



**SAFETY DATA SHEET**      Date issued:  
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**1- IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING**

**1.1- Identification of the substance/mixture**

**Product Information :** Çimsa Portland Cement

**Product Identifiers :** Cement, White Portland Cement, C150 TYPE 1

**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**

**Manufacturer Name :** Çimsa Çimento San. Ve Tic. A.Ş.

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**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. When in contact with moist areas of the body or mixed with water, White Portland Cement may cause skin irritation, and, if in contact for sufficient duration, may damage or burn the exposed areas.

### ***2.1- Primary Route(s) of entry***

Inhalation : Yes  
Skin- Eyes : Yes  
Ingestion : No, except in accidental cases

### ***2.2- Human Health***

**Inhalation:** Frequent inhalation of large quantities of White Cement dust over a long period of time increases the risk of developing lung diseases.

**Eyes:** Eye contact with White Cement (dry or wet) may cause serious and potentially irreversible injuries.

**Skin:** White Cement may have an irritating effect on moist skin (due to transpiration or humidity) after prolonged contact.

Prolonged skin contact with wet White Cement or wet concrete may cause serious burns because they develop without pain without being felt (for example when kneeling in wet concrete even when wearing trousers).

Repeated skin contact with wet White Cement may cause contact dermatitis.

**Carcinogenicity:** White Portland Cement is not recognized as a carcinogen by NTP, OSHA, or IARC. However, it may contain trace amounts of substances listed as carcinogens by these organizations.

Crystalline silica, a trace constituent, is now classified by IARC as a known human carcinogen (Group I). NTP has characterized respirable silica as "reasonably anticipated to be a carcinogen".

For more details see Reference (1).

### ***2.3- Environment***

Under normal use, the product is not expected to be hazardous to the environment.

## **3-COMPOSITION/INFORMATION ON INGREDIENTS**

### **3.1- Chemical Composition**

<b>Substance</b>	<b>Concentration range (by weight in cement)</b>	<b>CAS No</b>	<b>OSHA PEL-TWA</b>	<b>ACGIH TLV-TWA</b>
<b>Portland Cement Clinker</b>	95-100 %	65997-15-1	5 mg/m <sup>3</sup>	10mg/m <sup>3</sup>
<b>Limestone</b>	0-5 %	1317-65-3	5mg/m <sup>3</sup>	3mg/m <sup>3</sup>
<b>Gypsum</b>	2-5 %	13397-24-5	5mg/m <sup>3</sup>	10mg/m <sup>3</sup>

EC Number of White Cement : 0086 – CPD – 458580

### 3.2- Components Presenting a Health Hazard

<b>Component</b>	<b>%</b>	<b>CAS No</b>	<b>OSHA PEL-TWA (mg/m<sup>3</sup>)</b>	<b>ACGIH TLV-TWA</b>
<b>Portland Cement</b>	100	65997-15-1	15(T); 5(R)	10 mg(T)/m <sup>3</sup>
<b>Calcium Sulphate</b>	2-5	13397-24-5	15(T); 5(R)	10 mg(T)/m <sup>3</sup>
<b>Calcium Carbonate</b>	0-5	1317-65-3	15(T); 5(R)	10 mg(T)/m <sup>3</sup>
<b>Calcium Oxide</b>	0-3	1305-78-8	5(T)	2 mg(T)/m <sup>3</sup>
<b>Magnesium Oxide</b>	0-3	1309-48-4	15(T)	10 mg(T)/m <sup>3</sup>
<b>Crystalline Silica</b>	0-0,1	14808-60-7	(10/(%Si O <sub>2</sub> +2) (R) (30/(%Si O <sub>2</sub> +2) (T)	0.05 mg(R)quartz/m <sup>3</sup>

White Cement may contain trace amounts of chemical compounds like free CaO, free MgO and Na compounds, chromium, nickel.

### 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***

Do not 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 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- 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 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 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.

## ***8- EXPOSURE CONTROLS/PERSONAL PROTECTION***

### ***8.1- Exposure Limit Values***

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

## **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. 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 MSHA/NIOSH approved respirators.

**Eye Protection:** Wear NIOSH approved glasses or safety goggles 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 Environmental exposure controls

According to available 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 : 7-25 µm

Solubility in Water (T= 20°C) : slight (0,1-1,5 g/l)

Density : 3,05-3,20 g/cm<sup>3</sup>

Apparent Density (ES) : 0,9-1,3 g/cm<sup>3</sup>

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 mass that is not reactive to normal environments.

### **10.2- Conditions to avoid**

Humidity during storage may cause lump formation and loss of product 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 occur 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:* White Portland Cement is not recognized as a carcinogen by NTP, OSHA, or IARC. However, it may contain trace amounts of substances listed as carcinogens by these organizations.

Crystalline silica, a trace constituent, is now classified by IARC as a known human carcinogen (Group I). NTP has characterized respirable silica as "reasonably anticipated to be a carcinogen".

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*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**

Dispose of waste in compliance with all applicable local, state and federal regulations. Dispose of packaging/containers/bags in approved landfill or incinerator according to local, state and federal regulations.

### **14- TRANSPORT INFORMATION**

Portland Cement is not hazardous under U.S.DOT regulations.

### **15-OTHER REGULATORY INFORMATION**

Status under US OSHA Hazard Communication Rule, 29 CFR 1910.1200:

Portland Cement is considered a "hazardous chemical" under this regulation, and should be part of any hazard communication program. Status under CERCLA/SUPERFUND 40 CFR 117 and 302:

Not listed.

Hazard category under SARA (Title III), Sections 311 and 312:

Portland Cement qualifies as a "hazardous substance" with delayed health defects.

Status under SARA (Title III), Section 313:

Not subject to reporting requirements under section 313.

Status under the Federal Hazardous Substances Act:

Portland Cement is a "hazardous substance" subject to statutes promulgated under the subject act.

Status under California Proposition 65:

This product contains up to 0.05% of chemicals (trace elements) known to the State of California to cause cancer, birth defects or other reproductive harm. California has

requires manufacturer to give the above warning in the absence of definitive testing to prove the defined risks do not exist.

#### **16- OTHER INFORMATION**

##### *Abbreviations:*

- ACGIH: American Conference of Governmental Industrial Hygienists
- ASTM: American Society for Testing and Materials
- CAS: Chemical Abstract Service
- CERCLA: Comprehensive Environmental Response, Compensation and Liability Act
- CFR: Code of Federal Regulations
- ft<sup>3</sup>: Cubic foot
- IARC: International Agency for Research on Cancer
- m<sup>3</sup>: Cubic meter
- mg: Milligram
- MSHA: Mine Safety and Health Administration
- NIOSH: National Institute for Occupational Safety and Health
- NTP: National Toxicology Program
- OSHA: Occupational Safety and Health Administration
- PEL: Permissible Exposure Limit
- REL: Recommended Exposure Limit
- SARA: Superfund Amendments and Reauthorization Act
- TLV: Threshold Limit Value
- TSCA: Toxic Substance Control Act.
- TWA: Time Weighted Averages
- vPvB: very persistent and very bio accumulative

##### *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.

The information on this data sheet reflects the currently available knowledge and is believed to be accurate 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. Any party using this product should review all such laws, rules or regulations prior to use, including but not limited to US Federal, local and State regulations.

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