



SAFETY DATA SHEET

1 IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY / UNDERTAKING

1.1 Identification of the Substance / Mixture

Product Information: Binder Based Calcium Aluminate, RFR410

Product Identifiers: Binder Based Calcium Aluminate

1.2 Use of the Substance / Mixture

RFR410 is used as a binder for the production of special concretes, mortars and refractory castables.

1.3 Company Identification

Company Name: Çimsa Çimento San. Ve Tic. A.Ş.

Address: Toroslar Mah. Tekke Cad. Yeni Taşkent 33013 Mersin /Turkey

Telephone Number: +90 324 454 00 60

Fax Number: +90 324 454 00 75

Internet Address: www.cimsa.com.tr

E-mail: customersupport@cimsa.com.tr

1.4 Emergency Telephone

Emergency Telephone Number: +90 324 454 00 60

Emergency telephone number is also available outside office hours.

2 HAZARDS IDENTIFICATION

2.1 Classification

RFR410 is a preparation, it is not classified in accordance with European directive 1999/45/ CE.

Symbol / Indication of Danger: None

H phases: None

2.2 Most Important Hazards

When binder based Calcium Aluminate contacts with water, an alkaline solution occurs with a pH of 11-11,5. In spite of the pH level, the alkaline reserve is limited, and the binder has not been classified as irritant according to criteria defined in the EEC directives. (93/21/EEC). No labeling requirements for this substance.

2.3 Specific Hazards

When binder based on Calcium Aluminates mixed with water, Calcium aluminates react chemically and harden. The reaction takes place is exothermic which results a temperature rise. If large quantities of binder is mixed with water, the temperature may increase enough to cause a risk of burns.

3 COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Chemical Composition

Substance: Binder based Calcium Aluminate

Concentration range(by weight in binder): 100 %

3.2 Components Presenting a Health Hazard

Declaration and classification of components according to Commission Directives of the European Communities 91/155/EEC and 93/21/EEC:

Component: Calcium Aluminates

Classification: None

Hazard Labelling: None

4 FIRST AID MEASURES

When contacting a physician, take this SDS with you.

4.1 After Significant Accidental Inhalation

Remove person to fresh air and support breathing as needed. Inhalation of large amounts of binder requires immediate medical attention. Consult a physician immediately.

4.2 After Contact With Eyes

Flush immediately eye thoroughly with clean water. Consult a physician immediately if irritation persists.

4.3 After Skin Contact

Wash affected areas with neutral soap and clean cool water for at least 15 minutes. For reddened or blistered skin, consult a physician immediately.

4.4 After Significant Accidental Ingestion

Do not induce vomiting. If person is conscious, wash out mouth with water and give plenty of water to drink. Get immediate medical attention or contact the anti poison center.

5 FIREFIGHTING MEASURES

Binder based on Calcium Aluminate is not flammable and will not support flame. It does not promote combustion with other materials.

6 ACCIDENTAL RELEASE MEASURES

6.1 Personal Protective Measures

Wear protective equipment as described under heading 8 and follow the advice for safe handling and use given under heading 7. Emergency procedures are not required.

6.2 Environment Protection Measures

Do not wash binder down sewage and drainage systems or into bodies of water (e.g. streams).

6.3 Methods for Cleaning Up

Recover the spillage in a dry state if possible.

Dry Binder

Use dry cleanup methods that do not cause airborne dispersion, e.g. :

- Vacuum cleaner (Industrial portable units, equipped with high efficiency particulate filters (HEPA filter) or equivalent technique).

- Wipe-up the dust by mopping, wet brushing or by using water sprays or hoses (fine mist to avoid that the dust becomes airborne) and remove slurry.

If not possible, remove by slurring with water (see wet binder).When wet cleaning or vacuum cleaning is not possible and only dry cleaning with brushes can be done, ensure that the workers wear the appropriate personal protective equipment and prevent dust from spreading. Place spilled materials into a container. Solidify before disposal as described under heading 13.Wet BinderClean up wet binder and place in a container. Allow material to dry and solidify before disposal as described in heading 13.

Wet Binder

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7 HANDLING AND STORAGE

Do not handle or store near food and beverages or smoking materials.

7.1 Handling

Follow the recommendations as given under heading 8.

Avoid dust development:

- For (bagged) Binder based on Calcium Aluminate used in open-ended mixers: first add the water and then carefully add binder. Keep the height of fall low. Start the mixing smoothly. Do not compress empty bags, except when contained in another clean bag.

- To clean up dry binder See heading 6.3

7.2 Storage

Binder based on Calcium Aluminate should be stored in silos that are waterproof, dry (internal condensation minimised), clean and protected from contamination.

Engulfment Hazard: To prevent burial or suffocation, do not enter a confined space, such as a silo, bin, bulk truck, or other storage container or vessel that stores or contains binder without taking the proper security measures. Binder can build-up or adhere to the walls of a confined space. The binder can release, collapse or fall unexpectedly

Packed products should be stored in unopened bags clear of the ground in cool, dry conditions and protected from excessive draught in order to avoid degradation of quality.Bags should be stacked in a stable manner.

7.2 Control of Soluble Cr (VI)

RFR410 contains less than 2 ppm Cr (VI). No reducing agent is used.



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8 EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Exposure Limit Values

Particles not otherwise classified (ACGIH):

Inhalable: TLV (TWA) = 10 mg/m³

Respirable: TLV (TWA) = 3 mg/m³

Particles not otherwise classified (UK/WEL):

Total dust: TWA=10 mg/m³

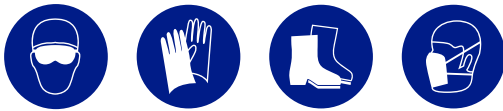
Respirable Dust: TWA=4mg/m³

National regulations should be consulted for verification of these limit values.

8.2 Exposure Controls

8.2.1 Occupational Exposure Controls

Icons indicating the personal protective equipment to be used.



General: During work avoid kneeling in fresh mortar or concrete wherever possible. If kneeling is absolutely necessary then appropriate waterproof personal protective equipment must be worn. Do not eat, drink or smoke when working with binder to avoid contact with skin or mouth.

Immediately after working with binder or binder containing materials, workers should wash or shower or use skin moisturisers. Remove contaminated clothing, footwear, watches, etc. And clean thoroughly before re-using them.

Respiratory Protection: When a person is exposed to dust levels above exposure limits, use appropriate respiratory protection. It should be adapted to the dust level and conform to the relevant EN standard. Avoid creating airborne dust conditions. Local exhaust ventilation is preferred since it prevents release of contaminants in to the work area by controlling it at the source. If local or general ventilation is not adequate to control dust levels below exposure limits, use OES approved respirators.

Eye Protection: Wear approved glasses or safety goggles according to EN 166 when handling dry or wet binder to prevent contact with eyes.

Skin Protection: Use impervious, abrasion and alkali resistant gloves (made of low soluble Cr(VI) containing material) internally lined with cotton, boots, closed long-sleeved protective clothing as well as skin care products (including barrier creams) to protect the skin from prolonged contact with wet binder. Particular care should be taken to ensure that wet binder does not enter the boots.

In some circumstances, such as when laying concrete or screed, waterproof trousers or kneepads are necessary.

8.2.2 Environmental Exposure Controls

According to available technology.

9 PHYSICAL AND CHEMICAL PROPERTIES

9.1 General Information

Binder based on Calcium Aluminate is a finely ground inorganic material (odourless, dark brown powder)

9.2 Physical Data

Physical State: Solid

Solubility in Water (T= 20°C): Negligible

Density: 3,20-3,30 g/cm³

Bulk Density (ES): 1,0-1,3 g/cm³

pH (T= 20°C in water): 10-12

Boiling/Melting Point: >1100°C

Vapor pressure, vapor density, evaporation rate, freezing point, viscosity, boiling point: Not relevant

10 STABILITY AND REACTIVITY

10.1 Reactivity

Dry binder are stable as long as they are stored properly (see Heading 7). When mixed with water, binders will harden to form stable calcium aluminate hydrates. This reaction is exo-thermal and may last up to 24 hours. The total heat released is <500 kJ/kg

10.2 Chemical stability

This substance is stable under the recommended handling and storage conditions in section 7.

10.3 Possibility of hazardous reactions

None under normal conditions.

10.4 Conditions to avoid

Avoid:

-formation of dusts

-humidity

10.5 Incompatible materials

None, to our knowledge

10.6 Hazardous decomposition products

None, to our knowledge

11 TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

No data available.

11.2 Contact Dermatitis/Sensitising Effects

In accordance with the requirements REACH Annex XVII, art.47 does not contain quantities of hexavalent chromium>2 ppm.

12 ECOLOGICAL INFORMATION

12.1 Ecotoxicity

The product is not expected to be hazardous to the environment (LC50 aquatic toxicity not determined). The addition of large amounts of binder to water may, however, cause a rise in pH and may, therefore, be toxic to aquatic life under certain circumstances.

12.2 Mobility

After hydration (a few hours or days in moist conditions) the product is stable in soil and in water, with a negligible mobility of its constituents.

12.3 Persistence and degradability/Bio accumulative potential/Results of PBT assessment/Other adverse effects

Not relevant as binder is an inorganic material. After hardening, binder presents no toxicity risks.

13 DISPOSAL CONSIDERATIONS

13.1 Product-unused Residue or Dry Spillage

Pick up dry. Mark the containers. Possibly reuse depending upon shelf life considerations and the requirement to avoid dust exposure. In case of disposal, harden with water and dispose according to 13.3.

13.2 Product - Slurries

Allow to harden, avoid entry in sewage and drainage systems or into bodies of water (e.g. streams) and dispose of as indicated in 13.3.

13.3 Product - After Addition of Water, Hardened

Dispose of according to the local legislation. Avoid entry into the sewage water system. Dispose of the hardened product as concrete waste. Due to the inertisation, concrete waste is not a dangerous waste.

EWG Entries: 10 13 14 (waste from manufacturing of binder-waste concrete or concrete sludge) or 17 01 01 (construction and demolition wastes-concrete).

13.4 Packaging

Completely empty the packaging and process it according to local legislation.

EWG Entries: 15 01 01(waste paper and cardboard packaging).