Section 1 - Product and Company Information

Product Name: CALCIUM CHLORIDE DIHYDRATE, 99+%, A.C.S.REAGENT
Product Number: 223506
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: CALCIUM CHLORIDE DIHYDRATE
CAS #: 10035-04-8
SARA 313: No

Formula: CaCl2 · 2H2O
Synonyms: Calcium dichloride dihydrate, CAL plus, Replenisher (calcium)
RTECS Number: EV9810000

Section 3 - Hazards Identification

EMERGENCY OVERVIEW
Irritant.
Irritating to eyes.

HMIS RATING
HEALTH: 2
FLAMMABILITY: 0
REACTIVITY: 0

NFPA RATING
HEALTH: 2
FLAMMABILITY: 0
REACTIVITY: 0

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

Section 4 - First Aid Measures

ORAL EXPOSURE
If swallowed, wash out mouth with water provided person is conscious. Call a physician.

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

DERMAL EXPOSURE
In case of contact, immediately wash skin with soap and copious amounts of water.

**EYE EXPOSURE**
In case of contact, immediately flush eyes with copious amounts of water for at least 15 minutes.

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### Section 5 - Fire Fighting Measures

**FLASH POINT**
N/A

**AUTOIGNITION TEMP**
N/A

**FLAMMABILITY**
N/A

**EXTINGUISHING MEDIA**
Suitable: Water spray. 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): Emits toxic fumes under fire conditions.

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### Section 6 - Accidental Release Measures

**PROCEDURE(S) OF PERSONAL PRECAUTION(S)**
Wear respirator, chemical safety goggles, rubber boots, and heavy rubber gloves.

**METHODS FOR CLEANING UP**
Sweep up, place in a bag and hold for waste disposal. Avoid raising dust. Ventilate area and wash spill site after material pickup is complete.

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### Section 7 - Handling and Storage

**HANDLING**
User Exposure: Do not breathe dust. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure.

**STORAGE**
Suitable: Keep tightly closed.

**SPECIAL REQUIREMENTS**
Hygroscopic.

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### Section 8 - Exposure Controls / PPE

**ENGINEERING CONTROLS**
Safety shower and eye bath. Mechanical exhaust required.

**PERSONAL PROTECTIVE EQUIPMENT**
Respiratory: Government approved respirator.
Hand: Compatible chemical-resistant gloves.
Eye: Chemical safety goggles.

**GENERAL HYGIENE MEASURES**
Wash thoroughly after handling.
Section 9 - Physical/Chemical Properties

Appearance
Physical State: Solid
Color: White
Form: Fine crystals

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
<th>At Temperature or Pressure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Molecular Weight</td>
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<td>pH</td>
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<td>BP/MP Range</td>
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<tr>
<td>MP/MP Range</td>
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<td>Vapor Pressure</td>
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<td>Volatile%</td>
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<tr>
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<td>Viscosity</td>
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<td>Optical Rotation</td>
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<tr>
<td>Solubility</td>
<td>Solubility in Water: 1 M in H2O, 20°C complete, colorless</td>
<td></td>
</tr>
</tbody>
</table>

N/A = not available

Section 10 - Stability and Reactivity

STABILITY
Stable: Stable.
Conditions to Avoid: Protect from moisture.
Materials to Avoid: Strong acids, Boron oxides, Zinc, Calcium oxide, Methyl vinyl ether, Calcium chloride is attacked by bromine trifluoride.

HAZARDOUS DECOMPOSITION PRODUCTS
Hazardous Decomposition Products: Hydrogen chloride gas, Calcium oxide.

HAZARDOUS POLYMERIZATION
Hazardous Polymerization: Will not occur

Section 11 - Toxicological Information

ROUTE OF EXPOSURE
Skin Contact: May cause skin irritation.
Skin Absorption: May be harmful if absorbed through the skin.
Eye Contact: Causes eye irritation.
Inhalation: May be harmful if inhaled. Material may be irritating to mucous membranes and upper respiratory tract.
Ingestion: May be harmful if swallowed.

SIGNS AND SYMPTOMS OF EXPOSURE
To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

TOXICITY DATA

Intraperitoneal
Mouse
20500 MG/KG
LD50

CHRONIC EXPOSURE - MUTAGEN

Species: Rat
Route: Oral
Dose: 500 UG/KG
Mutation test: Unscheduled DNA synthesis

Section 12 - Ecological Information

No data available.

Section 13 - Disposal Considerations

APPROPRIATE METHOD OF DISPOSAL OF SUBSTANCE OR PREPARATION
Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. Observe all federal, state, and local environmental regulations.

Section 14 - Transport Information

DOT
Proper Shipping Name: None
Non-Hazardous for Transport: This substance is considered to be non-hazardous for transport.

IATA
Non-Hazardous for Air Transport: Non-hazardous for air transport.

Section 15 - Regulatory Information

EU ADDITIONAL CLASSIFICATION
Symbol of Danger: Xi
Indication of Danger: Irritant.
R: 36
Risk Statements: Irritating to eyes.
S: 26
Safety Statements: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

US CLASSIFICATION AND LABEL TEXT
Indication of Danger: Irritant.
Risk Statements: Irritating to eyes.
Safety Statements: In case of contact with eyes, rinse
immediately with plenty of water and seek medical advice. Wear suitable protective clothing.

UNITED STATES REGULATORY INFORMATION
SARA LISTED: No

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: No
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. 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 2003 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.