

MATERIAL SAFETY DATA SHEET

Date Printed: 03/19/2005

Date Updated: 04/04/2004

Version 1.2

Section 1 - Product and Company Information

Product Name CALCIUM HYPOCHLORITE, TECH
Product Number 211389
Brand ALDRICH

Company Sigma-Aldrich
Street Address 3050 Spruce Street
City, State, Zip, Country SAINT LOUIS MO 63103 US
Technical Phone: 314 771 5765
Emergency Phone: 414 273 3850 Ext. 5996
Fax: 800 325 5052

Section 2 - Composition/Information on Ingredient

Substance Name	CAS #	SARA 313
CALCIUM HYPOCHLORITE	7778-54-3	No

Formula Ca(OCl)2
Synonyms B-K powder * Bleaching powder * Calcium chlorohydrochlorite * Calcium hypochlorite * Calcium oxychloride * Caporit * Chemichlor G * Chloride of lime * Chlorinated lime * Chlorolime chemical * HTH * HTH (bleaching agent) * HY-Chlor * Lime chloride * LO-Bax * Losantin * Perchloron * Pittchlor * Pittcide * Pittclor * Sentry * Solvox KS * T-Eusol

RTECS Number: NH3485000

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Oxidizing. Corrosive.

Contact with combustible material may cause fire. Harmful if swallowed. Contact with acids liberates toxic gas. Causes burns.

Very toxic to aquatic organisms.

Causes severe irritation.

HMIS RATING

HEALTH: 3

FLAMMABILITY: 0

REACTIVITY: 3

NFPA RATING

HEALTH: 3

FLAMMABILITY: 0

REACTIVITY: 3

For additional information on toxicity, please refer to Section 11.

Section 4 - First Aid Measures

INHALATION EXPOSURE

If inhaled, remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen.

EYE EXPOSURE

Assure adequate flushing of the eyes by separating the eyelids with fingers.

Section 5 - Fire Fighting Measures

FLASH POINT

N/A

AUTOIGNITION TEMP

N/A

FLAMMABILITY

N/A

EXTINGUISHING MEDIA

Suitable: Carbon dioxide, dry chemical powder, or appropriate foam.

FIREFIGHTING

Protective Equipment: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes. Specific Hazard(s): Contact with other material may cause fire. Emits toxic fumes under fire conditions.

EXPOSURE HAZARD(S)

Material: Causes burns. Irritating fumes.

Section 6 - Accidental Release Measures

PROCEDURE TO BE FOLLOWED IN CASE OF LEAK OR SPILL

Evacuate area. Shut off all sources of ignition.

PROCEDURE(S) OF PERSONAL PRECAUTION(S)

Wear self-contained breathing apparatus, rubber boots, and heavy rubber gloves.

METHODS FOR CLEANING UP

Cover with dry-lime, sand, or soda ash. Place in covered containers using non-sparking tools and transport outdoors.

Section 7 - Handling and Storage

HANDLING

User Exposure: Avoid breathing dust. Do not get in eyes, on skin, on clothing. Avoid prolonged or repeated exposure.

STORAGE

Suitable: Keep tightly closed. Keep away from combustible materials, heat, sparks, and open flame. Store in a cool dry place.

Incompatible Materials: Avoid contact with acid. Ammonia

Section 8 - Exposure Controls / PPE

ENGINEERING CONTROLS

Safety shower and eye bath. Use only in a chemical fume hood.

PERSONAL PROTECTIVE EQUIPMENT

Other: Wear appropriate government approved respirator, chemical-resistant gloves, safety goggles, other protective clothing.

GENERAL HYGIENE MEASURES

Wash thoroughly after handling. Wash contaminated clothing before reuse. Discard contaminated shoes.

Section 9 - Physical/Chemical Properties

Appearance	Color: Faintly beige Form: Coarse powder	
Property	Value	At Temperature or Pressure
Molecular Weight	142.99 AMU	
pH	N/A	
BP/BP Range	N/A	
MP/MP Range	100 °C	
Freezing Point	N/A	
Vapor Pressure	N/A	
Vapor Density	N/A	
Saturated Vapor Conc.	N/A	
SG/Density	2.35 g/cm ³	
Bulk Density	N/A	
Odor Threshold	N/A	
Volatile%	N/A	
VOC Content	N/A	
Water Content	N/A	
Solvent Content	N/A	
Evaporation Rate	N/A	
Viscosity	N/A	
Surface Tension	N/A	
Partition Coefficient	N/A	
Decomposition Temp.	N/A	
Flash Point	N/A	
Explosion Limits	N/A	
Flammability	N/A	
Autoignition Temp	N/A	
Refractive Index	N/A	
Optical Rotation	N/A	
Miscellaneous Data	N/A	
Solubility	N/A	

N/A = not available

Section 10 - Stability and Reactivity

STABILITY

Materials to Avoid: Avoid contact with acids., Strong reducing agents

HAZARDOUS DECOMPOSITION PRODUCTS

Hazardous Decomposition Products: Carbon monoxide, Carbon dioxide.

HAZARDOUS POLYMERIZATION

Hazardous Polymerization: Will not occur

Section 11 - Toxicological Information

ROUTE OF EXPOSURE

Multiple Routes: Harmful if swallowed, inhaled, or absorbed

through skin. High concentrations are extremely destructive to tissues of the mucous membranes and upper respiratory tract, eyes, and skin.

SIGNS AND SYMPTOMS OF EXPOSURE

If swallowed calcium hypochlorite can produce nausea, vomiting, delirium, coma, respiratory collapse, and holes in the esophagus and stomach. Symptoms of exposure may include burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea, and vomiting. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

TOXICITY DATA

Oral
Rat
850 mg/kg
LD50

IARC CARCINOGEN LIST

Rating: Group 3

CHRONIC EXPOSURE - MUTAGEN

Species: Hamster
Dose: 4 GM/L
Cell Type: fibroblast
Mutation test: Cytogenetic analysis

Section 12 - Ecological Information

No data available.

Section 13 - Disposal Considerations

APPROPRIATE METHOD OF DISPOSAL OF SUBSTANCE OR PREPARATION

Cautiously acidify a 3% solution or a suspension of the material to pH 2 with sulfuric acid. Gradually add a 50% excess of aqueous sodium bisulfite with stirring at room temperature. An increase in temperature indicates that a reaction is taking place. If no reaction is observed on the addition of about 10% of the sodium bisulfite solution initiate it by cautiously adding more acid. If manganese, chromium, or molybdenum are present adjust the pH of the solution to 7 and treat with sulfide to precipitate for burial as hazardous waste. Destroy excess sulfide, neutralize, and flush the solution down the drain. Observe all federal, state, and local environmental regulations.

Section 14 - Transport Information

DOT

Proper Shipping Name: Calcium hypochlorite, dry [or] Calcium hypochlorite mixtures dry [with more than 39 percent available chlorine (8.8 percent available oxygen)]
UN#: 1748
Class: 5.1
Packing Group: Packing Group II
Hazard Label: Oxidizer
PIH: Not PIH

IATA

Proper Shipping Name: Calcium hypochlorite mixture, dry
IATA UN Number: 1748
Hazard Class: 5.1
Packing Group: II

Section 15 - Regulatory Information

EU DIRECTIVES CLASSIFICATION

Symbol of Danger: O C N
Indication of Danger: Oxidizing. Corrosive. Dangerous for the environment.
R: 8 22 31 34 50
Risk Statements: Contact with combustible material may cause fire. Harmful if swallowed. Contact with acids liberates toxic gas. Causes burns. Very toxic to aquatic organisms.
S: 26 36/37/39 45 61
Safety Statements: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing, gloves, and eye/face protection. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). Avoid release to the environment. Refer to special instructions/safety data sheets.

US CLASSIFICATION AND LABEL TEXT

Indication of Danger: Oxidizing. Corrosive.
Risk Statements: Contact with combustible material may cause fire. Harmful if swallowed. Contact with acids liberates toxic gas. Causes burns. Very toxic to aquatic organisms.
Safety Statements: Keep away from combustible material. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Take off immediately all contaminated clothing. Wear suitable protective clothing, gloves, and eye/face protection.
US Statements: Causes severe irritation.

UNITED STATES REGULATORY INFORMATION

SARA LISTED: No
TSCA INVENTORY ITEM: Yes Yes

CANADA REGULATORY INFORMATION

WHMIS Classification: This product has been classified in accordance with the hazard criteria of the CPR, and the MSDS contains all the information required by the CPR.
DSL: Yes
NDSL: No

Section 16 - Other Information

DISCLAIMER

For R&D use only. Not for drug, household or other uses.

WARRANTY

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Inc., shall not be held liable for any damage resulting from handling or

from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. Copyright 2005 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.