COMMON PORTLAND CEMENT

SAFETY DATA SHEET

According to Annex II to REACH – Regulation 2020/878 and to Annex II to UK REACH

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

1.1. Identification of the Substance/ Mixture

Product Name:

Portland Cement; CEM I 32,5 N/32,5 R/42,5 N/42,5 R/52,5N/52,5R,
Portland Cement (Sulphate Resistance); CEM I 42,5 R/52,5N/52,5R-SR 0/3/5,
Portland Limestone Cement; CEM II A-LL 32,5 N/32,5 R/42,5 N/42,5 R/52,5N/52,5R,
Portland Fly Ash Cement; CEM II A-W 32,5 N/32,5 R/42,5 N/42,5 R/52,5N/52,5R,
Portland Composite Cement; CEM II/A-M (L-W) 32,5 N/32,5 R/42,5 N/42,5 R/52,5N/52,5R,
Portland Composite Cement; CEM II/B-M (L-W) 32,5 N/32,5 R/42,5 N/42,5 R/52,5N/52,5R,
Portland Composite Cement; CEM II/C-M (L-W) 32,5 N/32,5 R/42,5 N/42,5 R/52,5N/52,5R,
Pozzolanic Cement; CEM IV/B (P-W) 32,5 N/32,5 R/42,5 N/42,5 R/52,5N/52,5R.
Pozzolanic Cement; CEM IV/B (P) 32,5 N/32,5 R/42,5 N/42,5 R/52,5N/52,5R.

EINECS: 266-043-4

CAS: 65997-15-1

1.2. Use of the Substance or Mixture / Application Area

Cements are used in industrial installations to manufacture/formulate hydraulic binders for building and construction work, such as ready-mixed concrete, mortars, renders, grouts, plasters as well as precast concrete.

Common cements and cement containing mixtures (hydraulic binders) are used industrially, by professionals as well as by consumers in building and construction work, indoor and outdoor.

Any uses not mentioned above, are advised against. No data available for uses advised against.

1.3. Identification of the Company

Manufacturer's

Name: Batısöke Söke Çimento Sanayii T.A.Ş.

Address: Atatürk Mahallesi Aydın Caddesi NO :234 Söke-AYDIN

Telephone Number: + 90 256 518 22 50 **Fax:** +90 256 518 11 23

E-mail ozgurmumcu@batisoke.com.tr/metinkaraibrahim@baticim.com.tr **Web:** www.batisoke.com.tr

1.4. Emergency Telephone Number

Company Information: + 90 256 518 22 50/ Internal: 8476 – Özgür MUMCU
+ 90 256 518 22 50/ Internal: 8475 -Metin KARAİBRAHİM

Working Hours: 08:00-18:00

Call the emergency telephone number of your town and provide the information contained in this sheet. If not available, call the National Toxicology Centre.

2. HAZARDS IDENTIFICATION

2.1. Classification

The product is classified as hazardous pursuant to the provisions set forth in (EC) Regulation 1272/2008 (CLP) (and subsequent amendments and supplements). The product thus requires a safety datasheet that complies with the provisions of (EU) Regulation 2020/878.

Any additional information concerning the risks for health and/or the environment are given in sections 11 and 12 of this sheet.

Physico-chemical Hazard: Not relevant.
Health Hazard:
Skin Irritation 2; H315: Causes skin irritation.
Skin Sensitisation 1B; H317: May cause an allergic skin reaction.
Serious Eye Damage/Eye Irritation 1; H318: Causes serious eye damage.
STOT Single Exposure Respiratory Tract Irritation 3; H335: May cause respiratory irritation.
Environmental Hazard: Not relevant.

2.2. Label Elements

Hazard labelling pursuant to EC Regulation 1272/2008 (CLP) and subsequent amendments and supplements.

Hazard Pictograms:

Signal Word: Danger

Hazard Classification and Statements:

Serious eye damage, category 1	H318	Causes serious eye damage.
Skin irritation, category 2	H315	Causes skin irritation.
Specific target organ toxicity - single exposure, category 3	H335	May cause respiratory irritation.
Skin sensitization, category 1	H317	May cause an allergic skin reaction.

Precautionary Statements:

Measure

P102	Keep out of reach of children.
P261	Avoid breathing dust / füme / gas / mist / vapours / spray.
P264	Wash skin thoroughly after handling.
P271	Use only outdoors or in a well-ventilated area.
P272	Contaminated work clothing should not be allowed out of the workplace.
P280	Wear protective gloves / protective clothing / eye protection / face protection.

Response

P302+P352	IF ON SKIN: Wash with plenty of soap and water.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310	Immediately call a POISON CENTER / doctor.
P312	Call a POISON CENTER / doctor if you feel unwell.
P321	Specific treatment (see on this label).
P332+P313	If skin irritation occurs: Get medical advice / attention.
P333+P313	If skin irritation or rash occurs: Get medical advice / attention.
P362	Take off contaminated clothing.
P363	Wash contaminated clothing before reuse.

Storage

P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.

Disposal

P501	Dispose of contents / container in accordance with national regulations.

Contains: Portland cement clinker

2.3. Other hazards

On the basis of available data, the product does not contain any PBT or vPvB in percentage ≥ than 0,1%.
The product does not contain substances with endocrine disrupting properties in concentration ≥ 0.1%.
Skin contact with wet cement, fresh concrete or mortar may cause irritation, dermatitis or burns.
May cause damage to products made of aluminium or other non-noble metals.

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substances

Not applicable as the product is a mixture, not a substance.

3.2. Mixtures

Portland cement is produced from portland cement clinker created by burning and sintering at high temperatures of raw material predominantly including calcium carbonate, aluminium oxide, silica, and iron oxide. Produced chemical substances form crystal structucture of the product. This crystalline structure included in Portland Cement is a combination of following chemical compounds. Ca_2SiO_4, Ca_3SiO_5, $CaAl_2O_4$, $Ca_2Al_2SiO_7$, $CaAl_4O_7$, $Ca_4Al_6SO_{16}$, $CaAl_{12}O_{19}$, $Ca_{12}Al_{14}Cl$, $Ca_3Al_2O_6$, $Ca_{12}Al_{14}F_2$, $Ca_{12}Al_{14}O$, $Ca_4Al_2Fe_2$, CaO, $Ca_6Al_4Fe_2$, $Ca_2Fe_2O_5$. Cement includes low amount of gypsum.

Composition	EC No	CAS No	Concentration Range % (weight)							Classification (EC) 1272/2008 (CLP)
			CEM I	CEM II/A-LL	CEM II/A-W	CEM II/A-M (L-W)	CEM II/B-M (L-W)	CEM II/C-M (L-W)	CEM IV/B (P)& (P-W)	
Portland cement clinker, K	266-043-4	65997-15-1	87,9-97,0	74,4-91,2	74,4-90,2	74,4-85,4	42,3-62,1	46,5-61,4	42,3-62,1	Eye Dam. 1 H318, Skin Irrit. 2 H315, STOT SE 3 H335, Skin Sens. 1 H317
Gypsum	231-900-3	7778-18-9	3,0-7,5	3,0-7,0	4,0-7,0	3,00-7,00	3,0-6,0	4,00-7,00	3,0-6,0	-
Limestone; L or LL	215-279-6	1317-65-3	0,0-4,9*	5,6-19,4	0,0-4,8*	5,6-13,6	0,0-4,9*	5,6-19,2	0,0-4,9*	-
Pozzolan, P	-	-	0,0-4,9*	0,0-4,9*	0,0-4,8*	0,0-4,9*	5,6-47,5	0,0-4,8*	5,6-47,5	-
Fly Ash, W	268-627-4	68131-74-8	0,0-4,9*	0,0-4,9*	5,6-19,2	5,6-13,6	5,6-47,5	14,9-42,2	5,6-47,5	-
Fly Ash, V	268-627-4	68131-74-8	0,0-4,9*	0,0-4,9*	0,0-4,8*	0,0-4,9*	0,0-4,9*	0,0-4,8*	0,0-4,9*	-

Note 1: % values for cement composition are concentration values of composition including gypsum.
Note 2: All percentages marked with * can be used for that composition alone also they represent total usable composition percentage in case of other marked compositions used.

The full wording of hazard phrases is given in section 16 of the sheet.

4. FIRST AID MEASURES

4.1. Description of First Aid Measures

General Notes

No personal protective equipment is needed for first aid responders. First aid workers should avoid contact with wet cement or wet cement containing mixtures.

In case of doubt or in the presence of symptoms contact a doctor and show him this document. In case of more severe symptoms, ask for immediate medical aid.

Following Contact with Eyes

Remove, if present, contact lenses if the situation allows you to do so easily. Do not rub eyes in order to avoid possible corneal damage by mechanical stress. Remove contact lenses if any. Incline head to injured eye, open the eyelids widely and flush eye(s) immediately by thoroughly rinsing with plenty of clean water for at least 20 minutes to remove all particles. Avoid flushing particles into uninjured eye. If possible, use isotonic water (0.9% NaCl). Get medical advice/attention.

Following Skin Contact

For dry cement, remove and rinse abundantly with water. For wet/damp cement, wash skin with plenty of water. Remove contaminated clothing, footwear, watches, etc. and clean thoroughly before re-using them. Seek medical treatment in all cases of irritation or burns. Get medical advice/attention. Avoid further contact with contaminated clothing.

Following Ingestion

Do not induce vomiting. If the person is conscious, wash out mouth with water and give plenty of water to drink. Get medical advice/attention.

Following Inhalation

Remove 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. Get medical advice/attention.

Rescuer Protection

It is good practice for rescuers lending support to a person who has been exposed to a chemical substance or to a mixture to wear personal protective equipment. The nature of such protection depends on the hazard level of the substance or mixture, on the type of exposure and on the extent of the contamination. In the absence of other more specific indications, use of disposable gloves in the event of possible contact with body fluids is recommended. For the type of PPE suitable for the characteristics of the substance or mixture, see section 8.

4.2. Most Important Symptoms and Effects, Both Acute and Delayed

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

Skin: Cement may have an irritating effect on moist skin (due to sweat or humidity) after prolonged contact or may cause contact dermatitis after repeated contact.

Prolonged skin contact with wet cement or wet concrete may cause serious irritation, dermatitis or burns.

Inhalation: Repeated inhalation of cement dust over a long period of time increases the risk of developing lung diseases.

Environment: Under normal use, cement is not hazardous to the environment.

4.3. Indication of Any Immediate Medical Attention and Special Treatment Needed

If symptoms occur, whether acute or delayed, consult a doctor. When contacting a doctor, take this SDS with you.

Means to Have Available in The Workplace for Specific and Immediate Treatment: Running water for skin and eye wash.

5. FIRE-FIGHTING MEASURES

5.1. Extinguishing Media

Suitable Extinguishing Equipment

Cements are not flammable.

Unsuitable Extinguishing Equipment

None in particular.

5.2. Special Hazards Arising from the Substance or Mixture

Hazards Caused by Exposure in The Event of Fire

Do not breathe combustion products. Cements are not flammable or explosive. It does not facilitate or sustain combustion of other materials.

5.3. Advice for Fire-Fighters

General Information

Use jets of water to cool the containers to prevent product decomposition and the development of substances potentially hazardous for health. Always wear full fire prevention gear. Collect extinguishing water to prevent it from draining into the sewer system. Dispose of contaminated water used for extinction and the remains of the fire according to applicable regulations.

Special Protective Equipment For Fire-Fighters

Cements do not cause fire-related damages. There is no need for special protective equipment for firefighters. In case of fire, commonly used protective equipment should be used. Normal fire fighting clothing i.e. fire kit (BS EN 469), gloves (BS EN 659) and boots (HO specification A29 and A30) in combination with self-contained open circuit positive pressure compressed air breathing apparatus (BS EN 137).

6. ACCIDENTAL RELEASE MEASURES

6.1. Personal Precautions, Protective Equipment and Emergency Procedures

6.1.1. Personal Protective Precautions for Non-Emergency Personnel

Wear protective equipment as described under Section 8 and follow the advice for safe handling and use given under Section 7.

6.1.2. Personal Protective Precautions for Emergency Responders

Emergency procedures are not required. However, respiratory protection is needed in situations with high dust levels. Wear protective equipment as described under Section 8 and follow the advice for safe handling and use given under Section 7.

6.2. Environmental Precautions

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

6.3. Methods and Material for Containment and Cleaning Up

For dry cement;

Collect the spilled material as mentioned below and use it.

Use dry cleanup methods such as vacuum clean-up or vacuum extraction (Industrial portable units equipped with high efficiency air filters (EPA and HEPA filters, EN 1822-1:2009) which do not cause airborne dispersion. Never use compressed air.

Alternatively, wipeup the dust by mopping, wet brushing or by using water sprays or hoses and remove slurry. 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 cement and contact with skin. Place spilled materials into a container. Solidify before disposal as described under Section 13.

For wet cement;

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

6.4. Reference to Other Sections

Any information on personal protection and disposal is given in sections 8 and 13.

7. HANDLING AND STORAGE

7.1. Precautions for Safe Handling

7.1.1. Protective Measures

Before handling the product, consult all the other sections of this material safety data sheet. Follow the recommendations as given under Section 8.
To clean up dry cement, see Subsection 6.3.

Measures to Prevent Fire

Not applicable.

Measures to Prevent Aerosol and Dust Generation

Do not sweep. Use dry cleanup methods such as vacuum clean-up or vacuum extraction, which do not cause airborne dispersion.

Measure to Protect the Environment

No particular measures.

7.1.2. Information on General Occupational Hygiene

Do not handle or store near food and beverages or smoking materials. In dusty environment, wear dust mask and protective goggles.

7.2. Conditions for Safe Storage, Including Any Incompatibilities

Bulk cement should be stored in silos that are waterproof, dry conditions, clean and protected from contamination.

Engulfment Hazard: Cement can build-up or adhere to the walls of a confined space. The cement can release, collapse or fall unexpectedly. To prevent engulfment 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 safety measures.

Packed products should be stored in unopened bags in cool, dry conditions and protected from excessive draught in order to avoid degradation of quality.
Bags should be stacked in a stable manner.
Do not use aluminium containers for the storage or transport of wet cement containing mixtures due to incompatibility of the materials.

7.3. Specific End Use(s)

No additional information for the specific end uses (see section 1.2).

8. EXPOSURE CONTROLS/ PERSONAL PROTECTION

8.1. Control Paramaters

8.1.1. Exposure Limits

Cement/ Cement dust
OEL inhalable: 10 mg/m3 (8h TWA)
OELalveolar fraction: 5 mg/m3 (8h TWA)

8.1.2. Exposure Limits in Handling Chemical Materials

According to Regulation on Health and Safety Measures in Handling Chemical Materials, there is no exposure limit and exposure threshold limit value for water soluble Cr VI component included by cement.

8.2. Exposure Controls

8.2.1. Appropriate Engineering Controls

Measures to reduce generation of dust and to avoid dust propagating in the environment such as dedusting, exhaust ventilation and dry clean-up methods which do not cause airborne dispersion.

Use	PROC*	Exposure	Localised controls	Efficiency
Industrial manufacture/formulation of hydraulic building and construction materials	2, 3	Duration is not restricted (up to 480 minutes per shift, 5 shifts a week)	not required	-
	14, 26		A) not required or B) generic local exhaust ventilation	- 78 %
	5, 8b, 9		A) general ventilation or B) generic local exhaust ventilation	17 % 78 %
Industrial uses of dry hydraulic building and construction materials (indoor, outdoor)	2		not required	-
	14, 22, 26		A) not required or B) generic local exhaust ventilation	- 78 %
	5, 8b, 9		A) general ventilation or B) generic local exhaust ventilation	17 % 78 %
Industrial uses of wet suspension of hydraulic building and construction materials	7		A) not required or B) generic local exhaust ventilation	- 78 %
	2, 5, 8b, 9, 10, 13, 14		not required	-
Professional use of dry hydraulic building and construction material (indoor, outdoor)	2		not required	-
	9, 26		A) not required or B) generic local exhaust ventilation	- 72 %
	5, 8a, 8b, 14		A) not required or B) integrated local exhaust ventilation	- 87 %
	19		localised controls are not applicable, process only in good ventilated rooms or outdoor	-
Professional uses of wet suspensions of hydraulic building and construction materials	11		A) not required or B) generic local exhaust ventilation	- 72 %
	2, 5, 8a, 8b, 9, 10, 13, 14, 19		not required	-

* PROC's are identified uses and defined in section 16.2.

8.2.2 Personal Protective Precautions

When choosing personal protective equipment, ask your chemical substance supplier for advice. Personal protective equipment must be CE marked, showing that it complies with applicable standards.

General Precautions

Do not eat, drink or smoke when working with cement to avoid contact with skin or mouth.

Before starting to work with cement, apply a barrier creme and reapply it at regular intervals.

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.

Eye /Face 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 watertight, wear- and alkali-resistant protective gloves (eg nitrile soaked cotton gloves with CE mark). Use boots, closed long-sleeved protective clothing as well as skin care products 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. For the gloves, respect the maximum wearing time to avoid skin problems. In some circumstances, such as when laying concrete or screed, waterproof trousers or kneepads are necessary.

Respiratory Protection: When a person is potentially exposed to dust levels above exposure limits, use appropriate respiratory protection. The type of respiratory protection should be adapted to the dust level and conform to EN 149 standard.

Thermal Hazards: Not applicable.

Use	PROC*	Exposure	Specification of respiratory protective equipment (RPE)	RPE efficiency - assigned protection factor (APF)
Industrial manufacture/formulation of hydraulic building and construction materials	2, 3	Duration is not restricted (up to 480 minutes per shift, 5 shifts a week)	not required	-
	14, 26		A) FFP1 or B) not required	APF = 4 -
	5, 8b, 9		A) FFP2 or B) FFP1	APF = 10 APF = 4
Industrial uses of dry hydraulic building and construction materials (indoor, outdoor)	2		not required	-
	14, 22, 26		A) FFP1 or B) not required	APF = 4 -
	5, 8b, 9		A) FFP2 or B) FFP1	APF = 10 APF = 4
Industrial uses of wet suspension of hydraulic building and construction materials	7		A) FFP1 or B) not required	APF = 4 -
	2, 5, 8b, 9, 10, 13, 14		not required	-

Professional use of dry hydraulic building and construction material (indoor, outdoor)	2	Duration is not restricted (up to 480 minutes per shift, 5 shifts a week)	FFP1	APF = 4
	9, 26		A) FFP2 or B) FFP1	APF = 10 APF = 4
	5, 8a, 8b, 14		A) FFP3 or B) FFP1	APF = 20 APF = 4
	19		FFP2	APF = 10
Professional uses of wet suspensions of hydraulic building and construction materials	11		A) FFP2 or B) FFP1	APF = 10 APF = 4
	2, 5, 8a, 8b, 9, 10, 13, 14, 19		not required	-

* PROC's are identified uses and defined in section 16.2.

8.2.3 Environmental Exposure Controls

Air: Environmental exposure control for the emission of cement particles into air has to be in accordance with the available technology and regulations for the emission of general dust particles.

Water: Do not wash cement into sewage systems or into bodies of water, to avoid high pH. Above pH 9 negative ecotoxicological impacts are possible.

Soil: No special emission control measures are necessary for the exposure to the soil.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Dry cement is finely ground powdered inorganic solid material with grey or white colour.

Particle Size: 5-30 µm.

Odour: Odourless.

Odour Threshold: no odour threshold, odourless.

pH: (T = 20°C in water, water-solid ratio 1:2): 11-13.5

Melting Point: > 1250 °C

Initial Boiling Point and Boiling Range: Not applicable as under normal atmospheric conditions, melting point >1250°C

Flash Point: Not applicable as is not a liquid.

Evaporation Rate: Not applicable as is not a liquid.

Flammability (Solid, Gas): Not applicable as is a solid which is non combustible and does not cause or contribute to fire through friction.

Upper/Lower Flammability or Explosive Limits: Not applicable as is not a flammable gas

Vapour Pressure: Not applicable as melting point > 1250 °C

Vapour Density: Not applicable as melting point > 1250 °C

Relative Density: 2.75-3.20; Apparent density -: 0.9-1.5 g/cm³

Solubility(ies) in Water (T = 20 °C): Slight (0.1-1.5 g/l)

Partition Coefficient: n-octanol/water: Not applicable as is inorganic substance.

Auto-Ignition Temperature: Not applicable.

Decomposition Temperature: Not applicable as no organic peroxide present.

Viscosity: Not applicable as not a liquid.

Explosive Properties: Not applicable. Not explosive or pyrotechnic. Not in itself capable of producing gas by

chemical reaction at temperature and pressure and at a speed as to cause damage to the surroundings. Not capable of a self-sustaining exothermic chemical reaction.
Oxidising Properties: Not applicable.

10. STABILITY AND REACTIVITY

10.1. Reactivity

When mixed with water, cement will harden into a stable mass that is not reactive innormal environments.

10.2. Chemical Stability

Dry cement is stable as long as it is properly stored (see Section 7) and compatible with most other building materials. It should be kept dry.
Contact with incompatible materials should be avoided.
Wet cement is alkaline and incompatible with acids, with ammonium salts, with aluminium or other non-noble metals. Cement dissolves in hydrofluoric acid to produce corrosive silicon tetrafluoride gas. Cement reacts with water to form silicates and calcium hydroxide. Silicates in cement react with powerful oxidizers such as fluorine, boron trifluoride, chlorine trifluoride, managanese trifluoride, and oxygen difluoride.

10.3. Possibility of hazardous reactions

Cements do not cause hazardous reactions.

10.4. Conditions to avoid

Humid conditions during storage may cause lump formation and loss of product quality.

10.5. Incompatible materials

Acids, ammonium salts, aluminium or other non-noble metals. Uncontrolled use of aluminium powder in wet cement should be avoided as hydrogen is produced.

10.6. Hazardous decomposition products

Cements will not decompose into any hazardous products.

11. TOXICOLOGICAL INFORMATION

In the absence of experimental data for the product itself, health hazards are evaluated according to the properties of the substances it contains, using the criteria specified in the applicable regulation for classification.
It is therefore necessary to take into account the concentration of the individual hazardous substances indicated in section 3, to evaluate the toxicological effects of exposure to the product.

11.1. Information on Hazard Classes as Defined in Regulation (EC) No 1272/2008

Metabolism, toxicokinetics, mechanism of action and other information: Information not available.
Information on likely routes of exposure: 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.
Contact of cement with wet skin may cause skin thickening, cracks and irritation. In cases where prolonged contact and abrasion occur together, serious burns may occur.
Corneal damage may occur due to eye inflammation, irritation or mechanical stress as a result of direct contact with cement. Exposure to large amounts of dry cement or wet cement splashes can cause effects ranging from eye irritation to chemical burns or blindness.
Exposure to wet cement dust may lead to skin eczema due to irritation caused by high pH value after prolonged contact or due to the allergic effect of soluble chromium(VI) salts.
Exposure to cement dust may cause irritation to the throat and respiratory tract. Exposure to cement dust in amounts above the occupational exposure limit may cause cough and shortness of breath.
Cement dust may cause progression of pre-existing respiratory system diseases such as asthma and emphysema, or skin and eye diseases.

Delayed and immediate effects as well as chronic effects from short and long-term exposure: Information not available
Interactive effects: Information not available

Acute Toxicity
Acute toxicity – dermal: Limit test, rabbit, 24 hours contact, 2,000 mg/kg body weight – no lethality. Based on available data, the classification criteria are not met.
Acute toxicity- inhalation: No acute toxicity by inhalation observed. Based on available data, the classification criteria are not met.
Acute toxicity – oral: No indication of oral toxicity from studies with cement kiln dust. Based on available data, the classification criteria are not met.

Skin Corrosion / Irritation
Causes skin irritation.
Cement in contact with wet skin may cause thickening, cracking or fissuring of the skin. Prolonged contact in combination with abrasion may cause severe burns.
Some individuals may develop eczema upon exposure to wet cement dust caused by the high pH which induces irritant contact dermatitis after prolonged contact.

Serious Eye Damage / Irritation
Causes serious eye damage.
Portland cement clinker caused a mixed picture of corneal effects and the calculated irritation index was 128.
Common cements contain varying quantities of Portland cement clinker, fly ash, blast furnace slag, gypsum, natural pozzolans, burnt shale, silica fume and limestone.
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. con- junctivitis or blepharitis) to chemical burns and blindness.

Respiratory or Skin Sensitisation
Sensitising for the skin.
Some individuals may develop eczema upon exposure to wet cement dust, caused by an immunological reaction to soluble Cr (VI) which elicits allergic contact dermatitis.
The response may appear in a variety of forms ranging from a mild rash to severe dermatitis.
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, an allergic sensitising effect is not expected.

Germ Cell Mutagenicity
Does not meet the classification criteria for this hazard class.

Carcinogenicity
Does not meet the classification criteria for this hazard class.
No causal association has been established between Portland cement exposure and cancer.
The epidemiological literature does not support the designation of Portland cement as a suspected human carcinogen.
Portland cement is not classifiable as a human carcinogen.
Based on available data, the classification criteria are not met.

Reproductive Toxicity
Does not meet the classification criteria for this hazard class.

STOT - Single Exposure
May cause respiratory irritation.
Cement dust may irritate the throat and respiratory tract. Coughing, sneezing, and shortness of breath may occur following exposures in excess of occupational exposure limits.

Overall, the pattern of evidence clearly indicates that occupational exposure to cement dust has produced deficits in respiratory function. However, evidence available at the present time is insufficient to establish with any confidence the dose-response relationship for these effects.

STOT - Repeated Exposure

Does not meet the classification criteria for this hazard class.

There is an indication of COPD. The effects are acute and due to high exposures. No chronic effects or effects at low concentration have been observed. Based on available data, the classification criteria are not met.

Aspiration Hazard

Does not meet the classification criteria for this hazard class.

11.2. Information on Other Hazards

Based on the available data, the product does not contain substances listed in the main European lists of potential or suspected endocrine disruptors with human health effects under evaluation.

12. ECOLOGICAL INFORMATION

Use this product according to good working practices. Avoid littering. Inform the competent authorities, should the product reach waterways or contaminate soil or vegetation.

12.1. Toxicity

Cement is not hazardous for ecosystem. 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. Persistence and Degradability

Not relevant as cement is an inorganic material. As a result of hydration of cement, toxicity is not emerge.

12.3. Bioaccumulative Potential

Not relevant as cement is an inorganic material. As a result of hydration of cement, toxicity is not emerge.

12.4. Mobility in Soil

Not relevant as cement is an inorganic material. As a result of hydration of cement, toxicity is not emerge.

12.5. Results of PBT and vPvB Assessment

On the basis of available data, the product does not contain any PBT or vPvB in percentage ≥ than 0,1%.

Not relevant as cement is an inorganic material. As a result of hydration of cement, toxicity is not emerge.

12.6. Endocrine Disrupting Properties

Based on the available data, the product does not contain substances listed in the main European lists of potential or suspected endocrine disruptors with environmental effects under evaluation.

12.7. Other Adverse Effects

Not relevant.

13. DISPOSAL CONSIDERATIONS

Do not dispose of into sewage systems or surface waters.

Used packages and waste materials should be disposed according to national and local regulations.

Cement that has exceeded its shelf life:

Dispose of according to local legislation.

EWC entry: 10 13 99 (wastes not otherwise specified)

Unused residue or dry spillage:

Pick up dry unused residue or dry spillage as is. 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 “Product – after addition of water, hardened”

EWC entry: 10 13 06 (Other particulates and dust)

Slurries:

Allow to harden, avoid entry in sewage and drainage systems or into bodies of water (e.g. streams) and dispose of as explained below under “Product - after addition of water, hardened”.

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 concrete or concrete sludge)
17 01 01 (construction and demolition wastes - concrete).

Packaging:
Completely empty the packaging and process it according to local legislation.
EWC entries: 15 01 01 (waste paper and cardboard packaging).
15 01 02 (Plastic package-Big bag, Sling bag)

14. TRANSPORT INFORMATION

Cement is not classified as dangerous by Regulation on Carriage of Dangerous Goods by Road, Regulation on Carriage of Dangerous Goods by Seaway and the international regulations on the transport of dangerous goods (IMDG, IATA, ADR/RID).

14.1. UN Number or ID Number: Not relevant.
14.2. UN Proper Shipping Name: Not relevant.
14.3. Transport Hazard Class(es): Not relevant.
14.4. Packing Group: Not relevant.
14.5. Environmental Hazards: Not relevant.
14.6. Special Precautions for User: Not relevant.
14.7. Maritime Transport in Bulk According to IMO Instruments: Not relevant.

15. REGULATORY INFORMATION

15.1. Safety, Health and Environmental Regulations/Legislation Specific For The Substance or Mixture
Seveso Category - Directive 2012/18/EU: None
Restrictions relating to the product or contained substances pursuant to Annex XVII to EC Regulation 1907/2006: Contained substance, Point: 75, Limestone
Regulation (EU) 2019/1148 - on the Marketing and Use of Explosives Precursors: Not applicable
Substances in Candidate List (Art. 59 REACH): On the basis of available data, the product does not contain any SVHC in percentage ≥ than 0,1%.
Substances subject to authorisation (Annex XIV REACH): None
Substances subject to exportation reporting pursuant to Regulation (EU) 649/2012: None
Substances subject to the Rotterdam Convention: None
Substances subject to the Stockholm Convention: None
Healthcare controls: Workers exposed to this chemical agent must not undergo health checks, provided that available risk-assessment data prove that the risks related to the workers' health and safety are modest and that the 98/24/EC directive is respected.
German regulation on the classification of substances hazardous to water (AwSV, vom 18. April 2017):
WGK 1: Low hazard to waters

15.2. Chemical Safety Assessment
A chemical safety assessment has not been performed for the preparation/for the substances indicated in section 3.

16. OTHER INFORMATION

16.1. Information Source
This Safety Data Sheet has been prepared based on provided information by supplier/manufacturer of this product and according to Annex II to REACH - Regulation 2020/878 and to Annex II to UK REACH
Text of Hazard (H) Indications Mentioned in Section 2-3 of the Sheet:

Eye Dam. 1	Serious eye damage, category 1
Skin Irrit. 2	Skin irritation, category 2

STOT SE 3	Specific target organ toxicity - single exposure, category 3
Skin Sens. 1	Skin sensitization, category 1
H318	Causes serious eye damage.
H315	Causes skin irritation.
H335	May cause respiratory irritation.
H317	May cause an allergic skin reaction.

16.2. PROC – Process Categories

Appropriate engineering controls

Industrial manufacture/formulation of hydraulic building and construction materials: 2, 3, 14, 26, 5, 8b, 9
Industrial uses of dry hydraulic building and construction materials (indoor, outdoor): 2, 14, 22, 26, 5, 8b, 9
Industrial uses of wet suspension of hydraulic building and construc- tion materials: 7, 2, 5, 8b, 9, 10, 13, 14
Professional use of dry hydraulic building and construction material (indoor, outdoor): 2, 9, 26, 5, 8a, 8b, 14, 19
Professional uses of wet suspensions of hydraulic building and construction materials: 11, 2, 5, 8a, 8b, 9, 10, 13,14, 19

The table below gives an overview of all relevant identified uses of cement or cement containing hydraulic binders. All the uses have been grouped in these identified uses because of the specific conditions of exposure for human health and environment. For each specific use, a set of risk management measures or localised controls has been derived (see section 8) which need to be put in place by the user of cement or cement containing hydraulic binders to bring the exposure to an acceptable level.

PROC		Building and Construction Materials	
	Identified Uses - Use Description	Manufacture/ Formulation	Professional/ Industrial Use
2	Use in closed, continuous process with occasional controlled exposure, eg industrial or professional manufacture of hydraulic binders	X	X
3	Use in closed batch process, eg industrial or professional manufacture of ready-mix concrete	X	X
5	Mixing or blending in batch process for formulation of mixtures and articles, eg industrial or professional manu- facture of pre-cast concrete	X	X
7	Industrial spraying, eg industrial use of wet suspensions of hydraulic binders by spraying		X
8a	Transfer of substance or mixture from/to vessels/large containers at non-dedicated facilities, eg use of cement in bags to prepare mortar		X
8b	Transfer of substance or mixture from/to vessels/large containers a dedicated facilities, eg filling of silos, trucks or barges at cement plants	X	X
9	Transfer of substance or mixture into small containers, eg filling of cement bags in cement plants	X	X
10	Roller application or brushing, eg products to improve adherence between building surfaces and finishing products		X
11	Non-Industrial spraying, eg professional use of wet suspensions of hydraulic binders by spraying		X
13	Treatment of articles by dipping and pouring, eg covering of construction products with a layer to improve the performance of the product		X

14	Production of mixtures or articles by tabletting, compression extrusion, pelletisation, eg production of floor tiling	X	X
19	Hand-mixing with intimate contact and only PPE available, eg mixture of wet hydraulic binder on a construction site		X
22	Potentially closed processing operations with minerals/ metals at elevated temperature in industrial setting, eg production of bricks		X
26	Handling of solid inorganic substances at ambient temperature, eg mixture of wet hydraulic binders	X	X

16.3. Abbreviations

1272/2008/EC: Regulation of the European Parliament and of the Council on Classification, Labelling and Packaging of Substances and Mixtures
ADR/RID: European Agreement Concerning the International Carriage of Dangerous Goods by Road/Railway
CAS: Chemical Abstracts Service
CLP: Regulation on Classification, Labelling and Packaging of Substances and Mixtures.
EC: European Commission
EINECS: European Inventory of Existing Commercial Chemical Substances
EWC: European Waste Catalogue
IATA: International Air Transport Association
IBC Code: International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk
IMDG: International Maritime Code for Dangerous Goods
IUPAC: The International Union of Pure and Applied Chemistry
mg / m^3 : at 20^{0}C temperature and under 101,3 kPa (760 mm Hg) pressure miligram equivalent amount of substance in 1 m^3 of air.
PBT: Persistent, Bio-accumulative and Toxic
STOT: Specific Target Organ Toxicity
TWA/ZAOD: Time-weighed average
vPvB: Very Persistent, Very Bio-accumulative
WGK: Water hazard classes (German).

16.4. Key Literature References and Sources of Data

(1) Regulation (EC) 1907/2006 (REACH) of the European Parliament
(2) Regulation (EC) 1272/2008 (CLP) of the European Parliament
(3) Regulation (EU) 2020/878 (II Annex of REACH Regulation)
(4) Regulation (EC) 790/2009 (I Atp. CLP) of the European Parliament
(5) Regulation (EU) 286/2011 (II Atp. CLP) of the European Parliament
(6) Regulation (EU) 618/2012 (III Atp. CLP) of the European Parliament
(7) Regulation (EU) 487/2013 (IV Atp. CLP) of the European Parliament
(8) Regulation (EU) 944/2013 (V Atp. CLP) of the European Parliament
(9) Regulation (EU) 605/2014 (VI Atp. CLP) of the European Parliament
(10) Regulation (EU) 2015/1221 (VII Atp. CLP) of the European Parliament
(11) Regulation (EU) 2016/918 (VIII Atp. CLP) of the European Parliament
(12) Regulation (EU) 2016/1179 (IX Atp. CLP)
(13) Regulation (EU) 2017/776 (X Atp. CLP)
(14) Regulation (EU) 2018/669 (XI Atp. CLP)

(15) Regulation (EU) 2019/521 (XII Atp. CLP)
(16) Delegated Regulation (UE) 2018/1480 (XIII Atp. CLP)
(17) Regulation (EU) 2019/1148
(18) Delegated Regulation (UE) 2020/217 (XIV Atp. CLP)
(19) Delegated Regulation (UE) 2020/1182 (XV Atp. CLP)
(20) Delegated Regulation (UE) 2021/643 (XVI Atp. CLP)
(21) Delegated Regulation (UE) 2021/849 (XVII Atp. CLP)
(22) Delegated Regulation (UE) 2022/692 (XVIII Atp. CLP)
(23) Delegated Regulation (UE) 2023/707
(24) Delegated Regulation (UE) 2023/1434 (XIX Atp. CLP)
(25) Delegated Regulation (UE) 2023/1435 (XX Atp. CLP)
(26) The Merck Index. - 10th Edition
(27) Handling Chemical Safety
(28) INRS - Fiche Toxicologique (toxicological sheet)
(29) Patty - Industrial Hygiene and Toxicology
(30) N.I. Sax - Dangerous properties of Industrial Materials-7, 1989 Edition
(31) IFA GESTIS Website
(32) ECHA Website
(33) Database of SDS models for chemicals- Ministry of Health and ISS (Istituto Superiore di Sanità) - Italy

16.5. Training Advice

In addition to health, safety and environmental training programs for their workers, companies must ensure that workers read, understand and apply the requirements of this Safety Data Sheet.

16.6. Revision

Prepared for the third time. The information about the CEM II/A-M (L-W) type cement has been added.

16.7. Prepared by

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16.8. Additional Information

The Material Safety Data Sheet is prepared according to the information given by manufacturer and reliable literature references available on the date preparation. Although maximum effort expended for the accuracy of the information, the accuracy of information on this document is not guarenteed. The precautions and advices given in this document may not be applicable/sufficient to all individuals and/or cases. Using the product safely and following related laws/regulations is the responsibility of the user. Also, the manufacturer is not responsible from any damage and/or injury that might be a result of not following the precautions and/or advices given in this document.