# SAFETY DATA SHEET

**Issuing Date** 28-Aug-2017  
**Revision date** 10-Jul-2019  
**Revision Number** 1

## 1. Identification

### Product identifier

**Product Name**  
CALCIUM ALUMINATE CEMENT

**Other means of identification**

**Product Code(s)**  
993

**Synonyms**  
CA-14 M CA-14 S CA-14 W CA-25 C CA-25 M CA-25 R CA-270 CA-470 TI CA-670 CA-680 CAC DISCHARGE CARO WHITE

### Recommended use of the chemical and restrictions on use

**Recommended use**  
Hydraulic binder. Used for production of refractory concretes and mortars and as ingredient of construction materials and construction chemistry products.

**Restrictions on use**  
No information available

### Details of the supplier of the safety data sheet

**Supplier Address**  
Almatis, Inc.  
P.O. Box 300  
4701 Alcoa Road  
Bauxite, AR 72022  
USA  
Telephone: +1 501-776-4677

**Manufacturer Address**  
Almatis B.V.  
Theemsweg 30  
NL-3197 KM Botlek Rt  
The Netherlands  
Phone: +31 181270129

**Emergency telephone number**

**Emergency Telephone**  
US/Canada: +01 760 476 3962, +1 866 519 4752

## 2. Hazard(s) identification

### Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

<table>
<thead>
<tr>
<th>Hazard</th>
<th>Yes/No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Combustible dust</td>
<td>Yes</td>
</tr>
</tbody>
</table>

**Hazards not otherwise classified (HNOC)**

Not applicable

### Label elements

**Warning**

**Hazard statements**

May form combustible dust concentrations in air
Precautionary Statements - Prevention
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking

None needed according to classification criteria.

Precautionary Statements - Storage
None needed according to classification criteria.

Precautionary Statements - Disposal
Dispose of contents/container in accordance with local, regional, national, and international regulations as applicable

Other information
Not applicable

### 3. Composition/information on ingredients

**Substance**
Not applicable.

**Mixture**

<table>
<thead>
<tr>
<th>Common name</th>
<th>Calcium Aluminate cement.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Synonyms</td>
<td>CA-14 M CA-14 S CA-14 W CA-25 C CA-25 M CA-25 R CA-270 CA-470 TI CA-670CA-680 CAC DISCHARGE CARO WHITE.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS No</th>
<th>Weight-%</th>
<th>Trade secret</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calcium aluminate</td>
<td>65997-16-2</td>
<td>40-100</td>
<td>*</td>
</tr>
<tr>
<td>Aluminum oxide</td>
<td>1344-28-1</td>
<td>0-50</td>
<td>*</td>
</tr>
</tbody>
</table>

*The exact percentage (concentration) of composition has been withheld as a trade secret.

### 4. First-aid measures

**Description of first aid measures**

**Inhalation**
Remove to fresh air.

**Eye contact**
Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.

**Skin contact**
Wash skin with soap and water.

**Ingestion**
Clean mouth with water and drink afterwards plenty of water.

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

**Symptoms**
Mild eye irritant. Mild skin irritant.

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

**Note to physicians**
Treat symptomatically.

### 5. Fire-fighting measures

**Suitable Extinguishing Media**
Use extinguishing measures that are appropriate to local circumstances and the
surrounding environment.

Unsuitable extinguishing media

No information available.

Specific hazards arising from the chemical

Slight fire hazard. Avoid generation of dust. Fine dust dispersed in air may ignite.

Explosion data

Sensitivity to mechanical impact None.

Sensitivity to static discharge None.

Special protective equipment for fire-fighters

Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal precautions

Ensure adequate ventilation. Avoid generation of dust. Do not breathe dust. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Take precautionary measures against static discharges.

Methods and material for containment and cleaning up

Methods for containment

Prevent further leakage or spillage if safe to do so. Prevent dust cloud.

Methods for cleaning up

Take up with inert, damp, non-combustible material using clean non-sparking tools and place into loosely covered plastic containers for later disposal. Pick up and transfer to properly labeled containers.

7. Handling and storage

Precautions for safe handling

Advice on safe handling

Handle in accordance with good industrial hygiene and safety practice. Avoid generation of dust. Ensure adequate ventilation. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Take precautionary measures against static discharges.

Conditions for safe storage, including any incompatibilities

Storage Conditions

Keep container tightly closed in a dry and well-ventilated place. Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity).

8. Exposure controls/personal protection

Control parameters

Exposure Limits

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>ACGIH TLV</th>
<th>OSHA PEL</th>
<th>NIOSH IDLH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aluminum oxide 1344-28-1</td>
<td>TWA: 1 mg/m³ respirable particulate matter</td>
<td>TWA: 15 mg/m³ total dust TWA: 5 mg/m³ respirable fraction (vacated) TWA: 10 mg/m³ total dust (vacated) TWA: 5 mg/m³ respirable fraction</td>
<td>-</td>
</tr>
</tbody>
</table>

Appropriate engineering controls
Engineering controls

- Showers
- Eyewash stations
- Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection

No special protective equipment required.

Skin and body protection

Wear fire/flame resistant/retardant clothing.

Respiratory protection

No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

General hygiene considerations

Handle in accordance with good industrial hygiene and safety practice.

9. Physical and chemical properties

Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Values</th>
<th>Remarks • Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Solid</td>
<td></td>
</tr>
<tr>
<td>Appearance</td>
<td>White to off-white Powder</td>
<td></td>
</tr>
<tr>
<td>Color</td>
<td>White to off-white</td>
<td></td>
</tr>
<tr>
<td>Odor</td>
<td>None</td>
<td></td>
</tr>
<tr>
<td>Odor threshold</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>pH</td>
<td>11.3 - 11.5</td>
<td>aqueous solution</td>
</tr>
<tr>
<td>Melting point / freezing point</td>
<td>1650 - 1820 °C</td>
<td></td>
</tr>
<tr>
<td>Boiling point / boiling range</td>
<td>No data available</td>
<td>None known</td>
</tr>
<tr>
<td>Flash point</td>
<td>No data available</td>
<td>None known</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>No data available</td>
<td>None known</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>No data available</td>
<td>None known</td>
</tr>
<tr>
<td>Flammability Limit in Air</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Upper flammability or explosive limits</td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td>Lower flammability or explosive limits</td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>No data available</td>
<td>None known</td>
</tr>
<tr>
<td>Vapor density</td>
<td>No data available</td>
<td>None known</td>
</tr>
<tr>
<td>Relative density</td>
<td>No data available</td>
<td>None known</td>
</tr>
<tr>
<td>Water solubility</td>
<td>insoluble</td>
<td></td>
</tr>
<tr>
<td>Solubility in other solvents</td>
<td>No data available</td>
<td>None known</td>
</tr>
<tr>
<td>Partition coefficient</td>
<td>No data available</td>
<td>None known</td>
</tr>
<tr>
<td>Autoignition temperature</td>
<td>-</td>
<td>Does not ignite</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No data available</td>
<td>None known</td>
</tr>
<tr>
<td>Kinematic viscosity</td>
<td>No data available</td>
<td>None known</td>
</tr>
<tr>
<td>Dynamic viscosity</td>
<td>No data available</td>
<td>None known</td>
</tr>
</tbody>
</table>

Other information

Explosive properties

No information available

Oxidizing properties

No information available

Softening point

No information available

Molecular weight

No information available

VOC Content (%)

No information available

Liquid Density

2.8-3.3 g/cm³

Bulk density

750-1100 kg/m³

10. Stability and reactivity

Reactivity

None under normal processing.
Chemical stability  Stable under normal conditions.
Possibility of hazardous reactions  Contact with water generates heat.
Hazardous polymerization  None under normal processing.
Conditions to avoid  Avoid accumulation of airborne dust. Keep away from open flames, hot surfaces and sources of ignition.
Incompatible materials  None known based on information supplied.
Hazardous decomposition products  None under normal processing.

11. Toxicological information

Information on likely routes of exposure

Product Information

<table>
<thead>
<tr>
<th>Route</th>
<th>Symptoms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inhalation</td>
<td>May cause irritation.</td>
</tr>
<tr>
<td>Eye contact</td>
<td>Dust contact with the eyes can lead to mechanical irritation. Mild eye irritation.</td>
</tr>
<tr>
<td>Skin contact</td>
<td>Causes mild skin irritation.</td>
</tr>
<tr>
<td>Ingestion</td>
<td>No known hazard by swallowing.</td>
</tr>
</tbody>
</table>

Symptoms related to the physical, chemical and toxicological characteristics

<table>
<thead>
<tr>
<th>Route</th>
<th>Symptoms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skin corrosion/irritation</td>
<td>No information available.</td>
</tr>
<tr>
<td>Serious eye damage/eye irritation</td>
<td>No information available.</td>
</tr>
<tr>
<td>Respiratory or skin sensitization</td>
<td>No information available.</td>
</tr>
<tr>
<td>Germ cell mutagenicity</td>
<td>No information available.</td>
</tr>
<tr>
<td>Carcinogenicity</td>
<td>No information available.</td>
</tr>
<tr>
<td>Reproductive toxicity</td>
<td>No information available.</td>
</tr>
</tbody>
</table>

The following values are calculated based on chapter 3.1 of the GHS document.

ATEmix (oral)  5,005.00 mg/kg

Component Information

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Oral LD50</th>
<th>Dermal LD50</th>
<th>Inhalation LC50</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aluminum oxide</td>
<td>&gt; 5000 mg/kg (Rat)</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Delayed and immediate effects as well as chronic effects from short and long-term exposure

<table>
<thead>
<tr>
<th>Phenomenon</th>
<th>Symptoms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skin corrosion/irritation</td>
<td>No information available.</td>
</tr>
<tr>
<td>Serious eye damage/eye irritation</td>
<td>No information available.</td>
</tr>
<tr>
<td>Respiratory or skin sensitization</td>
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<tr>
<td>Carcinogenicity</td>
<td>No information available.</td>
</tr>
<tr>
<td>Reproductive toxicity</td>
<td>No information available.</td>
</tr>
</tbody>
</table>
STOT - single exposure  No information available.
STOT - repeated exposure  No information available.
Aspiration hazard  No information available.
Other adverse effects  No information available.
Interactive effects  No information available.

12. Ecological information

Ecotoxicity  Not considered to be harmful to aquatic life.
Persistence and degradability  Not readily biodegradable.
Bioaccumulation  Does not bioaccumulate.
Mobility  No information available.
Other adverse effects  No information available.

13. Disposal considerations

Waste treatment methods
Waste from residues/unused products  Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.
Contaminated packaging  Do not reuse empty containers.

14. Transport information

DOT  Not regulated
TDG  Not regulated
MEX  Not regulated
ICAO (air)  Not regulated
IATA  Not regulated
IMDG  Not regulated

15. Regulatory information

International Inventories  
TSCA  Complies.
US Federal Regulations

SARA 313
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>SARA 313 - Threshold Values %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aluminum oxide</td>
<td>1.0</td>
</tr>
</tbody>
</table>

SARA 311/312 Hazard Categories
Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications. Under the amended regulations at 40 CFR 370, EPCRA 311/312 Tier II reporting for the 2017 calendar year will need to be consistent with updated hazard classifications.

CWA (Clean Water Act)
This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

CERCLA
This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

US State Regulations

California Proposition 65
This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

US State Regulations This product does not contain any substances regulated by state right-to-know regulations

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>New Jersey</th>
<th>Massachusetts</th>
<th>Pennsylvania</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aluminum oxide</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>1344-28-1</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

U.S. EPA Label Information

EPA Pesticide Registration Number Not applicable

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16. Other information

<table>
<thead>
<tr>
<th>NFPA</th>
<th>Health hazards</th>
<th>Flammability</th>
<th>Instability</th>
<th>Physical and chemical properties</th>
</tr>
</thead>
<tbody>
<tr>
<td>HMIS</td>
<td>Health hazards</td>
<td>Flammability</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Chronic Hazard Star Legend  Not applicable

Key or legend to abbreviations and acronyms used in the safety data sheet

Legend  Section 8: EXPOSURE CONTROLS/PERSOAL PROTECTION

<table>
<thead>
<tr>
<th>TWA</th>
<th>TWA (time-weighted average)</th>
<th>STEL</th>
<th>STEL (Short Term Exposure Limit)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ceiling</td>
<td>Maximum limit value</td>
<td></td>
<td>Skin designation</td>
</tr>
</tbody>
</table>

Key literature references and sources for data used to compile the SDS

Agency for Toxic Substances and Disease Registry (ATSDR)
U.S. Environmental Protection Agency ChemView Database
European Food Safety Authority (EFSA)
EPA (Environmental Protection Agency)
Acute Exposure Guideline Level(s) (AEGL(s))
U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act
U.S. Environmental Protection Agency High Production Volume Chemicals
Food Research Journal
Hazardous Substance Database
International Uniform Chemical Information Database (IUCLID)
Japan GHS Classification
Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
NIOSH (National Institute for Occupational Safety and Health)
National Library of Medicine's ChemID Plus (NLM CIP)
National Library of Medicine's PubMed database (NLM PUBMED)
National Toxicology Program (NTP)
New Zealand's Chemical Classification and Information Database (CCID)
Organization for Economic Co-operation and Development High Production Volume Chemicals Program
Organization for Economic Co-operation and Development Screening Information Data Set
RTECS (Registry of Toxic Effects of Chemical Substances)
World Health Organization

Prepared By
Product Safety Department
Almatis B.V.
Theemsweg 30
3197 KM Botlek Rt
The Netherlands
+31-181-270124
info@almatis.com.

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28-Aug-2017

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10-Jul-2019

Revision Note

Disclaimer
The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet