SAFETY DATA SHEET FOR CEMENT

Date of issue	15/10/2001	**Modified Date**	30/10/2024
Edition	3.1	**Modification**	1
Format	EC REGULATION No 830/2015 of 28 May 2015 as amended Regulation (EC) No 1907/2006 of the European Parliament and of the Council as regards the registration, evaluation, the Authorization and Restriction of Chemicals (REACH)		

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

1.1 Product identifiers

Products of "Heidelberg Materials Devnya" JSC

ULTRA CEM 52,5	CEM I 52.5 R	Portland cement	**UFI: CRY9-M4Y9-QX0R-K78V**
ULTRA CEM 42,5	CEM I 42.5 R	Portland cement	
GLACIER	CEM I 52.5 N	Portland cement, white	
SULFO CEM	CEM I 42,5 R SR-5	Sulphate-resistant Portland cement	
SULFO + CEM	CEM III/A- 42.5 N – LH/SR	Low Heat Sulphate-resistant Slag cement	**UFI: QUY9-44NQ-1X07-8JUX**
	CEM III/A- 42.5 N - LH	Low Heat Slag cement	
SULFO + CEM	CEM III/A 42.5 N - SR	Sulfato - resistant Slag cement	
SLAG	CEM III/A 42.5 N	Slag cement	
Premium DEVNYA CEM	CEM II /A-LL 42,5 R	Limestone Portland cement	**UFI: XWY9-N4C3-AX0Q-WWF0**
MICRO CEM	CEM II/A-LL 52,5 R	Limestone Portland cement Superfine	
MICRO CEM SR	CEM II/A-LL 52,5 R	Limestone Portland cement Superfine with Sulphateresistant clinker	
GLACIER	CEM II/A-LL 42,5 R White	Limestone Portland cement, white	
BRAVO CEM	CEM II/B-M (P-LL) 42,5 N	Mixed Portland cement	**UFI: G00A-541G-NX07-K812**
Steady Mix CEM	CEM II/ A-M (S-LL) 42,5 R	Mixed Portland cement	
ZIDACEM	MC 12,5	Masonry cements	**UFI: Y30A-N4QV-XX0Q-7KM4**

Products of "Heidelberg Materials Vulkan" JSC

ULTRA CEM 42,5	CEM I 42,5 R	Portland cement	**UFI: VVAH-0P1E-6D12-EC36**
Premium VULKAN CEM	CEM II /A-LL 42,5 N	Limestone Portland cement	**UFI: CYAH-GPQT-GD1J-2PP8**
VULKAN CEM	CEM II/B-M (P-L) 32,5 N	Mixed Portland cement	**UFI: X4CH-HP3M-3D1J-DCUD**
QUATRO CEM	CEM IV /A (P-V) 42,5 N	Puzzolan cement	**UFI: V1CH-0PE6-TD12-R18A**
QUATRO CEM	CEM II /B-V 42,5 N	Mixed cement	**UFI: RGCH-HPV6-AD1H-1R5N**

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

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. The identified uses of cements and cement containing mixtures cover the dry products and the products in a wet suspension (paste). See section 16.2 for more information regarding use descriptors and categories.

Masonry cements are hydraulic binders to produce masonry and for lining and fine plaster.

Any other uses not mentioned above, are advised against.

1.3 Details of the SDS provider

Name	**"Heidelberg Materials Devnya" JSC**	**"Heidelberg Materials Vulkan" JSC**
Address:	Industrial Zone, Suvorovsko shose 3, Devnya, 9160	kv. Vulkan, Dimitrovgrad 6405
Phone number:	+359 (5199) 7262 +359 (5199) 7222	+359 (0391) 68452
Website:	**www. heidelbergmaterials.bg**	
Email address:	✓ Occupational Safety and Health and Environment: BGR.HSE@heidelbergmaterials.com ✓ Quality:BGR.quality@heidelbergmaterials.com	

1.4 Emergency telephone number:

National Toxicology Information Centre, Sofia
University General Hospital for Active Treatment and Emergency Medicine "N. I. Pirogov", Sofia

Emergency phone: +359 2 9154 233
Working hours : 24 hours / 7 days
Emergency telephone / fax: +359 2 9154 213
409 Working hours: 8-16 h / 7 days
E-mail: poison_centre@mail.orbitel.bg
http://www.pirogov.bg

Emergency telephone number in "Heidelberg Materials Devnya" JSC and "Heidelberg Materials Vulkan" JSC: +359 (5199) 7331

Working hours: 8.00-17.00 h / on working days
Is it available outside working hours? **NOT**

The information provided shall be limited to:

- ✓ First aid;
- ✓ Or indication of the nearest toxicology Centre

The SDS is provided in Bulgarian, English and Romanian.

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

2.1.1 Classification according to Regulation (EC) No 1272/2008

Hazard Class	Hazard category	Hazard Statements
Skin irritation	2	H315: Causes skin irritation
Eye damage/irritation	1	H318: Causes serious eye damage
Sensitization - skin	1B	H317: May cause an allergic skin reaction
Specific target organ toxicity single exposure respiratory tract irritation	3	H335: May cause respiratory irritation

2.2 Label elements :

According to Regulation (EC) No

1272/2008 (CLP) Hazard pictograms

Signal Word: **Danger**

Hazard Statements

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

Precautionary Statements

P102 Keep out of reach of children

P280 Wear protective gloves/protective clothing/eye protection/face protection

P305+P351+P338+P310: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician

P302+P352+P333+P313: IF ON SKIN: Wash with plenty of soap and water. If skin irritation or rash occurs: Get medical advice/attention

P261+P304+P340+P312: Avoid breathing dust/fume/gas/mist/vapours/spray. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.

P 501 Collection, recovery, and recycling of packaging waste to be carried out in accordance with national and international regulations.

Further information:
In contact with the skin, wet cement, fresh concrete, or solution can cause irritation, dermatitis, or burns.
May damage articles of aluminum or other base metals in contact with them.

2.3 Other hazards:

Cement does not meet the criteria for PBT or vPvB in accordance with Annex XIII of REACH (Regulation (EC) No 1907/2006).

For products containing chromium reducing agent. The content of soluble chromium (VI) is less than 0. 0002%. If the storage conditions are not appropriate (moisture ingress) or the storage period is exceeded, the effectiveness of the reducing agent may be reduced, and cement may cause an allergic skin reaction (respectively H317 or EUH203).

White cements do not contain water-soluble chromium 6+ and are therefore chromium-neutral as chromium-containing raw materials are not used for their production. This complies with the EU requirements for a maximum value of 2 mg/kg (0,0002%) of water-soluble chromium (VI) in cement under normal and dry storage conditions without time limit.

For products containing an additive reducing the content of water-soluble chromium Cr 6+ according to Regulation (EC) No 1907/2006, the manufacturer shall specify the effectiveness period of the additive in compliance with the conditions of storage of the cement.
This period is up to 3 months from the date of packaging indicated on the packaging and up to a month from the date of sale for bulk cement.

3. COMPOSITION / INFORMATION ON INGREDIENTS

3.1 Substances – not applicable as the product is a mixture, not a substance.

3.2 Mixtures

The products are manufactured according to BDS EN 197-1 or BTA - 23.1/2023 (Low heat sulfate-resistant cement) and BDS EN 413-1.

Cements are finely ground mixtures made of clinker, clinker kiln dust, gypsum (or other forms of calcium sulphate) and other specific constituents (limestone, pozzolan etc.).

Kiln dust, if present, is included as a secondary component.

For certain types of cements, other components and secondary materials may be used, such as grinding additives and reducing agents. They have toxicological and risk levels equal to or lower than those of clinker referred to in EU classification 1272/2008.

Composition	Weight %	EINECS EU No	CAS	REACH – Registration №	Classification in accordance with (EU) 1272/2008	
Portland-Cement Clinker	5-100	266-043-4	65997-15-1	Released from registration	Skin irritation 2 Sensitisation -– skin 1 B Seriousdamage / irritation to the eyes STOT SE 3	H315 H317 H318 H335
Kiln Dust	0,1-5%	270-659-9	68475-76-3	01-2119486767-17-0071	Skin irritation 2 Sensitization - skin 1 B Seriousdamage /irritation of Eyes STOT SE 3	H315 H317 H318 H335

“Kiln dust stands for a substance” (UVCB) from the manufacturing of clinker. Other names used are cement kiln dust, bypass dust, bypass meal, filter dust and clinker dust.

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.

Following inhalation
Move the 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.

Following skin contact
For dry cement, remove and rinse abundantly with water.
For wet 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.

Following eye contact
Do not rub eyes in order to avoid possible cornea damage as a result of mechanical stress.
Remove contact lenses if any. Incline head to injured eye, open the eyelid(s) 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). Contact a specialist of occupational medicine or an eye specialist.

Following ingestion
Do not induce vomiting. If the person is conscious, wash out mouth with water and give plenty of water to drink. Get immediate medical attention or contact the anti-poison centre.

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 burns because they develop without pain being felt (for example when kneeling in wet concrete even when wearing trousers).

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

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

4.3 Indication of any immediate medical attention and special treatment needed

When you contact a doctor, bring this Safety Data Sheet with you.

5. FIRE-FIGHTING MEASURES

5.1 Fire extinguishing media

Common cements are not flammable.

5.2 Special hazards arising from the substance or mixture

Cements are non-combustible and non-explosive and will not facilitate or sustain the combustion of other materials.

5.3 Advice for firefighters

Cement poses no fire-related hazards. No need for special protective equipment for fire-fighters.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment, and emergency procedures

6.1.1 For non-emergency personnel

Wear protective clothing as described in Section 8 and follow the instructions for safe handling and use given in Section 7.

6.1.2 For emergency responders

Emergency procedures are not required.
However, respiratory protection is needed in situations with high dust levels.

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 materials for containment and cleaning up

Collect the spillage in a dry state if possible.

Dry cement
Use clean-up 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) or equivalent technique) which do not cause airborne dispersion. Never use compressed air.

Alternatively, 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 cement and contact with skin. Place spilled materials into a container. Solidify before disposal as described under Section 13.

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

See sections 8 and 13 for more details.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling

7.1.1 Protective measures

Follow the recommendations given in section 8.
To clean up dry cement, see Under Section 6.3.

Measures to prevent fire

Not applicable.

Measures to prevent dust generation and aerosol emissions

Do not sweep. Use dry clean-up methods such as vacuum clean-up or vacuum extraction, which do not cause airborne dispersion.
For more information, refer to the practice guidelines adopted under the Social Dialogue Agreement on Workers' Health Protection through the Good Handling and Use of Crystalline Silica and Products Containing it, by Employee and Employer European sectoral associations, among which CEMBUREAU. These safe handling practices It can be found via the following link: http://www.nepsi.eu/agreement-good-practice-guide/good-practice-guide.aspx.

Environmental protection measures
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.
Use protective gloves to avoid skin contact.

7.2 Conditions for safe storage, including any incompatibility

Bulk cement should be stored in silos that are waterproof, dry (i.e. with internal condensation minimized), clean and protected from contamination.
Engulfment hazard: 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 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.
Do not use aluminium containers for the storage or transport of wet cement containing mixtures due to incompatibility of the materials.

For cements containing chromium-reducing agents, the effectiveness of the reducing agent decreases over time. If stored inappropriately (moisture ingress) or when use after the expiry date, reducing agents may lose their effectiveness and, in contact with skin, a sensitizing effect is not excluded.

7.3 Specific end use(s)

There is no further information on specific uses (see Section 1.2).

8. EXPOSURE CONTROLS/PERSONAL PROTECTIVE EQUIPMENT

8.1 Control parameters

According to Ordinance No. 13/30.12. 2003 on the Protection of Workers from Risks Related to Exposure to Chemical Agents at Work, airborne impact limits of the working environment for cement: 8 mg/m^3 – inhalable fraction.

According to Ordinance No.10/26.09. 2003 on the Protection of workers from risks related to exposure to carcinogens and mutagens at work, occupational exposure limits for respirable crystalline silica dust is 0.1 mg/m^3.

Clarification: These limit values are applicable to the Republic of Bulgaria. For European Union Member States, limit values are applied according to the adopted legislation in the respective Member State for inhalable and respirable dust fraction. A value of 0.1 mg/m³ has been set as the European occupational exposure limit value for respirable crystalline silica in Directive 2017/2398. Member States can establish an appropriate national limit value which can be more stringent but cannot be set above the European occupational exposure limit value.

8.2 Exposure controls

For each individual PROC* users can choose either option A) or B) in the table below, depending on which is most appropriate in the particular situation. If an option is selected, then the same option should also be selected from the table in section 8.2.2 "Personal protection measures such as personal protective equipment" – Specification of respiratory protection equipment. The only possible combination is of A) – A) and B) – B).

8.2.1 Appropriate technical controls

Measures to reduce the formation of dust and dust in the environment are, for example, dedusting, exhaust ventilation, as well as dry cleaning methods that do not lead to air dispersion.

Use	PROC*	Exposure	Localized controls	Efficiency
Industrial production / manufacture of hydraulic connecting building materials	2, 3	Duration not limited (up to 480 min. per shift 5 days per week)	Not required	-
	14, 26		A) not required or B) local ventilation	- 78 %
	5, 8b, 9		A) general ventilation or B) local ventilation	17 % 78 %
Industrial use of wet suspension of hydraulic binding building materials	7		A) not required or B) local ventilation	- 78 %
	2, 5, 8b, 9, 10, 13, 14		Not required	-
Professional use of dry hydraulic building materials (indoor and outdoor)	2		Not required	-
	9, 26		A) not required or B) Total local ventilation	- 72 %
	5, 8a, 8b, 14		A) not required or B) Integrated Local Ventilation	- 87 %

Use	PROC*	Exposure	Localized controls	Efficiency
	19		Localized control is not applicable, the process is carried out only in a well-ventilated room or outside	-
Professional use of wet suspensions of hydraulic bonding building materials	11		A) not required or B) General local exhaust ventilation	- 72 %
	2, 5, 8a, 8b, 9, 10, 13, 14, 19		Not required	-
Industrial use of dry hydraulic interconnecting building materials (outdoor and indoor)	2		Not required	-
	14, 22, 26		A) not required or B) local ventilation	- 78 %
	5, 8b, 9		A) general ventilation or B) local ventilation	17% 78%

8.2.2 Individual protection measures – personal protective clothing/equipment

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.
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 (e.g. nitrile-soaked cotton gloves with CE marking) internally lined with cotton, boots, closed long-sleeved protective clothing as well as skin care products (e.g. 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. Regarding gloves, investigations have proven that nitrile impregnated cotton gloves (layer thickness of c. 0.15 mm) provide sufficient protection over a period of 480 minutes, subject to normal wear and tear which can be task dependent. Always change damaged or soaked gloves immediately. Always have spare gloves in ready supply.
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 the relevant EN standard (EN 149) or national standard.

Thermal hazards

Not applicable

Use	PROC*	Exposure	Specification of respiratory Personal Protective Equipment (PPE)	PPE efficiency - Assigned Protection Factor (APF)
Industrial production / manufacture of hydraulic connecting building materials	2, 3	The duration is not limited (up to 480 min. per shift 5 days per week)	Not required	-
	14, 26		A) FFP1 or B) not required	APF = 4 -
	5, 8b, 9		A) F FP2 or B) FFP1	APF = 10 APF = 4
Industrial use of dry hydraulic interconnecting building materials (outdoor and indoor)	2		not required	-
	14, 22, 26		A) FFP 1or or B) not required	APF = 4 -

Use	PROC*	Exposure	Specification of respiratory Personal Protective Equipment (PPE)	PPE efficiency - Assigned Protection Factor (APF)
	5, 8b, 9		A) F FP2 or B) FFP1	APF = 10 APF = 4
Industrial use of wet suspension of hydraulic binding building materials	7		A) F FP1 or B) not required	APF = 4 -
	2, 5, 8b, 9, 10, 13, 14		not required	-
Professional use of wet suspension hydraulic bonding building materials	11		A) FFP2 or B) FFP1	APF = 10 APF = 4
	2, 5, 8a, 8b, 9, 10, 13, 14, 19		not required	-
Professional use of dry hydraulic building materials (indoor and outdoor)	2		FFP1	APF = 4
	9, 26		A) FFP2 or B) FFP1	APF = 10 APF = 4
	5, 8a, 8b, 14		A)FFP3 or B) FF P1	APF = 20 APF = 4
	19		FFP2	APF = 10

* PROC uses have been identified and are defined in Section 16.2.

An overview of the APFs of different RPE (according to EN 529) can be found in the glossary of MEASE (16). Any RPE as defined above shall only be worn if the following principles are implemented in parallel: The duration of work (compare with "duration of exposure" above) should reflect the additional physiological stress for the worker due to the breathing resistance and mass of the RPE itself, due to the increased thermal stress by enclosing the head. In addition, it shall be considered that the worker's capability of using tools and of communicating are reduced during the wearing of RPE.

For reasons as given above, the worker should therefore be (i) healthy (especially in view of medical problems that may affect the use of RPE), (ii) have suitable facial characteristics reducing leakages between face and mask (in view of scars and facial hair). The recommended devices above which rely on a tight face seal will not provide the required protection unless they fit the contours of the face properly and securely.
The employer and self-employed persons have legal responsibilities for the maintenance and issue of respiratory protective devices and the management of their correct use in the workplace. Therefore, they should define and document a suitable policy for a respiratory protective device programme including training of the workers.

8.2.3 Environmental exposure controls

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.

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 and terrestrial environment: No special emission control measures are necessary for the exposure to the terrestrial environment.

For further information, see section 6 "Accidental release measures" .

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

This information applies to the whole mixture.

(a) Appearance: Dry cement is a finely ground solid inorganic material (gray powder).

(b) Color: Gray or white powder (dry cement)

(c) Odour: Odourless

(d) Melting Point: > 1,250°C

(e) Initial boiling point and range: Not applicable, under normal atmospheric conditions, melting point >1 250°C

(f) Flash point: Not applicable because it is in solid form, it is not a combustible material that does not cause or cause a flame when rubbing

(g) Explosive properties: Not applicable. It's not explosive.

(h) Evaporation rate: Not applicable, not liquid

(i) Flammability (solid, gas): Not applicable, solid substance which is not flammable and does not cause or contribute to fire

(j) Decomposition temperature: Not applicable as organic peroxide is not present

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

(l) Kinematic viscosity: Not applicable, not liquid

(m) Solubility in water (T = 20 °C): slight (0.1-1.5 g/l)

(n) Partition coefficient: n-octanol/water: Not applicable, inorganic substance

(o) Vapour pressure: Not applicable, melting point > 1250°C

(p) Relative density: 2.75-3.20; Bulk density: 0.9-1.5 g/cm³

(q) Relative vapour density: not applicable as the melting point is >1 250°C.

(r) Particle characteristics: Typical particle size: 5-30 µm

9.2 Other Information

Not applicable.

9.2.1 Information with regard to physical hazard classes

Not applicable.

9.2.2 Other safety characteristics

Not applicable

10. STABILITY AND REACTIVITY

10.1 Reactivity

When mixed with water, cements harden to a stable mass that is not reactive in a normal environment.

10.2 Chemical Stability

Dry cements are stable as long as they are properly stored (see Section 7) and compatible with most other building materials. They 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, manganese 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 and other base metals. Uncontrolled use of aluminium powder in wet cement should be avoided as hydrogen is produced.

10.6 Hazardous decomposition products

Cement will not decompose into other hazardous products.

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Hazard class	**Ct**	**Effect**	**Report**
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.	(2)
Acute toxicity inhaled	-	No acute toxicity by inhalation observed. Based on available data, the classification criteria are not met.	(9)
Acute toxicity oral	-	No indication of oral toxicity from studies with cement kiln dust. Based on available data, the classification criteria are not met.	Research of the scientific literature
Corrosivity/ irritation of the skin	2	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.	(2) Human experience
Serious Eye damage / eye irritation	1	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. conjunctivitis or blepharitis) to chemical burns and blindness.	(10), (11)
Skin sensitization	1B	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 reducing agent for soluble chromium Cr (VI) and if its shelf life has not expired, a sensitisation effect should not be expected [Reference (3)] and the package label need not contain a reference to H317.	(3), (4), (17) , (18)
Respiratory sensitization	-	There is no indication of sensitization of the respiratory system. Based on available data, does not meet the classification criteria.	(1)
Germ cell mutagenicity	-	No indications. Based on available data, does not meet the classification criteria.	(12), (13)
Carcinogenicity	-	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 (According to ACGIH A4: Agents that cause concern that they could be carcinogenic for humans, but which cannot be assessed conclusively because of a lack of data. In vitro or animal studies do not provide indications of carcinogenicity that are sufficient to classify the agent with one of the other notations.). Based on available data, the classification criteria are not met.	(1) (14)
Reproductive toxicity	-	Based on available data, the classification criteria are not met.	No evidence from human experience

STOT- (STOO)-Specific Target Organ Toxicity : Single Exposure	3	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.	(1)
STOT-Specific Target Organ Toxicity : Repeated exposure	-	Long-term exposure to respirable cement dust above the occupational exposure limit may lead to coughing, shortness of breath and chronic obstructive changes in the respiratory tract. No chronic effects were observed at low concentrations. Based on the available data, the classification criteria are not met.	(15)
Inhalation hazard	-	Not applicable as cements are not used as an aerosol.	

Apart from skin sensitisation, Portland cement clinker and Common cements have the same toxicological and eco-toxicological properties.

11.2 Further information

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.

Other hazards
Endocrine disrupting properties – not applicable.

12. ENVIRONMENTAL INFORMATION

12.1 Toxicity:

The product is not hazardous to the environment. Ecotoxicological tests with Portland cement on Daphnia magna [Reference (5)] and Selenastrum coli [Reference (6)] have shown little toxicological impact. Therefore, LC50 and EC50 values could not be determined [Reference (7)]. There is no indication of sediment phase toxicity [Reference (8)]. 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 Sustainability and degradability

Not applicable. After hardening, cement does not pose toxicity risks.

12.3 Bioaccumulation

Not applicable. After hardening, cement does not pose toxicity risks.

12.4 Portability in soil

Not applicable. After hardening, cement does not pose toxicity risks.

12.5 Evaluation results PBT and vPvB- (bioaccumulative and toxic substances)

Not applicable. After hardening, cement does not pose toxicity risks.

12.6 Properties affecting the endocrine system

Not applicable.

12.7 Other adverse effects:

Not applicable.

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

13.1.1 Disposal of product/packaging

Do not dispose of in sewage or surface waters.

Product - cement that has exceeded its shelf life
EWC entry: 10 13 99 (wastes not otherwise specified)
(and when demonstrated that it contains more than 0.0002% soluble Cr (VI)): shall not be used/sold other than for use in controlled closed and totally automated processes or should be recycled or disposed of according to local legislation or treated again with a reducing agent.

Product - unused residue or dry spillage
EWC entry: 10 13 06 (Other particulates and dust)
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"

Product – 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".

Product - after addition of water, hardened
Dispose of according to the local legislation. Avoid entry into the sewage water system. Dispose of the hardened product as concrete waste. Due to the inertisation, concrete waste is not a dangerous waste.
EWC entries: 10 13 14 (waste from manufacturing of cement – waste concrete or concrete sludge) or 17 01 01 (construction and demolition wastes - concrete).

Packaging
Completely empty the packaging and process it according to local legislation.
EWC entry: 15 01 01 (waste paper and cardboard packaging), 15 01 05 (composite/multilayer packaging) and 15 01 02 (plastic packaging)

14. INFORMATION ON TRANSPORT

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

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 the user

Not applicable.

14.7 Bulk transport according to Annex II of MARPOL73/78 and the IBC Code

Not applicable.

15. REGULATORY INFORMATION

15.1 Substance- or mixture specific regulations/ legislation on safety, health and the environment

EU Regulations

Cement is a mixture defined in REACH therefore not subject to registration. Cement clinker is exempt from registration, according to (art. 2.7(b) and REACH Annex V.10).

Market release and use of cement are subject to restrictions with regard to soluble chromium Cr(VI) content (REACH Annex XVII point 47 Chromium VI compounds).

Restrictions on use:

Under Annex XVII(47) of Regulation (EC) No 1907/2006 (REACH), the trade and use of cements and products containing cement is subject to restriction:

1. Cement and cement-containing mixtures shall not be released to the market or used if they contain: more than 2 mg/kg (0.0002%) soluble chromium (VI) of the total dry weight of cement after hydration.

2. If reducing agents are used, then without prejudice to the application of other EC provisions on the classification, packaging and labelling of substances and mixtures, suppliers shall ensure, before releasing to the market, that the packaging of cement or cement-containing mixtures is visible, legible and indelibly marked with information on the date of packaging, as well as on the storage conditions and storage period, suitable for maintaining the activity of the reducing agent and for keeping the soluble chromium(VI) content below the limit specified in paragraph 1.

3. By way of derogation, paragraphs 1 and 2 shall not apply to the placing on the market and use in controlled closed and fully automated processes containing cement and cement-containing mixtures treated only with machinery and where there is no possibility of contact with the skin.

4. The standard adopted by the European Committee for Standardisation (CEN) for testing the content of water-soluble chromium(VI) in cement and cement-containing mixtures shall be used as a test method to demonstrate compliance with paragraph 1.

The scope of the "Agreement on the Protection of Workers' Health through Good Handling and Use of Crystalline Silica and Products Containing It" cement manufacturers commit to apply "Best Practices" for safe handling (https://guide.nepsi.eu/).

Regulation 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals, establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation No 793/93 and Commission Regulation No 1488/94 , as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC , 93/67/EEC and 2000/21/EC – 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 830/ 2015 of 28 May 2015 amending Regulation (EU) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH).

National legislation:

Environmental Protection Act
Waste Management Act
Ordinance No. 2 on the classification of waste
Health and Safety at Work Act
Ordinance No 13/2003 on the protection of workers from risks related to exposure to chemical agents at work

15.2 Chemical safety assessment or mixture

No chemical safety assessment has been carried out for this mixture.

16. OTHER INFORMATION

16.1 Indication of changes

Changes related to Regulation (EC) No 1272/2008
Changes related to Regulation (EC) No 453/2010
Additions to new section 16.2 Specified uses and description of uses and categories
Changes related to additional points included in sections 2 and 16
Changes related to the removal of points in Section 2
Changes related to Regulation (EU) No 830/2015
Changes related to Regulation (EU) 2020/878 18 June 2020

16.2 Identified uses and use descriptors and categories

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	Usage - Description	Production / production of building materials	Professional/ Industrial use of building materials
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 manufacture of pre-cast concrete	X	X

PROC	Usage - Description	Production / production of building materials	Professional/ Industrial use of building materials
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, palletisation, 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 and acronyms

ACGIH	American Conference on Industrial Hygiene
ADR/RID	European Agreement on the Transport of Dangerous Goods by Land Transport
APF	Protective Factor
CAS	World Chemical Information Source
CLP	Classification, labelling and packaging (Regulation (EC) No 1272/2008)
COPD	Chronic obstructive pulmonary disease
DNEL	Safe Level Reached
EC50	Maximum effective concentration
ECHA	European Chemicals Agency
EINECS	European Inventory of Existing Chemical Substances
HEPA	Type of High-Performance Air Filter
ES	Impact scenario /exposure rate EWC European waste catalogue
FF P	Dust mask (one-off)
FM P	Dust mask with filter
GefStoffV	Dangerous Substances Ordinance (Germany) H&S Health and Safety
IATA	International Air Transport Association
IMDG	European Agreement concerning the International Carriage of Dangerous Goods by Sea
MEASE	Exposure assessment, http://www.ebrc.de/ebrc/ebrc-mease.php
MS	Member State
OELV	Threshold Production Impact Values PBT
	Persistent Bio-Accumulative and Toxic
PNEC	Predicted No Consequences
Concentration PROC	Process Category
RE	Multiple exposures
REACH	Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the
	Registration, Evaluation, Authorisation and Restriction of Chemical Substances
RPE	Respiratory protective equipment (RPS)
SCOEL	Scientific Committee on Occupational Exposure Limit Values SDS Safety Data Sheet (SDS)
SE	Single exposure
STP	Treatment Plant
STOT	Specific Target Organ Toxicity
TLV-TWA	Threshold values –Time averaged TRGS Technical rules for handling dangerous substances
VLE-MP	Threshold impact values-measured on average in mg/m3 of air vPvB
	Very persistent, very bio-accumulative
w/w	By weight
WWTP	Wastewater Treatment Plant

16.4 Key literature references and sources of data

(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). http://ec.europa.eu/health/archive/ph_risk/committees/sct/documents/out158_en.pdf.

(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.

(5) *U.S. EPA, Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms*, 3rd ed. EPA/600/7-91/002, Environmental Monitoring and Support Laboratory, U.S. EPA, Cincinnati, OH (1994a) and 4th ed. EPA-821-R-02-013, US EPA, office of water, Washington D.C. (2002).

(6) *U.S. EPA, Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms*, 4th ed. EPA/600/4-90/027F, Environmental Monitoring and Support Laboratory, U.S. EPA, Cincinnati, OH (1993) and 5th ed. EPA-821-R-02-012, US EPA, office of water, Washington D.C. (2002).

(7) *Environmental Impact of Construction and Repair Materials on Surface and Ground Waters. Summary of Methodology, Laboratory Results, and Model Development*. NCHRP report 448, National Academy Press, Washington, D.C., 2001.

(8) *Final report Sediment Phase Toxicity Test Results with Corophium volutator for Portland clinker* prepared for Norcem A.S. by AnalyCen Ecotox AS, 2007.

(9) TNO report V8801/02, *An acute (4-hour) inhalation toxicity study with Portland Cement Clinker CLP/GHS 03-2010-fine in rats*, August 2010.

(10) TNO report V8815/09, *Evaluation of eye irritation potential of cement clinker G in vitro using the isolated chicken eye test*, April 2010.

(11) TNO report V8815/10, *Evaluation of eye irritation potential of cement clinker W in vitro using the isolated chicken eye test*, April 2010.

(12) *Investigation of the cytotoxic and proinflammatory effects of cement dusts in rat alveolar macrophages*, Van Berlo et al, Chem. Res. Toxicol., 2009 Sept; 22(9):1548-58.

(13) *Cytotoxicity and genotoxicity of cement dusts in A549 human epithelial lung cells in vitro*; Gminski et al, Abstract DGPT conference Mainz, 2008.

(14) *Comments on a recommendation from the American Conference of governmental industrial Hygienists to change the threshold limit value for Portland cement*, Patrick A. Hessel and John F. Gamble, EpiLung Consulting, June 2008.

(15) *Exposure to Thoracic Aerosol in a Prospective Lung Function Study of Cement Production Workers; Noto, H., et al; Ann. Occup. Hyg., 2015, Vol. 59, No. 1, 4–24.*

(16) 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.

(17) *Occurrence of allergic contact dermatitis caused by chromium in cement. A review of epidemiological investigations, Kåre Lenvik, Helge Kjuus, NIOH, Oslo, December 2011.*

(18) ECHA Support Questions and answers agreed with National Helpdesks. ID1695 May 2020. https://echa.europa.eu/es/support/qas-support/qas-agreed-with-national-helpdesks

16.5 Relevant risk phrases and /or hazard statements (number and full text)

H315 Causes skin irritation
H318 Causes serious eye damage
H317 May cause allergic skin reaction
H335 May cause respiratory irritation

16.6 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 SDS.

16.7 Further information

The data and test method used for the purpose of classification of Common cements are given in Section 11.1.

16.8 Classification and procedure used for the classification of mixtures according to Regulation (EC) No 1272/2008 [CLP]

Classification according to Regulation (EC) No 1272/2008 (CLP)	Classification procedure
Skin irritation 2, H315	on basis of test data
Serious eye damage/irritation 1, H318	on basis of test data
Sensitization - skin 1B, H317	Human experience
STOT SE. 3, H335	Human experience

16.9 Disclaimer

The information on this data sheet reflects the currently available knowledge and is reliable provided that the product is used under the prescribed conditions and in accordance with the application specified on the packaging and/or in the technical guidance literature. Any other use of the product, including the use of the 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.

Annex: Additional tables with engineering controls and individual protection measures for Section 8.2

1. Inhalation DNEL at 1 mg/m³

8.2.1 Appropriate engineering controls

Use	PROC*	Exposure	Localized control	Efficiency
Industrial manufacture / formulation of hydraulic building and construction materials	2, 3	The duration is not limited (up to 480 min. per shift 5 days per week) < 240 minutes	Not required	-
	14, 26		A) not required or B) Total Local exhaust ventilation	- 78 %
	5, 8b, 9		total local suction ventilation	78 %
Industrial use of dry hydraulic building and construction materials (indoor and outdoor)	2		Not required	-
	14, 22, 26		A) not required or B) Total Local exhaust ventilation	- 78 %
	5, 8b, 9		total local suction ventilation	78 %
Industrial use of wet Suspension of hydraulic binding building and construction materials	7		A) not required or B) general local exhaust ventilation	- 78 %
	2, 5, 8b, 9, 10, 13, 14		Not required	-
Professional use of dry hydraulic building and construction materials (indoor and outdoor)	2		A) not required or B) general local exhaust ventilation	- 72 %
	9, 26		A) not required or B) general local exhaust ventilation	- 72 %
	5, 8a, 8b, 14		total local suction ventilation	72 %
	19		The localized control not applicable, the process is carried out only in a well ventilated room or out	-
Professional use of wet suspension hydraulic binders building and construction materials	11		A) not required or B) general local exhaust ventilation	- 72 %
	2, 5, 8a, 8b, 9, 10, 13, 14, 19		Not required	-

* PROC uses have been identified and are defined in Section 16.2.

8.2.2 Individual protection measures – personal protective equipment

Use	PROC*	Exposure	Specification of Personal Protective Equipment (PPE) - *protection class*	PPE for respiratory organs - protection in accordance with the class,/times/ APF
Industrial production / manufacture of hydraulic connecting building materials	2, 3	The duration is not limited (up to 480 min. per shift 5 days per week)	Not required	-
	14, 26		A) FFP2 or B) FFP1	APF = 10 APF = 4
	5, 8b, 9		A) FFP2	APF = 10
Industrial use of dry hydraulic interconnecting building materials (outdoor and indoor)	2		not required	-
	14, 22, 26		A) FFP2 or B) FFP1	APF = 10 APF = 4
	5, 8b, 9		A) FFP2	APF = 10
Industrial use of wet suspension of hydraulic binding building materials	7		A) FFP3 or or B) FFP2	APF = 20 APF = 10
	2, 5, 8b, 9, 10, 13, 14		not required	-
Professional use of dry hydraulic building materials (indoor and outdoor)	2		A) FFP2 or B) FFP1	APF = 10 APF = 4
	9, 26		A) FFP3 or or B) FFP2	APF = 20 APF = 10
	5, 8a, 8b, 14		A)FFP3	APF = 20
	19		A)FFP3	APF = 20
Professional use of wet suspension hydraulic bonding building materials	11		A) FFP3 or or B) FFP2	APF = 20 APF = 10
	2, 5, 8a, 8b, 9, 10, 13, 14, 19		not required	-

* PROC uses have been identified and are defined in Section 16.2.

2. Inhalation DNEL at 5 mg/m³

8.2.1 Appropriate technical controls

Use	PROC*	Exposure	Localized control	Efficiency
Industrial production / manufacture of hydraulic connecting building materials	2, 3	Duration not limited (up to 480 min. per shift 5 days per week)	Not required	-
	14, 26		A) not required or B) Total Local exhaust ventilation	- 78 %
	5, 8b, 9		A) general ventilation or	-

			B) general local exhaust ventilation	82 %
Industrial use of dry hydraulic building materials (indoor and outdoor)	2		Not required	-
	14, 22, 26		A) not required or B) Total Local exhaust ventilation	- 78 %
	5, 8b, 9		A) not required or B) general local exhaust ventilation	- 82 %
Industrial use of wet suspension of hydraulic bonding building materials	7			- 78 %
	2, 5, 8b, 9, 10, 13, 14		Not required	-
Professional use of dry hydraulic building materials (indoor and outdoor)	2		A) not required or B) general local exhaust ventilation	- 29 %
	9, 26		A) not required or B) general local ventilation	- 77 %
	5, 8a, 8b, 14		A) not required or B) integrated local ventilation	- 72 %
	19		The localized control not applicable, the process is carried out only in a well ventilated room or out	-
Professional use of wet suspension hydraulic binders building materials	11		A) not required or B) general local exhaust ventilation	- 77 %
	2, 5, 8a, 8b, 9, 10, 13, 14, 19		Not required	-

* PROC uses have been identified and are defined in Section 16.2.

8.2.2 Individual protection measures – personal protective clothing/equipment

Use	PROC*	Exposure	Specification of Personal Protective Equipment (PPE) - *protection class*	PPE for respiratory organs - protection in accordance with the class,/times/ APF
Industrial production / manufacture of hydraulic connecting building materials	2, 3	The duration is not limited (up to 480 min. per shift 5 days per week)	Not required	-
	14, 26		A) FFP1 or B) not required	APF = 4 -
	5, 8b, 9		A) FFP2 or B) not required	APF = 10 -
Industrial use of dry hydraulic interconnecting building materials (outdoor and indoor)	2		not required	-
	14, 22, 26		A) FFP1or or B) not required	APF = 4 -
	5, 8b, 9		A) FFP2 or B) not required	APF = 10 -
Industrial use of wet suspension of hydraulic binding building materials	7		A) FFP2 or B) not required	APF = 10 -
	2, 5, 8b, 9, 10, 13, 14		not required	-
Professional use of dry hydraulic building materials (indoor and outdoor)	2		A) FFP1 or B) not required	APF = 4 -
	9, 26		A) FFP2 or B) not required	APF = 10 -
	5, 8a, 8b, 14		A)FFP3 or B)FFP1	APF = 20 APF = 4
	19		FFP2	APF = 10
Professional use of wet suspension hydraulic bonding building materials	11		A) FFP2 or B) not required	APF = 10 -
	2, 5, 8a, 8b, 9, 10, 13, 14, 19		not required	-

* PROC uses have been identified and are defined in Section 16.2.

Revision register

2.7/29.11.2022 - Combined MSDS issued for all Devnya and Vulkan Cement products.
2.8/30.08.2023 - New product introduced and emergency information updated.
3.0/30.10.2023 - Change of the name of “Devnya Cement” AD and “Vulkan Cement” AD to “Heidelberg Materials Devnya” AD and “Heidelberg Materials Vulkan” AD. UFI codes added for all products, supplier details update.
3.1/30.10.2024 **-** Updating the product range