsion, 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 Applicable.

**Irritancy** : Not available

**Sensitization to Product** : Not available.

**Animal Toxicity Data.**

**LC50** : (Inhalation, rats) – 148 mg/I (5% Calcium Hypochlorite)

**LD50**: (Oral, rats) – 1300 mg/kg (70% Calcium Hypochlorite)

**Carcinogenicity Toxicity** : 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 type canister type respirator 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 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.

**Procedure to be followed** : In case of 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 place. 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 sulphite. Care should be taken while handling contaminated material, 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 materials. Use smallest possible amounts in designated areas with adequate ventilation.

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

## **FIRST AID MEASURES:**

**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 non-affected eye. 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.

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## FIRE OR EXPLOSION HAZARD.

**Conditions of Flammability:** Not available.

**Means of Extinction:** Drench with water, and cool surrounding products and are with water. Water in contact with hot Hypochlorite can release hydrochloric acid or chlorine gas. Use appropriate self-fire extinguishing agents – Use water only.

**Flash Point and Methods of Determination:** Not combustible (does not burn). Be aware that Calcium Hypochlorite can decompose violently at temperatures above 150 degree C, releasing heat and oxygen gas.

**Upper Flammable Limit:** Not applicable.

**Lower Limit:** Not applicable.

**Auto Ignition Temperature :** Not applicable.

**Hazardous combustion Products :** Oxygen, Chlorine and Chloriner 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 container of Calcium Hypochlorite may generate enough heat to initiate the hazardous decomposition of this material.

**Materials to avoid and conditions or 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 CONDITIONS OF REACTIVITY:** Form reactive, toxic Chloramines.

**ACIDS** – Release Chlorine Gas.

**METAL OXIDES** – Can react Violently.

**COMMENTS** - Calcium Hypochlorite is 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.

## PRODUCT CLASSIFICATIONS

TGD : Class 5.1 - Oxidizing Substance

WHIMS : Class C Oxadising Material  
Class E Corrosive Material

## PREPARATION INFORMATION:

MSDS Prepared by :Quality Control Department,  
Sree Rayalaseema Hi-Strength Hypo Limited,  
Phone: 0091-8518-220064/65/66/67 Fax:0091-8518-280090

## PRODUCT INFORMATION:

Manufacturer : Sree Rayalaseema Hi-Strength Hypo Limited  
Supplier : Sree Rayalaseema Hi-Strength Hypo Limited

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