SAFETY DATA SHEET

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifiers

Product name: Calcium sulfate

Product Number: 237132
Brand: SIGALD
CAS-No.: 7778-18-9

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 STATES

Telephone: +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

Not a hazardous substance or mixture.

2.2 GHS Label elements, including precautionary statements

Not a hazardous substance or mixture.

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

SECTION 3: Composition/information on ingredients

3.1 Substances

Formula: CaO₄S
Molecular weight: 136.14 g/mol
CAS-No.: 7778-18-9
SECTION 4: First aid measures

4.1 Description of first-aid measures

If inhaled
If breathed in, move person into fresh air. If not breathing, give artificial respiration.

In case of skin contact
Wash off with soap and plenty of water.

In case of eye contact
Flush eyes with water as a precaution.

If swallowed
Never give anything by mouth to an unconscious person. Rinse mouth with water.

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

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
Sulfur oxides
Calcium oxide

5.3 Advice for firefighters
Wear self-contained breathing apparatus for firefighting if necessary.

5.4 Further information
No data available

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
Avoid dust formation. Avoid breathing vapors, mist or gas.
For personal protection see section 8.

6.2 Environmental precautions
No special environmental precautions required.
6.3 **Methods and materials for containment and cleaning up**  
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**  
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**  
General industrial hygiene practice.  
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.

Hygroscopic

**Storage class**  
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
<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No.</th>
<th>Value</th>
<th>Control parameters</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calcium sulfate</td>
<td>7778-18-9</td>
<td>TWA 5 mg/m³</td>
<td>USA. NIOSH Recommended Exposure Limits</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA 10 mg/m³</td>
<td>USA. NIOSH Recommended Exposure Limits</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA 15 mg/m³</td>
<td>USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA 5 mg/m³</td>
<td>USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA 15 mg/m³</td>
<td>USA. Table Z-1-A Limits for Air Contaminants (1989 vacated values)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA 5 mg/m³</td>
<td>USA. Table Z-1-A Limits for Air Contaminants (1989 vacated values)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>PEL 10 mg/m³</td>
<td>California permissible exposure limits for chemical contaminants (Title 8, Article 107)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>PEL 5 mg/m³</td>
<td>California permissible exposure limits for chemical contaminants (Title 8, Article 107)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA 10 mg/m³</td>
<td>USA. ACGIH Threshold Limit Values (TLV)</td>
<td></td>
</tr>
</tbody>
</table>

8.2 Exposure controls

**Appropriate engineering controls**
General industrial hygiene practice.

**Personal protective equipment**

**Eye/face protection**
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)
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**

Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

**Respiratory protection**

Respiratory protection is not required. Where protection from nuisance levels of dusts are desired, use type N95 (US) or type P1 (EN 143) dust masks. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

**Control of environmental exposure**

No special environmental precautions required.

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**SECTION 9: Physical and chemical properties**

9.1 **Information on basic physical and chemical properties**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Form: granules Color: beige</td>
</tr>
<tr>
<td>Odor</td>
<td>No data available</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>No data available</td>
</tr>
<tr>
<td>Melting point/freezing point</td>
<td>No data available</td>
</tr>
<tr>
<td>Initial boiling point and boiling range</td>
<td>No data available</td>
</tr>
<tr>
<td>Flash point</td>
<td>(Not applicable)</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>No data available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>No data available</td>
</tr>
<tr>
<td>Upper/lower flammability or explosive limits</td>
<td>No data available</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>No data available</td>
</tr>
<tr>
<td>Vapor density</td>
<td>No data available</td>
</tr>
<tr>
<td>Density</td>
<td>2.960 g/cm3</td>
</tr>
<tr>
<td>Relative density</td>
<td>No data available</td>
</tr>
<tr>
<td>Water solubility</td>
<td>2.4 g/l at 20 °C (68 °F) - OECD Test Guideline 105</td>
</tr>
</tbody>
</table>
o) Partition coefficient: n-octanol/water  No data available
p) Autoignition temperature  No data available
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
Dissociation constant  ca.4.35 at 25 °C (77 °F)

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
Avoid moisture.

10.5 Incompatible materials
Strong oxidizing agents

10.6 Hazardous decomposition products
In the event of fire: see section 5

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity
LD50 Oral - Rat - female - > 1,581 mg/kg (Fixed Dose Method)
LC50 Inhalation - Rat - male and female - 4 h - > 3.26 mg/l

(OECD Test Guideline 403)
Dermal: No data available
No data available

Skin corrosion/irritation
Skin - Rabbit
Result: No skin irritation
Serious eye damage/eye irritation
Eyes - Rabbit
Result: No eye irritation

Respiratory or skin sensitization
Buehler Test - Guinea pig
Did not cause sensitization on laboratory animals.

Germ cell mutagenicity
Test Type: in vitro test
Test system: S. typhimurium
Metabolic activation: with and without metabolic activation
Method: Mutagenicity (Salmonella typhimurium - reverse mutation assay)
Result: negative

Test Type: In vivo micronucleus test
Species: Mouse
Application Route: Feed
Method: Mutagenicity (micronucleus test)
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
No data available

Specific target organ toxicity - repeated exposure
No data available

Aspiration hazard
No data available

11.2 Additional Information
Repeated dose toxicity - Rat - male - Gavage - NOAEL (No observed adverse effect level) - 79 mg/kg - LOAEL (Lowest observed adverse effect level) - 237 mg/kg

RTECS: WS6920000
To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.
**SECTION 12: Ecological information**

12.1 **Toxicity**

Toxicity to fish  
**LC50** - *Lepomis macrochirus* - 2,980 mg/l - 96 h

12.2 **Persistence and degradability**

No data available

12.3 **Bioaccumulative potential**

No data available

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 **Endocrine disrupting properties**

No data available

12.7 **Other adverse effects**

No data available

**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.

**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.

**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.

**SARA 311/312 Hazards**
No SARA Hazards

**Massachusetts Right To Know Components**
- Calcium sulfate
  - CAS-No.: 7778-18-9
  - Revision Date: 2016-09-09

**Pennsylvania Right To Know Components**
- Calcium sulfate
  - CAS-No.: 7778-18-9
  - Revision Date: 2016-09-09

**New Jersey Right To Know Components**
- Calcium sulfate
  - CAS-No.: 7778-18-9
  - Revision Date: 2016-09-09

**California Prop. 65 Components**
This product does not contain any chemicals known to the State of California to cause cancer, birth, or any other reproductive defects.

**SECTION 16: Other information**

**Further information**
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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 Corporation and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See www.sigma-aldrich.com and/or the reverse side of invoice or packing slip for additional terms and conditions of sale.

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