SAFETY DATA SHEET *Date issued:* *01.06.2015*

1- IDENTIFICATION

1.1 Identification of the substance/mixture

Product Information : *Çimsa Portland Cement (CEM I 52,5 R)*

Product Identifiers ***:*** *Cement, White Cement, EN 197-1:2011*

1.2 Use of the substance/mixture

White Cement is used as an hydraulic binder for the production of concrete, mortars, grouts, etc.

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*

Emergency telephone number is also available outside office hours.

2- HAZARD IDENTIFICATION

When White Cement reacts with water, for instance when making concrete or mortar, or when the White Cement becomes damp, a strong alkaline solution is produced.

2.1 Classification of the substance or mixture

Physical hazards *Not Classified*

Health hazards
Skin Irrit. 2 – H315
Eye Dam. 1 – H318
All Skin Reac. 1B – H317
Resp. Irrit. 3 – H335

Envioremental Hazards *Not Classified*

2.2 Label Elements

Pictogram

GHS 05 GHS 07

Signal Word: *Danger*

Hazard Statements
H315:Causes skin irritation
H318:Causes serious eye damage
H317:May cause an allergic skin reaction
H335:May cause respiratory irritation

Precautionary Statements
P102:Keep out of reach of children
P280:Wear protective gloves/protective clothing/eye protection/face protection
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 or doctor/physician
P302+P352+P333+P313: IF ON SKIN: Wash with plenty of soap and water. If skin irritation or rash occurs: Get medical advice/attention

P261+P304+P340+P312: Avoid breathing dust/fume/gas/mist/vapours/spray. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell
P501: Dispose of contents/container to appropriate waste collection point according to the current regulations

3- COMPOSITION/INFORMATION ON INGREDIENTS

White Cement according to the EN 197-1:2011 (CEM I 52,5 R);

Substance	EC No	CAS No	Concentration (%) (by weight in cement)	Classification
Portland Cement	*266-043-4*	*65997-15-1*	*95-100*	*Skin Irrit. 2 – H315* *All. Skin Reac. 1B – H317* *Resp.Irrit. 3 – H335* *Eye Dam. 1 – H318*
Limestone	*215-279-6*	*1317-65-3*	*0-5*	*Resp.Irrit. 3 – H335* *Skin Irrit. 2 – H315*
Gypsum	*603-783-2*	*13397-24-5*	*2-5*	*Not Classified*

EC Number of White Cement : 2404 – CPR – 0026

4- FIRST AID MEASURES

When contacting a physician, take this SDS with you.

4.1 After significant accidental inhalation

Move person to fresh air. Dust in throat and nasal passages should clear spontaneously. Contact a physician if irritation persists or later develops or if discomfort, coughing or other symptoms persist.

4.2 After contact with eyes

Don't rub eye as additional cornea damage is possible as a result of mechanical stress. Remove any contact lenses and open the eyelid(s) widely to flush eye(s) immediately by thoroughly rinsing with plenty of clean water for at least 45 minutes to remove all particles. If possible, use isotonic water (0,9 % NaCl). Contact a specialist of occupational medicine or an eye specialist.

4.3 After skin contact

For dry White Cement, remove and rinse abundantly with water.
For wet White Cement, wash skin with water.
Remove contaminated clothing, footwear, watches, etc. and clean thoroughly before re-using them. Seek medical treatment in all cases of irritation or burns.

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

5.1 Flashpoint and method
White Cements are non-combustible and non-explosive and will not facilitate nor support combustion of other materials.

5.2 Extinguishing media
All types of extinguishing media are suitable.

5.3 Fire fighting equipment
White Cement poses no fire-related hazards. No need for specialist protective equipment for fire fighters.

5.4 Combustion Products
None

5.5 Flammable limits:
Lower explosion limit (LEL) : Not applicable
Upper explosion limit (UEL) : Not applicable

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.
Avoid inhalation of White Cement and contact with skin. 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) White 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 White 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)

For cements treated with a Cr (VI) reducing agent according to the regulations, the effectiveness of the reducing agent diminishes with time. Therefore, cement bags and/or delivery documents will contain information on the period of the time (shelf life) for which the manufacturer has established that the reducing agent will continue to maintain the level of soluble Cr (VI) below the imposed limit of
0.0002 % , according to EN 197-10. For maintaining the effectiveness of the reducing agent the appropriate storage conditions should be taken.

8- EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Exposure Limit Values

Name	Limit Value For	Limit Value Type	Value (as 8h TWA)	Unit
Portland Cement		OEL total inhalable dust	5	mg/m^3
Cement	General Dust	OEL inhable	10	mg/m^3
		OEL alveolar fraction	3	mg/m^3

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

Dry White Cement is a finely ground inorganic material (odourless, white powder)

9.2 Physical Data

Main Particle Size	*: 7 - 45 µm*
Solubility in Water (T= 20°C)	*: slight (0,1-1,5 g/l)*
Density	*: 3,05 - 3,20 g/cm3*
Apparent Density (ES)	*: 0,9 - 1,3 g/cm3*
pH (T= 20°C in water)	*: 11 - 13*
Boiling/Melting Point	*: >1000°C*

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

10- STABILITY AND REACTIVITY

10.1 Stability

Dry White Cements are stable as long as they are stored properly (see Heading 7) and compatible with most other building materials. When mixed with water, cements will harden into a stable massthat is not reactive to normal enviroments.

10.2 Conditions to avoid

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

10.3 Materials to avoid

Uncontrolled use of aluminium powder in wet cement should be avoided as hydrogen is produced.

10.4 Hazardous decomposition products

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

11- TOXICOLOGICAL INFORMATION

11.1 Acute effects

Eye contact: Direct contact with cement may cause corneal damage by mechanical stress, immediate or delayed irritation or inflammation. Direct contact by larger amounts of dry cement or splashes of wet cement may cause effects ranging from moderate eye irritation (e.g. conjunctivitis or blepharitis) to chemical burns and blindness.

Skin contact: *Dry cement in contact with wet skin or exposure to moist or wet cement may cause thickening, cracking or fissuring of the skin. Prolonged contact in combination with abrasion can cause severe burns.*

Acute dermal toxicity: *Limit test, rabbit, 24 hours contact, 2000 mg/kg body weight- no lethality [Reference (2)].*

Ingestion: *Swallowing large quantities may cause irritation to the gastrointestinal tract.*

Inhalation: *Cement may irritate the throat and respiratory tract. Coughing, sneezing, and shortness of breath may ocur following exposures in excess of occupational exposure limits.*

11.2 Chronic effects

Inhalation: *Chronic exposure to respirable dust in excess of occupational exposure limits may cause coughing, shortness of breath and may cause chronic obstructive lung disease (COPD).*

Carcinogenicity: *A causal association between cement exposure and cancer has not been established [Reference (1)].*

Contact dermatitis/Sensitising effects: *Some individuals may exhibit eczema upon exposure to wet cement, caused either by the high pH which induces irritant contact dermatitis, or by an immunological reaction to soluble Cr (VI) which elicits allergic contact dermatitis [Reference (4)]. The response may appear in a variety of forms ranging from a mild rash to severe dermatitis and is a combination of those two mechanisms. An exact diagnosis is often difficult to assess.*

If the cement contains a soluble Cr (VI) reducing agent and as long as the mentioned period of effectiveness of the chromate reduction is not exceeded, a sensitising effect is not expected [Reference (3)].

11.3 Medical conditions aggravated by exposure

Inhaling cement dust may aggravate existing respiratory system disease(s) and/or medical conditions such as emphysema or asthma and/or existing skin and/or eye conditions.

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

Dry cement is not volatile but might become airborne during handling operations.

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-Cement that has exceeded its shelf life (and when demonstrated that it contains more than 0.0002% soluble Cr(VI)

Shall not be used/sold other than for use in controlled closed and totally automated processes or should be recycled or disposed of according to local legislation or treated again with a reducing agent.

13.2 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 13.4.

13.3 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 13.4.

13.4 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).

13.5 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, 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 Safety, health and environmental regulations/legislation specific for the substance or mixture

Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures (as amended).
Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (as amended).

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

Classification procedures according to Regulation (EC) 1272/2008
Skin Irrit. 2 - H315, Eye Dam. 1 - H318
All. Reac. Skin 1 – H317, Resp. Irrit. 3 – H335
Calculation method.

Risk phrases in full
R20/22 Harmful by inhalation and if swallowed.
R36/37/38 Irritating to respiratory system, eyes and skin.
R41 Risk of serious damage to eyes.

Hazard statements in full
H315 Causes skin irritation.
H318 Causes serious eye damage.
H317 May cause allergic skin reaction.
H335 May cause respiratory irritation.

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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

References:

(1) Portland Cement Dust- Hazard assessment document EH75/7, UK Health and Safety Executive, 2006. Available from:

http://www.hse.gov.uk/pubns/web/portlandcement.pdf

(2) Observations on the effects of skin irritation caused by cement, Kietzman et al, Dermatosen, 47, 5, 184-189 (1999).

(3) European Commission's Scientific Committee on Toxicology, Ecotoxicology and the Environment (SCTEE) opinion of the risks to health from Cr (VI) in cement (European Commission, 2002).

(4) Epidemiological assessment of the occurrence of allergic dermatitis in workers in the construction industry related to the content of Cr (VI) in cement, NIOH, Page 11, 2003.