Material Safety Data Sheet

Calcium hypochlorite, available chlorine >65%

Section 1 - Chemical Product and Company Identification

MSDS Name: Calcium hypochlorite, available chlorine >65%

Synonyms: Calcium oxychloride; losantin; Hypochlorous acid; Calcium salt; Lime chloride

Company Identification:

RESEARCH PRODUCTS INC OF ALABAMA
6311 HWY 90 W /PO BOX 705
THEODORE AL 36582
800-653-2436

FOR CHEMICAL EMERGENCY
SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT
ALL INFOTRAC – DAY OR NIGHT
800-535-5053
OUTSIDE THE UNITED STATES CALL COLLECT 1-352-323-3500

Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
7778-54-3	Calcium hypochlorite	100	231-908-7

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: white crystalline powder.

Danger! Strong oxidizer. Contact with other material may cause a fire. Corrosive. Causes eye and skin burns. Harmful if swallowed. Contact with acids liberates toxic gas. May cause severe respiratory tract irritation with possible burns. May cause severe digestive tract irritation with possible burns. Air sensitive.

Target Organs: Lungs, respiratory system, eyes, skin, mucous membranes.

Potential Health Effects

Eye: Causes eye burns. May result in corneal injury. May cause blindness. May cause blepharitis (inflammation of the margins of the eyelids).

Skin: Causes severe burns with delayed tissue destruction.

Ingestion: Harmful if swallowed. May cause severe and permanent damage to the digestive tract. May cause perforation of the digestive tract. Causes digestive tract burns with immediate pain, swelling of the throat, convulsions, and possible coma. Ingestion of Calcium hypochlorite solutions may cause death. As little as 1 ounce may be lethal if the available chlorine concentration exceeds 15%.

Inhalation: Causes chemical burns to the respiratory tract. Aspiration may lead to pulmonary edema. May cause systemic effects. Causes corrosive action on the mucous membranes.

Chronic: Prolonged or repeated skin contact may cause dermatitis. Prolonged or repeated eye contact may cause conjunctivitis. Effects may be delayed.

Section 4 - First Aid Measures

Eyes: Get medical aid immediately. Do NOT allow victim to rub eyes or keep eyes closed. Extensive irrigation with water is required (at least 30 minutes).
Skin: Get medical aid immediately. Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Destroy contaminated shoes.
Ingestion: Do not induce vomiting. If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid immediately.
Inhalation: Get medical aid immediately. Remove from exposure and move to fresh air immediately. If breathing is difficult, give oxygen. Do NOT use mouth-to-mouth resuscitation. If breathing has ceased apply artificial respiration using oxygen and a suitable mechanical device such as a bag and a mask.
Notes to Physician: Treat symptomatically and supportively.

Section 5 - Fire Fighting Measures

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Strong oxidizer. Contact with other material may cause fire. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Use water spray to keep fire-exposed containers cool. Use water with caution and in flooding amounts. Contaminating or mixing with foreign materials such as combustibles, grease, and fuels can cause fire. Containers may explode when heated.
Extinguishing Media: Use water only! Do NOT use carbon dioxide or dry chemical. Contact professional fire-fighters immediately. Cool containers with flooding quantities of water until well after fire is out.
Flash Point: Not available.
Autoignition Temperature: Not available.
Explosion Limits, Lower: Not available.
Upper: Not available.
NFPA Rating: (estimated) Health: 3; Flammability: 0; Instability: 1; Special Hazard: OX

Section 6 - Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.
Spills/Leaks: Vacuum or sweep up material and place into a suitable disposal container. Clean up spills immediately, observing precautions in the Protective Equipment section. Avoid generating dusty conditions. Remove all sources of ignition. Provide ventilation. Do not get water inside containers. Do not use combustible materials such as paper towels to clean up spill.

Section 7 - Handling and Storage

Handling: Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Use only in a well-ventilated area. Minimize dust generation and accumulation. Do not get in eyes,

on skin, or on clothing. Keep container tightly closed. Keep away from heat, sparks and flame. Avoid contact with clothing and other combustible materials. Do not ingest or inhale. Discard contaminated shoes. Use only a clean, dry scoop made of metal or plastic each time product is taken from container. Never use scoops containing remnants of other products as it may cause a violent reaction leading to fire or an explosion.
Storage: Keep away from sources of ignition. Do not store near combustible materials. Do not store in direct sunlight. Keep container closed when not in use. Store in a tightly closed container. Keep away from acids.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate ventilation to keep airborne concentrations low.
Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Calcium hypochlorite	none listed	none listed	none listed

OSHA Vacated PELs: Calcium hypochlorite: No OSHA Vacated PELs are listed for this chemical.
Personal Protective Equipment
Eyes: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.
Skin: Wear appropriate protective gloves to prevent skin exposure.
Clothing: Wear appropriate protective clothing to prevent skin exposure.
Respirators: A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant respi ator use.

Section 9 - Physical and Chemical Properties

Physical State: Crystalline powder
Appearance: white
Odor: strong odor - chlorine-like
pH: 11.4 (1% aq. sol.)
Vapor Pressure: Not applicable.
Vapor Density: Not applicable.
Evaporation Rate: Not applicable.
Viscosity: Not available.
Boiling Point: Decomposes
Freezing/Melting Point:100 deg C
Decomposition Temperature:180 deg C
Solubility: Slightly soluble.
Specific Gravity/Density:2.350
Molecular Formula: CaCl2O2
Molecular Weight:142.9848

Section 10 - Stability and Reactivity

Chemical Stability: All hypochlorite solutions are unstable and slowly decompose on contact with air. Calcium hypochlorite is corrosive to most metals and will evolve toxic chlorine and chlorine monoxide gas when heated above 350°F. Sudden heating above 212°F may cause an explosion. Pure, dry calcium hypochlorite is not sensitive to friction or impact. However, in the presence of small amounts of water, it can decompose to form dangerously unstable dichlorine monoxide, which is sensitive to friction, shock or static spark.
Conditions to Avoid: Ignition sources, dust generation, excess heat, moisture, high humidity.
Incompatibilities with Other Materials: Reducing agents, ammonia, iron oxide, phenols, sulfur, aliphatic amines, acetylene, cyanides (e.g. potassium cyanide, sodium cyanide), sulfides (inorganic, e.g. ferric sulfide, lead sulfide, sodium sulfide), carbontetrachloride, aromatic amines, carbon, ammonium chloride, charcoal, glycerol, air, ethanol, menthol, rust, hydroxy compounds (e.g. ethanol, ethylene glycol, gycerol, sugar), metal oxides, turpentine, diethylene glycol monomethyl ether, acetic acid + potassium, N,N-dichloromethylamine + heat, 1-propanethiol, isobutanethiol, sodium hydrogen sulfate + starch + sodium carbonate, combustible materials (e.g. anthracene, grease, oil, mercaptans, methyl carbitol, nitromethane, organic matter, and propylmercaptan).
Hazardous Decomposition Products: Hydrogen chloride, oxygen, chlorine, calcium hydroxide, calcium carbonate, dichlorine monoxide, Calcium chlorate.
Hazardous Polymerization: Has not been reported.

Section 11 - Toxicological Information

RTECS#:
CAS# 7778-54-3: NH3485000
LD50/LC50:
CAS# 7778-54-3:
Oral, rat: LD50 = 850 mg/kg;
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Carcinogenicity:
CAS# 7778-54-3: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

Epidemiology: No information found
Teratogenicity: No information found
Reproductive Effects: No information found
Mutagenicity: Mutation in bacteria.
Neurotoxicity: No information found
Other Studies:

Section 12 - Ecological Information

Ecotoxicity: Fish: Striped bass: LC50 = 0.5 mg/L; 24 Hr; Static bioassay (70% hypochlorite)

Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to

ensure complete and accurate classification.
RCRA P-Series: None listed.
RCRA U-Series: None listed.

Section 14 - Transport Information

	US DOT	Canada TDG
Shipping Name:	CALCIUM HYPOCHLORITE, DRY	CALCIUM HYPOCHLORITE, DRY
Hazard Class:	5.1	5.1
UN Number:	UN1748	UN1748
Packing Group:	II	II

Section 15 - Regulatory Information

US FEDERAL

TSCA
CAS# 7778-54-3 is listed on the TSCA inventory.
Health & Safety Reporting List
None of the chemicals are on the Health & Safety Reporting List.
Chemical Test Rules
None of the chemicals in this product are under a Chemical Test Rule.
Section 12b
None of the chemicals are listed under TSCA Section 12b.
TSCA Significant New Use Rule
None of the chemicals in this material have a SNUR under TSCA.
CERCLA Hazardous Substances and corresponding RQs
CAS# 7778-54-3: 10 lb final RQ; 4.54 kg final RQ
SARA Section 302 Extremely Hazardous Substances
None of the chemicals in this product have a TPQ.
SARA Codes
CAS # 7778-54-3: immediate, fire.
Section 313 No chemicals are reportable under Section 313.
Clean Air Act:
This material does not contain any hazardous air pollutants.
This material does not contain any Class 1 Ozone depletors.
This material does not contain any Class 2 Ozone depletors.
Clean Water Act:
CAS# 7778-54-3 is listed as a Hazardous Substance under the CWA.
None of the chemicals in this product are listed as Priority Pollutants under the CWA.
None of the chemicals in this product are listed as Toxic Pollutants under the CWA.
OSHA:
None of the chemicals in this product are considered highly hazardous by OSHA.
STATE
CAS# 7778-54-3 can be found on the following state right to know lists: California, New Jersey, Pennsylvania, Massachusetts.

California Prop 65

California No Significant Risk Level: None of the chemicals in this product are listed.

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols:

O C N

Risk Phrases:

R 22 Harmful if swallowed.
R 31 Contact with acids liberates toxic gas.
R 34 Causes burns.
R 8 Contact with combustible material may cause fire.
R 50 Very toxic to aquatic organisms.

Safety Phrases:

S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S 36/37/39 Wear suitable protective clothing, gloves and eye/face protection.
S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
S 61 Avoid release to the environment. Refer to special instructions /safety data sheets.

WGK (Water Danger/Protection)

CAS# 7778-54-3: 2

Canada - DSL/NDSL

CAS# 7778-54-3 is listed on Canada's DSL List.

Canada - WHMIS

This product has a WHMIS classification of C, E.

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

Canadian Ingredient Disclosure List

Section 16 - Additional Information

MSDS Creation Date: 7/19/1999
Revision #8 Date: 2/13/2008