

SECTION 1. Identification of the substance/mixture and of the company/undertaking.

1.1. Product identification:

Denomination: **White Portland cement CEM I 52,5 R**

1.2. Relevant identified uses of the substance or mixture and uses advised against:

General-purpose cement is used at industrial systems for the preparation of concrete, mortar, cement paste and other building mixtures as well as for manufacturing of construction products. Cement and hydraulic binders (mixtures) made on its basis are used by industry-based users, professionals (qualified users) and individual consumers. They are used in dry and wet forms. Identified uses of cement and mixtures containing cement include product use as specified in Section 16.b.

1.3. Details of the supplier of the safety data sheet:

- **Manufacturer responsible for marketing the product in the EC:**
ROYAL EL MINYA CEMENT, 7 Mostafa Refaast St.
Sheraton Heliopolis Complex 1135- Cairo, Egypt
Tel.: +2 22678627 - 0222678628
Fax: +2 22678628
E-mail: info@RoyalCement.com
- **Representative in Poland:** ROYAL CEMENT EU Sp. z o.o., ul. Szafarnia 10/24, 80-755 Gdańsk, www.royalcement.eu;
Tel.: +48 503 440 770, **E-mail:** info.eu@royalcement.com

1.4. Emergency telephone number:

- Institute of Occupational Medicine: + 48 (0) 69-45 00 11 6153 (24/7)
- Toxicological information in Poland: (22) 619 08 97 and (22) 619 66 54 (24/7)
- Fire brigade: 998
- Ambulance services: 999
- State emergency telephone number: **112**

SECTION 2. Hazards identification.

2.1 Classification of the substance or mixture:

Hazard class	Hazard category	Hazard statements
Skin irritation	2	H315 Causes skin irritation
Serious eye damage / eye irritation	1	H318 Causes serious eye damage
Allergic skin reaction	1B	H317 May cause allergic skin reaction
Specific target organ toxicity – single exposure; respiratory tract irritation	3	H335 May cause respiratory irritation

The mixture was classified according to EU regulations on the basis of its composition, physical and chemical properties, and information obtained from professional literature.

2.2 Label elements:

According to Regulation (EC) No 1272/2008

Pictograms:



Danger

Hazard statements

- H315 Causes skin irritation.
- H318 Causes serious eye damage
- H317 May cause 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
- P261 Avoid breathing dust
- P302+352+333+313: IF ON SKIN: Wash with plenty of water. If skin irritation or rash occurs: Get medical advice/attention
- P305+351+338+310: 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/doctor.
- P304+340+312: IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor if you feel unwell.

Disposal

P501: Dispose of contents (container) to an authorised waste collection company.

Additional information:

Follow expiry date and storage conditions specified by the manufacturer. The mixture contains chromium reducer causing soluble chromium (VI) to be reduced below 2 ppm (in relation to total cement dry mass).

If expiry date is exceeded or the mixture is stored improperly, the reducer's performance may be reduced and skin sensitisation may occur.

2.3 Other hazards

The mixture does not meet the PBT or vPvB criteria pursuant to REACH, Annex XII [Regulation (EC) No 1907/2006].

SECTION 3. Composition/information on ingredients.

3.1. Substances.

Not applicable – the product is a mixture.

3.2. Mixtures.

General-purpose cement complies with EN 197-1:2011. It is a mixture containing Portland cement clinker. Other components do not affect the mixture classification.

Substance	CAS	EINECS No	CLP Classification	%
Portland cement clinker ^{*)} no registration obligation acc. to Section 15.1.	65997-15-1	266-043-4	Skin Irrit. 2 H315, Skin Sens. 1 H317 ^{***}), Eye Dam. 1 H318, STOT SE 3 H335	95-100

The mixture contains substances classified as hazardous for which the occupation exposure limits are determined: calcium sulphate (CAS: 7778-18-9) < 6%; magnesium oxide (CAS: 1309-48-4) < 2%; silicon dioxide (CAS: 14808-60-7) < 0.05%.

^{*)} Pursuant to Regulation (EC) No 1272/2008, Portland cement clinker is excluded from the registration obligation.

^{**)} Does not apply to cement with low chromium (VI) content < 2 ppm.

SECTION 4. First aid measures.

4.1 Description of first aid measures:

- **General** – Persons giving first aid do not have to be equipped with personal protective equipment, however they need to avoid contact with wet cement.
- **Eye contact** – Immediately rinse eyes, also under eyelids, with clean, fresh running water for at least 15 minutes. Remove contact lenses. Do not rub your eyes to avoid cornea damage. Go to the hospital to seek ophthalmologist's attention.
- **Skin contact** – Immediately wash polluted skin with soapy water with neutral pH or mild detergent. Take off polluted clothing, shoes or other components having contact with skin. In the case of skin irritations or burns seek medical advice.
- **Swallowing** – Do not induce vomiting. If the victim is conscious, rinse mouth with water and have large amount of water to drink. Drink by sipping. Immediately contact the doctor.
- **Inhalation** – Move the victim to fresh air. Get rid of dust from nose and throat and seek medical attention. If coughing and other symptoms do not subside, contact the doctor.

4.2. Most important symptoms and effects, both acute and delayed:

- **Eye contamination** – watery eyes, pain, reduced visual acuity and eye pollution with cement dust may cause permanent deterioration of vision.
- **Skin contamination** – skin irritation and redness, dry or wet cement may cause sensitive persons to experience allergic reactions.
- **Inhalation** – dryness or swelling in nostrils or throat, prolonged inhalation of cement dust may cause permanent damage to nasal or pharyngeal mucosa as well as pulmonary and respiratory diseases.
- **Environment** – at normal use cement causes no harm to the environment.

4.3. Indication of any immediate medical attention and special treatment needed.

- This safety data sheet and an eye wash station should be available where cement is used. In the event of medical attention provide the doctor with the safety data sheet.

SECTION 5. Fire fighting measures.

5.1. Extinguishing media.

- General-purpose cements are non-flammable. In the event of fire in the environment use extinguishing media suitable for this environment. For cooling of cement tanks use water jets.

5.2. Special hazards arising from the substance or mixture.

- General-purpose cements as mixtures are non-flammable and non-combustible, and they do not induce or sustain combustion of other materials.

5.3. Advice for fire-fighters.

- Cement is non-flammable and non-combustible, thus no special firefighting equipment is required. In the event of fire in the environment, packagings may be burned resulting in the release of heated cement dust – it is required to wear protective equipment to protect skin and eyes.

SECTION 6. Accidental release measure

6.1. Personal precautions, protective equipment and emergency procedures.

- Protect eyes and skin, do not inhale dust. Follow general safety rules (specified in Section 7) and use protective clothing (specified in Section 8).
- Isolate persons without protective clothing from the affected place.

- No special procedures are required for rescuers. At heavy dust concentration use respiratory protection measures.

6.2. Environmental precautions

- Avoid actions causing cement dust to float in the air.
- Protect dry and wet cement against its release to the sewage system and to surface and ground water.
- If large amounts of cement enter into the natural environment, notify proper emergency services.

6.3. Methods and material for containment and cleaning up

- Collect dry cement to a container using a mechanical method without increasing dust concentration (do not use compressed air). The remaining dust remove by sucking with an industrial vacuum cleaner with a filter ((HEPA and HEPA, EN 1822-1:2009 or similar) which does not increase dust concentration (do not use brushes), or wet wipe off.
- Hardened wet cement should be collected mechanically and put into a special container. Dry it before disposal.
- Dry and clean cement may be handed over for use. The remaining waste should be handed over for disposal according to the description in Section 13.
- During disposal and cleaning use protective equipment and clothing.

6.4. Reference to other sections.

- Section 7 in terms of precautions concerning safe handling.
- Section 8 in terms of personal protective equipment.
- Section 13 in terms of waste disposal methods.

SECTION 7. Handling and storage.**7.1. Precautions for safe handling.**

- For personal protective equipment follow the recommendations specified in Section 8.
- For general occupational health and safety, avoid skin contact with the preparation and eye pollution. Exercise preventive skin protection by using barrier creams. Wash hands after any completed work. Wash polluted clothing before reuse. Do not eat, drink or smoke during work.
- In terms of workplace protection use proper room and workstation ventilation. Do not carry out actions leading to cement dusting, and at heavy dust concentration wear face mask and safety goggles. When dosing cement for mortars or concrete, use mixers with closed cover.
- In terms of environmental protection, for removal of pollutants and washing of equipment use systems with periodically cleaned sedimentation tanks.

7.2. Conditions for safe storage, including any incompatibilities

- Packed cement should be stored in original packaging in a dry, cool and ventilated room with no draught. Protect against water and moisture. Packagings should be stored in a stable and secure manner on supports protecting cement against moisture from the ground and pollution.
- Bulk cement should be stored in special tight silos, tanks or tankers. In their storage areas and during their handling and cleaning use specific safety measures and special protective equipment. Cement may adhere to walls and suddenly slide down, which may lead to burying or suffocation.

7.3. Specific end use(s).

- No relevant information.

7.4. Reduction and control of soluble chromium (VI) content

- Pursuant to the principles of Section 15, the reduction properties of cement containing Cr(VI) reducers change over time. Cement packaging and delivery documents should contain information on the cement expiry date determined on the basis of the reducer use time under conditions complying with the conditions specified in Section 7.
- Cement before expiry date and stored in accordance with the recommendations should ensure the reducer properties to be maintained and the soluble Cr(VI) content to be kept below 2 ppm in relation

to the total cement dry mass (0.0002% acc. to EN 196-10).

- When the expiry date set out by the manufacturer is exceeded or if cement is stored under improper conditions (e.g. when it is exposed to moisture), the chromium reducer may lose its performance, which may lead to enhanced irritation and allergic reactions after skin contact.

SECTION 8. Exposure controls/personal protection.

8.1. Control parameters

- DNEL inhalation (8 h): 2 mg/m³.
- DNEL skin: not applicable.
- DNEL consumption: no reference.
- DNEL refers to respirable dust. The risk estimation tool (MEASE) referred to inhaled fraction. In conclusions and risk assessment analysis, a proper safety margin was used.
- On the basis of the available testing and experience, DNEL for skin exposure is not available. As cement is classified as a irritating material, skin and eye contact should be reduced as far as possible.
- PNEC water: not applicable.
- PNEC deposit: not applicable.
- PNEC soil: not applicable.
- Risk analysis for the environment is based on the impact on water pH. pH variations in surface and ground water may occur, however pH value should not exceed 9.
- According to the Regulation of the Minister of Labour and Social Policy of 6 June 2014 on highest permissible intensity and concentration occupational limits of noxious agents (Journal of Laws, item 817), state requirements concerning the content of dust are as follows:
 - Total cement dust – 6 mg/m³.
 - Respirable cement dust – 2 mg/m³.

8.2 Exposure control:

For each identified use (PROC), the user may select option A) or B) as applicable. When one option is selected, an analogous option should be selected in table in Section 8.2.2. "Personal protective equipment" – respiratory protective equipment. Only A)-A) and B)-B) combinations are possible.

8.2.1 Relevant technical control measures:

Measures reducing dust concentration and preventing dust from spreading in the environment, such as dedusting, ventilation and dry cleaning methods, which do not cause increase in dust concentration.

Use	PROC ^{*)}	Exposure	Technical equipment	Performance
Industrial production/forming of hydraulic binders and construction materials	2, 3	Exposure period up to 480 min for a shift, 5 shifts per week	Not required	-
	14, 26		A) Not required or B) local exhaust ventilation system	- 78%
	5, 8b, 9		A) Not required or B) local exhaust ventilation system	- 78%
Industrial (indoor or outdoor) use as dry hydraulic construction material	2		Not required	-
	14, 22, 26		A) Not required or B) local exhaust ventilation system	- 78%
	5, 8b, 9		A) Not required or B) local exhaust ventilation system	58% 78%
Industrial use as mortar – binder	7		A) Not required or B) local exhaust ventilation system	- 78%
	2, 5, 8b, 9,		Not required	-

	10, 13, 14		
Professional (indoor or outdoor) use as dry hydraulic construction material	2	A) Not required or B) local exhaust ventilation system	- 72%
	9, 26	A) Not required or B) local exhaust ventilation system	- 72%
	5, 8a, 8b, 14	B) local exhaust ventilation system	72%
	19	Use of local measures impossible. Use only in well-ventilated rooms or outdoors	-
Professional use as mortar – binder	11	A) Not required or B) local exhaust ventilation system	- 78%
	2, 5, 8a, 8b, 9, 10, 13, 14, 19	Not required	-

* PROC includes identified uses specified in Section 1.2.

8.2.2. Personal protective equipment

- General:**

Before work on cement apply barrier cream and use it on regular basis. Before breaks and after work wash hands. Avoid eye and skin contact with cement. During work cement do not eat, drink or smoke to avoid skin or mouth contact, and avoid kneeling in fresh mortar or concrete. If kneeling is essential, use waterproof personal protective equipment. After work on cement or cement-containing materials, employees should wash themselves or take a shower using moisturisers for skin care. Take off polluted clothing, shoes, watches, etc., and clean them before reuse.

- Eye/face protection**



During work on cement wear safety glasses or goggles according to EN 166 to avoid eye contact.

- Skin protection**



Use impermeable and alkali-resistant gloves [made of material with low content of soluble chromium (VI)] with cotton lining, shoes, fastened clothing with long sleeves and legs, as well as additional skin protection measures (including barrier creams) to protect skin against prolonged contact with cement. Pay particular attention to prevent wet cement from penetrating into your shoes. In some instances it is indispensable to use waterproof trousers or knee pads.

- Respiratory protection**



A person exposed to clinker dust in amounts exceeding permissible limits should use proper respiratory protection measures. These measures should be adapted to the level of dust concentration and the requirements of local regulations and European Standards (e.g. EN 149, EN 140, EN 14387, EN 1827).

Use	PROC ^{*)}	Exposure	Protective measure	Protection
-----	--------------------	----------	--------------------	------------

				efficiency
Industrial production/forming of hydraulic binders and construction materials	2, 3	Exposure period up to 480 min for a shift, 5 shifts per week	Not required	-
	14, 26		A) P1 mask (FF, FM) B) not required	APF = 4
	5, 8b, 9		A) P2 mask (FF, FM) B) P1 mask (FF, FM)	APF = 10 APF = 4
Industrial (indoor or outdoor) use as dry hydraulic construction material	2		Not required	-
	14, 22, 26		A) P1 mask (FF, FM) B) not required	APF = 4
	5, 8b, 9		A) P2 mask (FF, FM) B) P1 mask (FF, FM)	APF = 10 APF = 4
Industrial use as mortar – binder	7		A) P1 mask (FF, FM) B) not required	APF = 4
	2, 5, 8b, 9, 10, 13, 14		Not required	-
Professional (indoor or outdoor) use as dry hydraulic construction material	2		A) P1 mask (FF, FM)	APF = 4
	9, 26		A) P2 mask (FF, FM) B) P1 mask (FF, FM)	APF = 10 APF = 4
	5, 8a, 8b, 14		A) P3 mask (FF, FM) B) P1 mask (FF, FM)	APF = 20 APF = 4
	19		P2 mask (FF, FM)	APF = 10
Professional use as mortar – binder	11	A) P1 mask (FF, FM) B) not required	APF = 4	
	2, 5, 8a, 8b, 9, 10, 13, 14, 19	Not required	-	

* PROC includes identified uses specified in Section 1.2.

- **Thermal hazards**
Not applicable.

8.2.3. Environmental exposure control

Environmental exposure control in relation to cement emission to the air should comply with the available technologies and regulations for dust emissions.

- Air: Cement dust emission to the air should be limited according to the available technology and should be lower than the applicable maximum permissible values of airborne dust content.
- Water: cement should not penetrate into the sewage system or surface or ground water. Do not drain cement to the sewage system or water tanks to avoid high pH. If pH exceeds 9, ecotoxicological effects may occur in the aquatic environment.
- Soil and ground: No exposure control measures are required for ground exposure.

SECTION 9. Physical and chemical properties.

9.1 Information on basic physical and chemical properties

Information pertaining to the entire mixture

(a) Appearance: Dry cement is a white, non-organic material. Particle size: 5–30 µm

(b) Odour: Odourless

(c) Odour threshold: No threshold, odourless

(d) pH: (t = 20°C in water, water-material ratio 1:2): 11–13.5

(e) Melting point: > 1250°C

(f) Initial boiling point: Not applicable, melting point under normal atmospheric conditions > 1250°C

(g) Ignition temperature: Not applicable

- (h) Evaporation rate: Not applicable
- (i) Flammability (of solid, gas): Not applicable; non-flammable solid
- (j) Upper/lower flammability limit or upper/lower explosion limit: Not applicable
- (k) Vapour pressure: Not applicable
- (l) Vapour density: Not applicable
- (m) Relative density: 2.75–3.20; Bulk density: 0.9–1.5 g/cm³
- (n) Solubility in water (T = 20°C): low (0.1–1.5 g/l)
- (o) Partition coefficient (n-octanol/water): Not applicable – non-organic mixture
- (p) Autoignition temperature: Not applicable (no components subject to autoignition)
- (q) Breakdown temperature: Not applicable
- (r) Viscosity: Not applicable
- (s) Explosive properties: Not applicable. The substance is not explosive as a result of chemical reaction nor does it release gases with such a temperature or with such a pressure at a given rate which may inflict damage to the environment. It has no properties leading to exothermic auto-reaction.
- (t) Oxidising properties: Not applicable – the substance does not induce or sustain combustion of other materials.

9.2 Other information.

None

SECTION 10. Stability and reactivity.

10.1 Reactivity.

- Cement is a hydraulic material. After contact with water a desired reaction occurs. Cement is set and creates a solid mass which does react with the environment.

10.2 Chemical stability

Cement is stable. If it is properly stored in dry condition (see Section 7), it is compatible with the majority of construction materials.

Avoid contact with incompatible materials:

- Moist cement is alkaline and incompatible with acids, ammonium salts, aluminium and other base metals.
- Cement is soluble in hydrofluoric acid, releasing corrosive gas – silicon tetrafluoride.
- In reaction with water, cement creates silicates and calcium hydroxide. Cement calcium silicates may react with strong oxidisers, such as fluoride, boron trifluoride (BF₃), chlorine trifluoride (ClF₃), magnesium trifluoride (MnF₃) and oxide difluoride (OF₂).

10.3 Possibility of hazardous reactions

Cement does not result in hazardous reactions.

10.4 Conditions to avoid

Moisture during storage may lead to the development of lumps and loss of product quality.

10.5 Incompatible materials

Acids, ammonium salts, aluminium or other bare metals. Uncontrolled addition of powdered aluminium to wet cement causes the release of hydrogen.

10.6 Hazardous decomposition products

None, cement does not decompose to hazardous components.

SECTION 11. Toxicological information.

11.1. Information on toxicological effects

Hazard class	Cat.	Effect	Source
Acute toxicity – skin	-	Test, rabbit, 24-hour contact, 2000 mg/kg of body mass – no injury. On the basis of the available data, classification is not required.	(2)
Acute toxicity – respiratory tract	-	No acute toxicity was observed. On the basis of the available data, classification is not required.	(9)
Acute toxicity – oral	-	As a result of literature analysis, no acute oral toxicity pertaining to general-purpose cement was observed. On the basis of the available data, classification is not required.	Literature analysis
Skin corrosivity/irritation	2	In contact with wet skin cement may cause the skin to become thicker, cracked, folded. Prolonged contact combined with rubbing may produce burns.	(2) Use experience
Serious eye damage / eye irritation	1	Cement acts on cornea in various ways. Calculated irritation index is 128. General-purpose cement contains variable amounts of Portland clinker and additives, including anhydrous gypsumplaster and silica. Direct contact with cement may lead to mechanical damage to cornea, immediate or delayed irritation, or inflammation. Direct contact with increased amount of dry cement or splash with wet cement may cause intermediate irritation (e.g. conjunctivitis) and even chemical burns or blindness.	(10), (11)
Allergic skin reaction	1B	It may be caused by both high pH, which results in irritation after prolonged contact, or immune response to soluble Cr(VI) which may cause allergic skin reaction. Reaction form may be different – from small rash to serious inflammation or a combination of both of these effects. If cement contains active reducer of soluble chromium(VI) and the period of its use is not exceeded, the aforementioned effects should not occur (reference 3).	(3), (4), (17)
Allergic respiratory reaction	-	No allergic reactions to the respiratory tract were noted. On the basis of the available data, classification is not required.	(1)
Germ cell mutagenicity	-	Not found. On the basis of the available data, classification is not required.	(12), (13)
Carcinogenicity	-	No accidental connections of Portland cement exposure and carcinogenicity were found. Literature provides no information on Portland cement carcinogenicity. Portland cement is not classified as carcinogenic for humans. On the basis of the available data, classification is not required.	(1) (14)
Reproductive	-	On the basis of the available data, classification is not	No cases were

toxicity		required.	noted during use.
STOT – single exposure	3	Portland cement dust may irritate throat and respiratory tract. Due to exposure above the set limits cough, running nose and shallow breathing may occur. The tests indicate that exposure to cement dust may restrict respiratory tract functioning. The tests carried out to date, however, are sufficient to unambiguously determine the exposure level causing negative effect.	(1)
STOT – repeated exposure	-		(15)
Aspiration hazard	-	Not applicable for cements – they are not used as aerosols.	

Apart from skin irritation, Portland clinker and general-purpose cements have the same toxicological and ecotoxicological properties.

Influence on existing diseases

Inhalation of cement dust may lead to worsening of condition of persons suffering from respiratory tract diseases and/or other diseases, such as emphysema or asthma and/or existing skin or eye diseases.

SECTION 12. Ecological information.

12.1 Toxicity

- Do not let the mixture or its solutions to enter into the sewage system, surface water or soil. Cement is not considered harmful to the environment. Ecotoxicological test of Portland cement used on *daphnia magna* and *selenastrum coli* showed minor ecotoxicological effect. As a result it was impossible to determine LC50 and EC50. Moreover, no toxic impact of deposit was found. Introduction of higher amounts of cement into water, however, may lead to pH increase. As a result in specific conditions it may be toxic to aquatic organisms.

12.2 Persistence and degradability

- Not applicable; cement is a mineral, non-organic material. When hardened, it poses no risk of toxicity.

12.3 Bioaccumulative potential

- Not applicable; cement is a mineral, non-organic material. When hardened, it poses no risk of toxicity.

12.4 Mobility in soil – not applicable

- Not applicable; cement is a mineral, non-organic material. When hardened, it poses no risk of toxicity.

12.5 Results of PBT and vPvB assessment

- Not applicable; cement is a mineral, non-organic material. When hardened, it poses no risk of toxicity. The mixture does not meet the PBT or vPvB criteria.

12.6. Other adverse effects.

- Not applicable – no available information.

SECTION 13. Disposal considerations.

13.1 Waste treatment methods.

Do not store close to irrigation systems or surface water.

- **Product** – solid cement with expiry date exceeded and with content of soluble Cr(VI) above 0.0002%:
EWC Classification: 10 13 99 (wastes not otherwise specified)
It should not be used – should be recovered and stored according to national regulations. Afterwards it may be subject to repeated reduction of Cr(VI) content using a reducer or handed over for use in automatic and closed production processes.
- **Product – unused dry residue**
EWC Classification: 10 13 06 [particulates and dust (except 10 13 12 and 10 13 13)]
Collect waste and keep them dry. Mark containers. Possible reuse if compliant with expiry date. Possible use without exceeding dust concentration limits.
- **Product – semi-wet**
Embed, if possible, or leave to bind, avoid discharging to sewage systems, drainage systems and water tanks and channels. Then handle with waste as with bonded product.
- **Product – mixed with water, bonded**
Waste code (EWC):
 - 10 13 14 Waste from production of mineral binders (including cement, lime and plaster) and from mineral binder products (waste concrete and concrete sludge) or
 - 17 01 01 Waste from construction materials and components and road infrastructure (e.g. concrete, bricks, panels, ceramics – concrete waste and concrete rubble from dismantling and repair).

Store and manage the set product as concrete rubble. In terms of reactivity concrete waste is not hazardous.
- **Packing**
Waste code (EWC): 15 01 01 Paper and cardboard packaging
Empty the packaging and process it according to national legislation.

SECTION 14. Transport information.

Cement is not governed by international regulations concerning transport of dangerous goods (IMDG, IATA, ADR/RID). No special classification is required. Apart from the conditions set out in Section 8 no special conditions are required.

14.1. UN number

Not applicable.

14.2. UN proper shipping name

Not applicable.

14.3. Transport hazard class(es)

Not applicable.

14.4. Packing group

Not applicable.

14.5. Environmental hazards

Not applicable.

14.6. Special precautions for user

Not applicable.

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable.

SECTION 15. Regulatory information.

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

Cement is a mixture. Mixtures are excluded from registration obligation. Clinker is excluded from registration obligation [REACH, art. 2.7 (b) and Annex V.10].

Marketing of cement is controlled due to content of soluble chromium (VI) (REACH, Annex XVII, section 47):

European law notice

- Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning REACH
- Commission Regulation (EU) No 453/2010 of 20 May 2010 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH).
- 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, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006.
- Commission Regulation (EU) No 758/2013 of 7 August 2013 correcting Annex VI to Regulation (EC) No 1272/2008 of the European Parliament and of the Council on classification, labelling and packaging of substances and mixtures.
- Commission Regulation (EU) No 618/2012 of 10 July 2012 amending, for the purposes of its adaptation to technical and scientific progress, Regulation (EC) No 1272/2008 of the European Parliament and of the Council on classification, labelling and packaging of substances and mixtures
- Commission Regulation (EU) No 618/2012 of 10 July 2012 amending, for the purposes of its adaptation to technical and scientific progress, Regulation (EC) No 1272/2008 of the European Parliament and of the Council on classification, labelling and packaging of substances and mixtures
- Commission Regulation (EU) No 487/2013 of 8 May 2013 amending, for the purposes of its adaptation to technical and scientific progress, Regulation (EC) No 1272/2008 of the European Parliament and of the Council on classification, labelling and packaging of substances and mixtures
- Commission Regulation (EU) No 944/2013 of 02 October 2013 amending, for the purposes of its adaptation to technical and scientific progress, Regulation (EC) No 1272/2008 of the European Parliament and of the Council on classification, labelling and packaging of substances and mixtures
- Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning REACH, art. 31, Annex II.
- Dangerous Substances Directives – Directive 2004/73/EC (29th ATP), Directive 2008/58/EC (30th ATP),
- Directive 2009/2/EC (31st ATP).

Polish law notice

- Act of 25 February 2011 on chemical substances and their mixtures (Journal of Laws of 2011 No 63 item 322, amended with: Journal of Laws of 2012 No 0 item 908)
- Act of 13 June 2013 on waste and packaging waste management (Journal of Laws of 2013, item 888)
- Regulation of the Minister of Health of 30 December 2004 on occupational health and safety concerning the presence of chemical factors at workplace (Journal of Laws of 2005 No 11 item 86, amended with: Journal of Laws of 2008 No 203 item 1275).
- Notice of the Minister of Health of 2 March 2015 on notification of uniform text of regulation of Minister of Health on labelling of packaging of dangerous substances, dangerous mixtures and specific mixtures (Journal of Laws of 2015, item 450).
- Notice of the Minister of Health of 19 September 2014 on notification of uniform text of regulation of Minister of Health on categories of dangerous substances and dangerous mixtures with packaging fitted with closures precluding child opening and with tactile warning (Journal of Laws of 2014, item 1604).
- Regulation of the Minister of Labour and Social Policy of 6 June 2014 on highest permissible intensity and concentration occupational limits of noxious agents (Journal of Laws of 2014, item 817).
- Regulation of the Minister of Construction of 14 July 2006 on the manner of execution of obligations of suppliers of industrial waste and on the conditions of introducing waste to sewage equipment (Journal of Laws of 2006 No 136 item 964)
- Act of 14 December 2012 on waste (Journal of Laws of 2013, item 21)

- Regulation of the Minister of Environment of 9 December 2014 on waste catalogue (Journal of Laws of 2014, item 1923)
- Act of 19 August 2011 on transport of dangerous goods (Journal of Laws of 2011 No 227 item 1367).
- Government Statement of 16 January 2009 on becoming effective of amendments to Annexes A and B of the European Agreement concerning the International Carriage of Dangerous Goods by Road (ADR) concluded on 30 September 1957 in Geneva (Journal of Laws of 2009 No 27 item 162).
- Regulation of the Council of Ministers of 30 July 2002 on the list of works particularly burdensome and harmful for women's health (Journal of Laws of 1996 No 114 item 545, amended with: Journal of Laws of 2002 No 127 item 1092).
- Regulation of the Minister of Health and Social Welfare of 30 May 1996 on medical examination of personnel, scope of preventive medical care for personnel and medical reports issued for the purposes provided for in the Labour Code (Journal of Laws of 1996 No 69 item 332, amended with: Journal of Laws of 1997 No 60 item 375, Journal of Laws of 1998 No 159 item 1057, Journal of Laws of 2001 No 37 item 451, Journal of Laws of 2001 No 128 item 1405, Journal of Laws of 2010 No 240 item 1611, Journal of Laws of 2015, item 457).
- Regulation on fundamental requirements for personal protective equipment (Journal of Laws of 2005 No 259 item 2173)
- Regulation of the Minister of Health of 2 February 2011 on testing and measurements of noxious agents in work environment (Journal of Laws of 2011 No 33 item 166).
- Regulation (EC) of the European Parliament and of the Council on detergents (No 648/2004 of 31 March 2004, No 907/2006 of 20 June 2006 and No 551/2009 of 25 June 2009).
- • Regulation of the Minister of Environment of 24 July 2006 on conditions to be met for introduction of waste water to water or soil, and on substances particularly harmful to the aquatic environment (Journal of Laws of 2006 No 137 item 984, as amended)

15.2. Chemical safety assessment

Chemical safety report has not been developed.

Information contained in the Safety Data Sheet does not constitute user occupational risk assessment required by work safety regulations. If the product is used at work, national OHS regulations should be met.

SECTION 16. Other information.

16.1 Revision history

This safety data sheet has been drawn up in accordance with applicable regulations and on the basis of data submitted by the manufacturer.

Source of additional information: Regulations listed in Section 15.

16.2 Identified use and its categories and descriptors

The table below presents an overview of all relevant identified uses of cement and hydraulic binders containing cement. All

uses are presented in groups in consideration with health and environment exposure. For each use proper risk management and control methods are provided (see Section 8) which should be adopted by the user of cement or hydraulic binders containing cement, so that any potential exposure does not exceed the permissible limits.

PROC	Identified use – description of use	Production of	Professional/industrial use of
		Construction material	
2	Use in a closed process with occasional, controlled exposure	X	X
3	Use in a closed batch process (synthesis or production)	X	X
5	Mixing in batch processes of production of mixtures or products (multi-stage and/or significant contact).	X	X
7	Industrial dusting		X

8a	Handling of the substance or mixture (loading/unloading) to/from vessels / large container in rooms not intended for this purpose		X
8b	Handling of the substance or mixture (loading/unloading) to/from vessels / large container in rooms intended for this purpose	X	X
9	Handling of the substance or mixture to small containers (using a dedicated filling line with weighing)	X	X
10	Brush or roller application		X
11	Industrial dusting		X
13	Processing of industrial products by soaking or flooding		X
14	Production of mixtures or products by tableting, pressing, extrusion, granulation	X	X
19	Manual mixing during which close contact with substance takes place. Only personal protective equipment are available		X
22	Potentially closed processing operations with minerals/metals at elevated temperature. Industrial conditions		X
26	Storage of solid non-organic substances at a given temperature	X	X

16.3. Abbreviations and acronyms

- **Hazard classes and categories for substances comprising the mixture according to Section 3.2.**

Skin Irrit. 2 – Skin corrosivity/irritation cat. 2

Skin Sens. 1B – Allergic skin reaction cat. 1B

Eye Dam. 1 – Serious eye damage / eye irritation cat. 1

STOT SE 3 – Specific target organ toxicity (single exposure), cat. 3

STOT RE 2 – Specific target organ toxicity (repeated exposure), cat. 2

- **Hazard statements for substances comprising the mixture according to Section 3.2.:**

H335: May cause respiratory irritation

H315: Causes skin irritation

H318: Causes serious eye damage

H317: May cause allergic skin reaction

H373: May cause damage to organs through prolonged or repeated exposure

- **Other abbreviations:**

ACGIH American Conference of Industrial Hygienists

ADR/RID European Agreements on the transport of Dangerous goods by Road/Railway

APF Assigned protection factor

CAS Chemical Abstracts Service

CLP Classification, labelling and packaging [Regulation (EC) No 1272/2008]

COPD Chronic Obstructive Pulmonary Disease

DNEL Derived No-Effect Level

EC50 Half maximal effective concentration

ECHA European Chemicals Agency

EINECS European Inventory of Existing Commercial chemical Substances

EPA Type of high efficiency air filter

ES Exposure scenario

EWC European Waste Catalogue

FF P Filtering facepiece against particles (disposable)

FM P Filtering mask against particles with filter cartridge

GefStoffV Gefahrstoffverordnung

HEPA Type of high efficiency air filter
H&S Health and Safety
IATA International Air Transport Association
IMDG International agreement on the Maritime transport of Dangerous Goods
LC50 Median lethal dose
MEASE Metals estimation and assessment of substance exposure, EBRC Consulting GmbH for Eurometaux, <http://www.ebrc.de/industrial-chemicals-reach/projects-and-references/mease.php>
MS Member State
OELV Occupational exposure limit value
PBT Persistent, Bioaccumulative and Toxic
PNEC Predicted No-Effect Concentration
PROC Process category
RE Repeated exposure
REACH Registration, Evaluation and Authorisation of Chemicals
RPE Respiratory protective equipment
SCOEL Scientific Committee on Occupational Exposure Limit Values
SDS Safety Data Sheet
STOT Specific Target Organ Toxicity
TLV – TWA Threshold Limit Value – Time-Weighted Average
TRGS Technische Regeln für Gefahrstoffe
VLE-MP Exposure limit value-weighted average in mg by cubic meter of air
vPvB very Persistent, very Bioaccumulative
w/w weight by weight
WWTP Waste Water Treatment Plant

16.4. References to literature and sources of information

1. PKN-CEN/TR 15125:2007 Design, preparation and application of internal cement and/or lime plastering systems
2. PN-B-30010:2016-01 Cement – White Portland cement
3. PN-EN 197-1:2012 Cement – Part 1: Composition, specifications and conformity criteria for common cements
4. PN-EN 14944-1:2006 Influence of cementitious products on water intended for human consumption – Test methods – Part 1: Influence of factory made cementitious products on organoleptic parameters
5. PN-EN 14944-3:2008 Influence of cementitious products on water intended for human consumption – Test methods – Part 3: Migration of substances from factory-made cementitious products
6. PN-EN 16908:2017-02 Cement and building lime – Environmental product declarations – Product category rules complementary to EN 15804
7. PN-EN 196-10:2016-07 Methods of testing cement – Part 10: Determination of the water-soluble chromium (VI) content of cement
8. PN-EN 196-2:2013-11 Methods of testing cement – Part 2: Chemical analysis of cement
9. PN-EN 196-3:2016-1 Methods of testing cement – Part 3: Determination of setting times and soundness
10. PN-EN 196-5:2011 Methods of testing cement – Part 5: Pozzolanicity test for pozzolanic cement
11. PN-EN 196-8:2010 Methods of testing cement – Part 8: Heat of hydration – Solution method
12. PN-EN 196-9:2010 Methods of testing cement – Part 9: Heat of hydration – Semi-adiabatic method
13. PN-Z-04008-6:2000 Air cleanliness protection – Sampling – Sampling of waste gas from processes of cement clinker and lime burning for determination of gas pollution
14. Chemia cementu i betonu (Cement and concrete chemistry) Wiesław Kurdowski Kraków 2010
Chemia i inżynieria ekologiczna (Chemistry and ecological engineering), Uniwersytet Opolski (Opole University), vol. 5-No 10-1998, vol. 7-No 12-2000.
15. An analysis of selected trace metals in cement and kiln dust, Portland Cement

Association, USA 1992.

16. Broszura informacyjna Instytutu Zdrowia i bezpieczeństwa Pracy (HSE) [Information brochure of Occupational Health and Safety (OHS) Institute]
17. Wybrane metale ciężkie w cemencie i ich wpływ na środowisko i zdrowie człowieka (Selected heavy metals in cement and their influence on the environment and human health), Jan Skrzypek, Politechnika Śląska (Silesian University of Technology) 2000
18. Czynniki szkodliwe dla zdrowia (Factors hazardous to health) Akademia Górniczo-Hutnicza Kraków (AGH University of Science and Technology in Kraków)
19. Portland Cement Dust - Hazard assessment document EH75/7, UK Health and Safety Executive, 2006: <http://www.hse.gov.uk/pubns/web/portlandcement.pdf>
20. CIS 26 Cement HSE <http://www.hse.gov.uk/pubns/cis26.pdf>
21. 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). http://ec.europa.eu/health/archive/ph_risk/committees/sct/documents/out158_en.pdf.
22. 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). http://ec.europa.eu/health/archive/ph_risk/committees/sct/documents/out158_en.pdf.

16.5 Training information

The employer must ensure that the employees – before work on the product – are properly induction trained as well as have read, understood and followed the requirements set out in the Safety Data Sheet.

16.6 Additional information

Data and test methods used to classify general-purpose cements are provided in Section 11.1.

16.7 Classification and procedures used for the development of the classification pursuant to Regulation No 1272/2008 (CLP)

Classification according to Regulation (EC) No 1272/2008	Classification procedure
Skin irritation 2; H315	Based on tests
Serious eye damage / eye irritation 1; H318	Based on tests
Allergic skin reaction 1B; H317	Use experience
STOT SE. 3; H335	Use experience

16.8 Note

Information contained in this safety data sheet describe the safety requirements for our cement and are based on our current state of the art. It does not guarantee the product's performance. The above-mentioned information are deemed correct, but it does not mean it is complete and should be used as guidance.

The information pertains to cement used according to its intended use and the recommendations provided. For any other use of the cement and its use in combination with not recommended products, new and not tested products in terms of compatibility with the cement the liability lies with the user.

Within its own scope of liability, the user is obliged to follow proper safety procedures and comply with the applicable regulations – also the ones not mentioned herein.