

## SAFETY DATA SHEET

Version 6.4  
Revision Date 02/25/2021  
Print Date 10/24/2021**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1 Product identifiers**

Product name : Calcium hydroxide

Product Number : 239232  
Brand : SIGALD  
CAS-No. : 1305-62-0**1.2 Relevant identified uses of the substance or mixture and uses advised against**

Identified uses : Laboratory chemicals, Synthesis of substances

**1.3 Details of the supplier of the safety data sheet**Company : Sigma-Aldrich Inc.  
3050 SPRUCE ST  
ST. LOUIS MO 63103  
UNITED STATESTelephone : +1 314 771-5765  
Fax : +1 800 325-5052**1.4 Emergency telephone**Emergency Phone # : 800-424-9300 CHEMTREC (USA) +1-703-  
527-3887 CHEMTREC (International) 24  
Hours/day; 7 Days/week**SECTION 2: Hazards identification****2.1 Classification of the substance or mixture****GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)**Skin irritation (Category 2), H315  
Serious eye damage (Category 1), H318  
Specific target organ toxicity - single exposure (Category 3), Respiratory system, H335  
Short-term (acute) aquatic hazard (Category 3), H402

For the full text of the H-Statements mentioned in this Section, see Section 16.

**2.2 GHS Label elements, including precautionary statements**

Pictogram



Signal word

Danger

|                            |  |
|----------------------------|--|
| Hazard statement(s)        |  |
| H315                       | Causes skin irritation.  |
| H318                       | Causes serious eye damage.   |
| H335                       | May cause respiratory irritation.  |
| H402                       | Harmful to aquatic life.   |
| Precautionary statement(s) |  |
| P261                       | Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.  |
| P264                       | Wash skin thoroughly after handling.   |
| P271                       | Use only outdoors or in a well-ventilated area.  |
| P273                       | Avoid release to the environment.  |
| P280                       | Wear protective gloves/ eye protection/ face protection.   |
| P302 + P352                | IF ON SKIN: Wash with plenty of soap and water.  |
| P304 + P340 + P312         | IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor if you feel unwell.  |
| P305 + P351 + P338 + P310  | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/ doctor. |
| P332 + P313                | If skin irritation occurs: Get medical advice/ attention.  |
| P362                       | Take off contaminated clothing and wash before reuse.  |
| P403 + P233                | Store in a well-ventilated place. Keep container tightly closed.   |
| P405                       | Store locked up.   |
| P501                       | Dispose of contents/ container to an approved waste disposal plant.  |

### 2.3 Hazards not otherwise classified (HNOC) or not covered by GHS - none

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## SECTION 3: Composition/information on ingredients

### 3.1 Substances

|                  |                                   |
|------------------|-----------------------------------|
| Formula          | : H <sub>2</sub> CaO <sub>2</sub> |
| Molecular weight | : 74.09 g/mol                     |
| CAS-No.          | : 1305-62-0                       |
| EC-No.           | : 215-137-3                       |

| Component                | Classification  | Concentration |
|--------------------------|---|---------------|
| <b>Calcium hydroxide</b> | Skin Irrit. 2; Eye Dam. 1; STOT SE 3; Aquatic Acute 3; H315, H318, H335, H402 | <= 100 %      |

For the full text of the H-Statements mentioned in this Section, see Section 16.

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## SECTION 4: First aid measures

### 4.1 Description of first-aid measures

#### General advice

Consult a physician. Show this material safety data sheet to the doctor in attendance.

**If inhaled**

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

**In case of skin contact**

Wash off with soap and plenty of water. Consult a physician.

**In case of eye contact**

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

**If swallowed**

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

**4.2 Most important symptoms and effects, both acute and delayed**

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

**4.3 Indication of any immediate medical attention and special treatment needed**

No data available

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**SECTION 5: Firefighting measures****5.1 Extinguishing media****Suitable extinguishing media**

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

**5.2 Special hazards arising from the substance or mixture**

Calcium oxide

**5.3 Advice for firefighters**

Wear self-contained breathing apparatus for firefighting if necessary.

**5.4 Further information**

No data available

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**SECTION 6: Accidental release measures****6.1 Personal precautions, protective equipment and emergency procedures**

Use personal protective equipment. Avoid dust formation. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust. For personal protection see section 8.

**6.2 Environmental precautions**

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

**6.3 Methods and materials for containment and cleaning up**

Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

**6.4 Reference to other sections**

For disposal see section 13.

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## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

#### Advice on safe handling

Avoid contact with skin and eyes. Avoid formation of dust and aerosols. **Advice on safe handling**

Further processing of solid materials may result in the formation of combustible dusts. The potential for combustible dust formation should be taken into consideration before additional processing occurs.

#### Advice on protection against fire and explosion

Provide appropriate exhaust ventilation at places where dust is formed.

#### Hygiene measures

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

For precautions see section 2.2.

### 7.2 Conditions for safe storage, including any incompatibilities

#### Storage conditions

Keep container tightly closed in a dry and well-ventilated place.

Keep in a dry place.

Storage class (TRGS 510): 13: Non Combustible Solids

### 7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

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## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### Ingredients with workplace control parameters

| Component         | CAS-No.   | Value | Control parameters   | Basis   |
|-------------------|-----------|-------|----------------------|---|
| Calcium hydroxide | 1305-62-0 | TWA   | 5 mg/m <sup>3</sup>  | USA. ACGIH Threshold Limit Values (TLV)   |
|                   |           | TWA   | 5 mg/m <sup>3</sup>  | USA. NIOSH Recommended Exposure Limits  |
|                   |           | TWA   | 15 mg/m <sup>3</sup> | USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants        |
|                   |           | TWA   | 5 mg/m <sup>3</sup>  | USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants        |
|                   |           | PEL   | 5 mg/m <sup>3</sup>  | California permissible exposure limits for chemical contaminants (Title 8, Article 107) |

### 8.2 Exposure controls

#### Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

## Personal protective equipment

### Eye/face protection

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

### Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Full contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

Material tested: Dermatril® (KCL 740 / Aldrich Z677272, Size M)

Splash contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

Material tested: Dermatril® (KCL 740 / Aldrich Z677272, Size M)

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the EC approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

### Body Protection

Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

### Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

### Control of environmental exposure

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

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## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

- |               |                              |
|---------------|------------------------------|
| a) Appearance | Form: powder<br>Color: beige |
| b) Odor       | No data available            |

|   |   |
|---|---|
| c) Odor Threshold                               | No data available   |
| d) pH   | 12.4 - 12.6 at 20 °C (68 °F)  |
| e) Melting point/freezing point                 | Melting point/range: >= 450 °C (>= 842 °F) - Regulation (EC) No. 440/2008, Annex, A.1 |
| f) Initial boiling point and boiling range      | 2,850 °C 5,162 °F - (decomposition)   |
| g) Flash point                                  | ( )Not applicable   |
| h) Evaporation rate                             | No data available   |
| i) Flammability (solid, gas)                    | The product is not flammable. - Flammability (solids)                                 |
| j) Upper/lower flammability or explosive limits | No data available   |
| k) Vapor pressure                               | No data available   |
| l) Vapor density                                | No data available   |
| m) Relative density                             | 2.22 at 20 °C (68 °F) - OECD Test Guideline 109                                       |
| n) Water solubility                             | 1.85 g/l at 20 °C (68 °F) - Regulation (EC) No. 440/2008, Annex, A.6                  |
| o) Partition coefficient: n-octanol/water       | Not applicable for inorganic substances   |
| p) Autoignition temperature                     | > 400 °C (> 752 °F) - Relative self-ignition temperature for solids                   |
| q) Decomposition temperature                    | No data available   |
| r) Viscosity                                    | No data available   |
| s) Explosive properties                         | No data available   |
| t) Oxidizing properties                         | No data available   |

## 9.2 Other safety information

|                 |  |
|-----------------|--|
| Bulk density    | 200 - 800 kg/m <sup>3</sup>                                |
| Surface tension | 72 mN/m at 1g/l at 20 °C (68 °F) - OECD Test Guideline 115 |

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## SECTION 10: Stability and reactivity

### 10.1 Reactivity

No data available

### 10.2 Chemical stability

Stable under recommended storage conditions.

### 10.3 Possibility of hazardous reactions

No data available

### 10.4 Conditions to avoid

No data available

## 10.5 Incompatible materials

Strong acids

## 10.6 Hazardous decomposition products

In the event of fire: see section 5

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## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Acute toxicity

LD50 Oral - Rat - female - > 2,000 mg/kg

(OECD Test Guideline 425)

LC50 Inhalation - Rat - male and female - 4 h - > 6.04 mg/l

(OECD Test Guideline 436)

LD50 Dermal - Rabbit - male and female - > 2,500 mg/kg

(OECD Test Guideline 402)

No data available

#### Skin corrosion/irritation

Skin - Rabbit

Result: Irritating to skin.

(OECD Test Guideline 404)

#### Serious eye damage/eye irritation

Eyes - Rabbit

Result: Irreversible effects on the eye

(OECD Test Guideline 405)

Risk of corneal clouding. Risk of blindness!

#### Respiratory or skin sensitization

No data available

#### Germ cell mutagenicity

In vitro mammalian cell gene mutation test

mouse lymphoma cells

Result: negative

Ames test

Escherichia coli/Salmonella typhimurium

Result: negative

Chromosome aberration test in vitro

Human lymphocytes

Result: negative

#### Carcinogenicity

IARC: No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

NTP: No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

#### Reproductive toxicity

No data available

**Specific target organ toxicity - single exposure**

Inhalation - May cause respiratory irritation.

**Specific target organ toxicity - repeated exposure**

No data available

**Aspiration hazard**

No data available

**11.2 Additional Information**

RTECS: EW2800000

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**SECTION 12: Ecological information****12.1 Toxicity**

|   |  |
|---|--|
| Toxicity to fish                                    | static test LC50 - Oncorhynchus mykiss (rainbow trout) - 50.6 mg/l - 96 h<br>(OECD Test Guideline 203)             |
| Toxicity to daphnia and other aquatic invertebrates | static test EC50 - Daphnia magna (Water flea) - 49.1 mg/l - 48 h<br>(OECD Test Guideline 202)                      |
| Toxicity to algae                                   | static test ErC50 - Pseudokirchneriella subcapitata (green algae) - 184.6 mg/l - 72 h<br>(OECD Test Guideline 201) |

**12.2 Persistence and degradability**

The methods for determining biodegradability are not applicable to inorganic substances.

**12.3 Bioaccumulative potential**

Does not bioaccumulate.

**12.4 Mobility in soil**

No data available

**12.5 Results of PBT and vPvB assessment**

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

**12.6 Other adverse effects**

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Harmful to aquatic life.

No data available

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**SECTION 13: Disposal considerations****13.1 Waste treatment methods****Product**

Offer surplus and non-recyclable solutions to a licensed disposal company.

**Contaminated packaging**

Dispose of as unused product.

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**SECTION 14: Transport information****DOT (US)**

Not dangerous goods

**IMDG**

Not dangerous goods

**IATA**

Not dangerous goods

**Further information**

Not classified as dangerous in the meaning of transport regulations.

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**SECTION 15: Regulatory information****SARA 302 Components**

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

**SARA 313 Components**

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

**Massachusetts Right To Know Components**

No components are subject to the Massachusetts Right to Know Act.

**Pennsylvania Right To Know Components**

|                   |                      |                             |
|-------------------|----------------------|-----------------------------|
| Calcium hydroxide | CAS-No.<br>1305-62-0 | Revision Date<br>1989-08-11 |
|-------------------|----------------------|-----------------------------|

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**SECTION 16: Other information****Further information**

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