SAFETY DATA SHEET Date issued: 01.06.2015

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

1.1- Identification of the substance/mixture

Product Information : Calcium-Aluminate-Cement ISIDAC 40
Product Identifiers : Cement, Calcium Aluminate Cement, EN 14647

1.2- Use of the substance/mixture

Calcium Aluminate Cement is used as an hydraulic 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 (0) 324 454 00 60

Fax Number : +90 (0) 324 454 00 75

Internet Address : www.cimsa.com.tr

E-mail : cimsa@cimsa.com.tr

1.4- Emergency Telephone

Emergency Telephone Number : +90 (0) 800 531 11 15

Emergeny telephone number is also available outside ofice hours.

2- HAZARD IDENTIFICATION

Classification:

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

Symbol/indication of danger: None

H phases: None

Most İmportant hazards:

When Calcium Aluminate Cement contacts with water, an alkaline solution occurs with a pH of 11-11,5. Inspite of the pH level, the alkaline reserve is limited, and the cement has not been classified as irritant according to criteria defined in the EEC directives. (93/21/EEC)

Specific hazards:

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

3-COMPOSITION/INFORMATION ON INGREDIENTS

3.1- Chemical Composition

Calcium Aluminate Cement according to the EN 14647 ;

Substance	*Concentration range(by weight in cement)*	*CAS No*	*EC No*
Calcium Aluminate Cement Clinker	*100 %*	*65997-16-2*	*266-045-5*

EC Number of Calcium Aluminate Cement: 2404 – CPR – 0027

3.2- Components Presenting a Health Hazard

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

Component	*Classification*	*Hazard Labelling*
Calcium Aluminates	*None*	*None*

Does not contain free lime or free crystalline silica.

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 cement 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 vomitting. 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- FIRE FIGHTING MEASURES

Calcium Aluminate Cement 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 cement 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 cement :

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

- Vacuum cleaner (Industrial portable units, equipped with high efficiency particulate filters (HEPA fitler) 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 airborn) and remove slurry.

If not possible, remove by slurrying with water (see wet cement).
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 cement:

Clean up wet cement and place in a container. Allow material to dry and solidify before disposal as described in heading 13.

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) Calcium Aluminate Cement used in open-ended mixers: first add the water and then carefully add cement. 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 cement See heading 6.3

Carrying cement bags may cause sprains and strains to the back, arms, shoulders and legs. Handle with care and use appropriate control measures.

7.2- Storage

Bulk Calcium Aluminate Cement 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 cement without taking the proper security measures. Cement can build-up or adhere to the walls of a confined space. The cement 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.

7.3- Control of Soluble Cr (VI)

ISIDAC 40 contains less than 2 ppm Cr (VI). No reducing agent is used.

8- EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1- Exposure Limit Values

Particles not otherwise classified (ACGIH):

Inhalable: TLV (TWA) = 10 mg/m^3

Respirable: TLV (TWA) = 3 mg/m^3

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

8.2- Exposure Controls

8.2.1 Occupational exposure controls

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 cement to avoid contact with skin or mouth.
Immediately after working with cement or cement- 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 standart. Avoid creating airbone dust conditons. Local exhaust ventillation is preferred since it prevents release of contaminants in to the work area by controlling it at the source. If local or general ventillation 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 cement 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 cement. Particular care should be taken to ensure that wet cement does not enter the boots.
In some circumstances, such as when laying concrete or screed, waterproof trousers or kneepads are necessary.

8.2.2 Enviromental exposure controls

According to avaliable technology.

9- PHYSICAL AND CHEMICAL PROPERTIES

9.1- General Information

Calcium Aluminate Cement 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/cm^3

Apparent Density (ES) : 1,0-1,3 g/cm^3

pH (T= 20°C in water) : 10-12

Boiling/Melting Point : >1100°C

Vapour pressure, vapour density, evaporation rate, freezing point, viscosity: Not relevant

10- STABILITY AND REACTIVITY

10.1- Stability

Dry Calcium Aluminate Cements are stable as long as they are stored properly (see Heading 7). When mixed with water, cements will harden into form a stable calcium aluminate hydrates. This reaction is exo-thermal and may last up to 24 hours.

10.2- Conditions to avoid

Humidity during storage may cause lump formation and loss of producty quality.

10.3- Hazardous decomposition products

Cements will not decompose into other hazardous by-products and do not olymerise.

11- TOXICOLOGICAL INFORMATION

11.1- Acute effects

Eye contact: Non-irritant
Skin contact: Non-irritant

Acute toxicity:
Ingestion: No data available
Inhalation: No data available

11.2- Chronic effects

Contact dermatitis/Sensitising effects:.
Calcium Aluminate Cement does not contain any soluble chromium VI reducing agent and does not contain measurable amounts of soluble chromium VI.

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 cement 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 cement is an inorganic material. After hardening, cement 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.

EWC entries: 10 13 14 (waste from manufacturing of cement- 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.

EWC entries: 15 01 01(waste paper and cardboard packaging).

14- TRANSPORT INFORMATION

Cement is not covered by the international regulation on the transport of dangerous goods (IMDG, OACI/ IATA, ADR/RID,), therefore no classification is required. No special precautions are needed apart from those mentioned under Heading 8.

15- REGULATORY INFORMATION

15.1- Classification and labelling of cement according to 1999/45/EC

Classification : None

Symbol/indication of danger: None

Phrases – H : None

Phrases – P : None

15.2- The marketing and use of cement is subject to a restriction on the content of soluble Cr (VI)

The restriction on marketing and use of cement is subject to the requirements of REACH Annex XVII point 47.

15.3- National legislation/requirements

The REACH regulation EC 1907/2006

National transposition of Directive 2003/53/EC in the Member State where the cement is placed on the market.

Other legislation/requirements in force in the Member State where the cement is marketed.

15.4- REACH requirements

Cement is a mixture according to REACH and is not subject to registration. Cement clinker is exempt from registration (Art 2.7 (b) and Annex V.10 of REACH). However, some substances in the mixture cement might require registration and an exposure scenarios. The necessary exposure scenarios will be added in the annex to this SDS as soon as these substances have been registered and the exposure scenarios have been received from the registrant.

16- OTHER INFORMATION

Revision date 01/06/2015

Supersedes date 10/03/2014

SDS number 01.53.11

Abbreviations:

- IMDG: International Maritime Dangerous Goods
- IATA: International Air transport Association
- ADR/RID: Agreement on the transport of dangerous goods by road/Regulations on the international transport of dangerous goods by rail
- LC50: Lethal Concentration where 50% of the test animals dies.
- OEL: Occupational exposure limit
- PBT: persistent, bio accumulative and toxic
- TWA: Time Weighted Averages
- vPvB: very persistent and very bio accumulative

The information on this data sheet reflects the currently available knowledge and is reliable provided that the product is used under the prescribed conditions and in accordance with the application specified on the packaging and/or in the technical guidance literature. Any other use of the product, including the use of product in combination with any other product or any other process, is the responsibility of the user. It is implicit that the user is responsible for determining appropriate safety measures and for applying the legislation covering his/her own activities.