

SAFETY DATA SHEET according to Regulation (EC) No 1907/2006

LDS Supermix SE Rapid Cement

Revised on 06/02/2023

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

1.1. Product identifier

LDS Supermix SE

Ternary binder

Cement according to DIN EN 197 and DIN 1164

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

Cements are used directly in the end application or they are used in industrial plants for the production/formulation of hydraulic binders, such as ready-mixed concrete, ready-mixed dry mortar, plasters, etc. In the end application, cements and the hydraulic binders produced with them are used for the production of building materials and components by industrial and professional users (specialists in the construction industry) as well as by private end users. For this purpose, cements and cementitious hydraulic binders are mixed with water, homogenised and processed into the desired building material and component. The associated activities include the handling of dry (powder) and water-mixed (suspension) materials.

A list of uses for the professional user including process categories and descriptors according to ECHA Guidance R.12 (ECHA- 2010-G-05) is given in section 16.

1.3. Details of the supplier of the safety data sheet

LDS Construct

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1.4.



2. Possible dangers

2.1. Classification of the substance or mixture

2.1.1. Classification according to Regulation (EC) No 1272/2008 [CLP]

Skin Irrit. 2,	H315 Causes skin irritation.
Sens skin 1B	H317 May cause an allergic skin reaction
Eye damage 1,	H318 Causes serious eye damage.
STOT einm. 3,	H335 May cause respiratory irritation.

2.1.2 Other information

Full text of the hazard statements in SECTION 16.

If the building material comes into contact with water or becomes damp, a strongly alkaline solution is formed. Due to the high alkalinity, moist cements/binding agents can cause skin and eye irritation.

Labelling elements

2.2. Labelling according to Regulation (EC) No 1272/2008

The product is classified and labelled in accordance with the CLP Regulation.

Hazard pictograms:



Signal word: Danger

Hazard statements:

H315 Causes skin irritation.

H318 Causes serious eye damage

H335 May cause respiratory irritation

Safety instructions:

P280 Wear protective gloves/protective clothing/eye protection.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove any contact lenses if possible. Continue rinsing.

P310 Immediately call a POISON CENTER or doctor.

P302+P352 IF ON SKIN: Wash with plenty of soap and water.

P333+P313 If skin irritation or rash occurs: Get medical advice/attention.

P261+P304+P340+P312 Avoid breathing dust. IF INHALED: Remove affected person to fresh air and keep at rest in a position comfortable for breathing. If you feel unwell, call a POISON CENTER or doctor.

If the product is available to everyone, in addition:

P102 Keep out of the reach of children.

P501 Dispose of contents/container to suitable waste collection points

Supplementary information:

Low in chromate for at least 2 months from date of manufacture if stored properly in a dry place.

Other dangers

- 2.3.** The building material does not fulfil the criteria for PBT or vPvB according to Annex XIII of REACH Regulation (EC) No. 1907/2006.

The product contains chromate reducers, which means that the content of water-soluble chromium(VI) is less than 0.0002 %. However, if stored improperly (ingress of moisture) or overstored, the chromate reducer contained may lose its effectiveness prematurely and the cement/binding agent may have a sensitising effect on skin contact (H317 or EUH203).

When used as intended, the binder is not considered hazardous to the environment. Binder is slightly hazardous to water.

3. Composition/information on ingredients

3.1. Fabrics

Not applicable as these products are mixtures.

3.2. Mixtures

Hydraulic binder according to EN 197-1

Hazardous components

Name	Portland cement clinker		Flue Dust	
EC-Nummer	266-043-4		270-659-9	
CAS-Nummer	65997-15-1		68475-76-3	
Concentration in [M.- %]	20-95		<3	
Registration number (REACH)	Excluded*		01-2119486767-17-0001	
Classification according to Regulation (EC) No 1272/2008 [CLP]	Danger, Cat. 1		Danger, Cat. 1	
	Skin Irrit. 2,; Sens. Skin 1B Eye Dam. 1, STOT SE 3,	H315 H317 H318 H335	Skin Irrit. 2,; Sens. Skin 1B Eye Dam. 1, STOT SE 3,	H315 H317 H318 H335
	 		 	

* The Portland cement clinker contained in Portland cement is exempted from the authorisation according to Article 2.7 (b) and Annex V.10 of Regulation (EC) No 1907/2006 (REACH). Exempt from compulsory registration.

4. First aid measures



4.1. Description of first aid measures

General information No special personal protective equipment is required for first aiders. However, first aiders should avoid contact with wet cement.

Eye contact

Do not rub the eye dry, as additional corneal damage is possible due to the mechanical stress. If necessary, remove the contact lens and rinse the eye immediately under running water for at least 20 minutes with the eyelid open to remove all particles. If possible, use isotonic eye rinsing solution (0.9 % NaCl). Always consult an occupational physician or ophthalmologist.

Skin contact

Remove dry cement and rinse with plenty of water. Rinse off wet cement with plenty of water. Remove soaked clothing, shoes, watches, etc. Clean thoroughly before reuse. Consult a doctor in case of skin complaints.

Inhalation

Provide fresh air. Dust from throat and nose should be removed quickly. If symptoms such as discomfort, coughing or persistent irritation occur, consult a doctor.

Ingestion

Do not induce vomiting. If conscious, rinse mouth and drink plenty of water. Consult a doctor or poison control centre.

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

Eyes: Eye contact with cement (dry or wet) may cause serious and possibly permanent eye damage.

Skin: Cement may have an irritant effect on moist skin (due to perspiration or humidity) through prolonged contact. Contact between cement and moist skin may cause skin irritation, dermatitis or serious skin damage.

Respiratory: Repeated inhalation of large amounts of cement dust over a long period of time increases the risk of lung disease.

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

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

If a doctor is consulted, please present this safety data sheet.

5. Firefighting measures

5.1. Extinguishing agent

Cement is not flammable.

5.2. Special hazards arising from the mixture

Cement is neither explosive nor flammable and is not oxidising with other materials.

5.3. Advice for firefighters

No special measures required as cement does not present a fire hazard.

6. Measures in the event of accidental release

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. Staff not trained for emergencies

Wear protective clothing as described in section 8. Follow the instructions for safe handling as described in section 7.

6.1.2. Emergency services

Emergency plans are not required. However, respiratory protection is required in case of high dust exposure.

6.2. Environmental protection measures

Do not allow cement to enter the sewage system, surface water or groundwater.

6.3. Methods and material for containment and cleaning

Pick up spilt cement and use if possible.

Dry cement: For cleaning, use dry methods such as vacuum suction (portable devices with highly efficient filter systems (EPA and HEPA filters, EN 1822- 1:2009) or equivalent techniques) that do not generate dust. Never use compressed air for

cleaning equipment.

If dust is generated during dry cleaning, personal protective equipment must be used. Avoid inhalation of cement dust and skin contact. Pour spilt material back into the container. Subsequent use is possible.

Wet cement: Store wet cement in a container and dispose of after hardening as described in section 13.

6.4. Reference to other sections

Refer to sections 8 and 13 for further details.

7. Handling and storage

7.1. Protective measures for safe handling

7.1.1. Recommendations for protective measures

Please follow the recommendations in section 8. To remove dry cement, please refer to section 6.3.

Measures to prevent fires:

Not applicable.

Measures to prevent aerosol and dust formation

Do not sweep. For cleaning, use dry methods such as vacuum suction that do not generate dust.

Measures to protect the environment

No special measures required.

7.1.2. Information on general hygiene measures

Do not eat, drink or smoke while working. Wear a respirator and safety goggles in dusty atmospheres. Wear protective gloves to avoid skin contact.

7.2. Conditions for safe storage, taking into account incompatibilities

Cement should be stored under dry conditions (internal condensation minimised), protected from water, acid and contamination.

Do not enter cement storage areas such as silos, boilers, silo trucks or other containers without taking appropriate safety measures, as there is a risk of spillage and suffocation. In such enclosed spaces, cement can form walls and bridges, but these can collapse unexpectedly. Do not use aluminium containers due to material incompatibility.

In the case of cements containing chromate reducers (see section 15), it should be noted that improper storage (ingress of moisture) or overstorage may cause the chromate reducer to lose its effectiveness prematurely and a sensitising effect of the cement on skin contact cannot be ruled out (see section 2.3).

Storage class: VCI storage class 13 (non-combustible solids).

7.3. Specific end uses

This product is assigned to GISCODE ZP 1 (Cementitious products, low chromate) (see section 15). Further information on safe handling, protective measures and behavioural rules can be found in GISCODE ZP 1. It is available as part of the hazardous substance information system of the German Social Accident Insurance Institution for the construction industry at www.gisbau.de.

8. Exposure controls/personal protective equipment

8.1. Parameters to be monitored

Austria

Limit value		Exposure path	Exposure frequency	Remarks
Portland cement (dust)	5 (E) mg/m ³	inhalative	Occupational exposure limit	
General dust limit value	5 (A) mg/m ³		(shift average), TMW	GKV 2011 BGI II Nr. 429/2011
	10 (E) mg/m ³		TMW	
	10 (A) mg/m ³		Short-term (1h)	
	20 (E) mg/m ³		Short-term (1h)	
Water-soluble chromium VI	2ppm	dermal	Short-term (acute), long-term (repeated)	Regulation (EC) No 1907/2006

A = Alveolengängige Staubfraktion / E = Einatembare Staubfraktion

Limit value		Exposure path	Exposure frequency	Remarks
General dust limit value	1,25 (A) mg/m ³ 10 (E) mg/m ³	inhalative	Occupational exposure limit	TRGS 900 (Reference 2)
Water soluble Chromium VI	2ppm	dermal	Short-term (acute), long-term (repeated)	Regulation (EC) No 1907/2006

A = Alveolengängige Staubfraktion / E = Einatembare Staubfraktion

8.2. Limiting and monitoring exposure

Occupational exposure limits can often only be complied with using technical and/or individual protective measures. If no suitable workplace measurements are available for exposure, an exposure estimate and suitable protective measures can be derived on the basis of the MEASE tool (Reference 3). Technical control equipment (table in 8.2.1) and individual protective measures (table in 8.2.2) are derived for the identified uses in the professional sector (Section 16).

The tables should be read in such a way that A can only be combined with A and B only with B. It should also be noted that the information applies to continuous exposure of 8 hours per day and 5 days per week.

For private consumers, the products should only be used outdoors or in well-ventilated rooms and personal protective equipment should be worn (general information in 8.2.2).

8.2.1. Suitable technical control equipment

Measures to prevent the formation and spread of dust, such as suitable ventilation systems and cleaning methods that do not stir up dust

Utilisation	PROC*	Exposure	Technical equipment	Efficiency
Industrial production/ formulation of hydraulic binders and building materials	2	Duration is not limited up to 480 minutes per shift 5 shifts per week	not applicable	-
	14, 26		A) not applicable or B) local ventilation system	- 78%
	5, 8b, 9		A) General ventilation or B) local ventilation system	17% 78%
Industrial use of dry hydraulic binders and building materials (interior, exterior)	2		not applicable	-
	14, 22, 26		A) not applicable or B) local ventilation system	- 78%
	5, 8b, 9		A) not applicable or B) local ventilation system	17% 78%
Industrial use of moist suspensions of hydraulic binders and building materials (interior, exterior)	2, 5, 8b, 9, 10, 13, 14		not applicable	-
	7		A) not applicable or B) local ventilation system	- 78%
Commercial use of dry hydraulic binders and building materials (interior, exterior)	2		not applicable	-
	9, 26		A) not applicable or B) local ventilation system	- 72%
	5, 8a, 8b, 14		A) not applicable or B) local ventilation system	- 87%
	19		Ventilation system is not required, but only works in well-ventilated rooms or outside.	-
Commercial use of moist suspensions of hydraulic binders and building materials (interior, exterior)	11		A) not applicable or B) local ventilation system	- 72%
	2, 5 8a, 8b, 9, 10, 13, 14, 19		not applicable	-

* PROC definitions in section 16

8.2.2 Individual protective measures, for example personal protective equipment

General:

Do not eat, drink or smoke while working. Wash hands before breaks and at the end of work and shower if necessary to remove adhering cement. Avoid contact with eyes and skin. After working with cement, workers should wash or shower and use skin care products. Clean contaminated clothing, shoes, watches, etc. before reuse.

Face/eye protection:



Use tight-fitting safety goggles in accordance with EN 166 in case of dust formation or risk of splashing.

Skin protection:



Wear waterproof, abrasion and alkali-resistant protective gloves. Suitable gloves include, for example, nitrile-soaked cotton gloves with the CE mark. Observe the maximum wearing time. Leather gloves are not suitable due to their water permeability and can release chromate-containing compounds.



Wear closed long-sleeved protective clothing and sturdy shoes. If contact with damp cement cannot be avoided, the protective clothing should also be waterproof. Ensure that no wet cement runs into shoes or boots from above. Follow the skin protection plan. Use skin care products, especially after work.

Respiratory protection:



If the exposure limit values are exceeded (e.g. during open handling of powdery product), a suitable respirator must be used (e.g. in accordance with EN 149). As a rule, particle-filtering half masks of type FFP1 or FFP2 should be used.

Mixing and decanting dry cement in open systems, e.g. manual mixing of cement paste or cement mortar, feeding bagged goods into mixing machines:

If it is not possible to comply with the occupational exposure limit values by means of dust control measures, e.g. local extraction systems, particle-filtering half masks of type FFP (in accordance with EN 149) must be used (see table).

Employees must be instructed in the correct use of personal protective equipment in order to ensure the required effectiveness.

No respiratory protection is required when processing ready-to-use cement paste, cement mortar and concrete by hand or by machine.

Industrial production/ formulation of hydraulic binders and building materials	2	Duration is not limited up to 480 minutes per shift 5 shifts per week	not applicable	-
	14, 26		A) FFP1 or B) not applicable	APF=4 -
	5, 8b, 9		A) FFP2 or B) FFP1	APF=10 APF=4
Industrial use of dry hydraulic binders and building materials (interior, exterior)	2		not applicable	-
	14, 22, 26		A) FFP1 or B) not applicable	APF=4 -
	5, 8b, 9		A) FFP2 or B) FFP1	APF=10 APF=4
Industrial use of moist suspensions of hydraulic binders and building materials (interior, exterior)	2, 5, 8b, 9, 10, 13, 14		not applicable	-
	7		A) FFP1 or B) not applicable	APF=4 -

Commercial use of dry hydraulic binders and building materials (interior, exterior)	2	Duration is not limited up to 480 minutes per shift 5 shifts per week	FFP1	APF=4
	9, 26		A) FFP2 or B) FFP1	APF=10 APF=4
	5, 8a, 8b, 14		A) FFP3 or B) FFP1	APF=20 APF=4
	19		FFP2	APF=10
Commercial use of moist suspensions of hydraulic binders and building materials (interior, exterior)	11		A) FFP1 or B) not applicable	APF=4 -
	2, 5 8a, 8b, 9, 10, 13, 14, 19		not applicable	-

* PROC definitions in section 16

8.2.3. Limiting and monitoring environmental exposure

Air:

Compliance with dust emission limits according to AVV (Federal Law Gazette II No. 135/2013) and Cement Emission Ordinance Federal Law Gazette II No. 60/2007.

Water:

Do not allow cement to enter groundwater or sewage system. Exposure may cause an increase in pH value. Ecotoxicological effects may occur at pH values above 9. Water discharged into the sewage system or surface water must therefore not lead to a corresponding pH value. The AAEV (Federal Law Gazette No. 186/1996) and the AEV Industrial Minerals (Federal Law Gazette II No. 347/1997) must be observed.

Soil:

No special control measures required.

9. Physical and chemical properties

9.1. Information on the basic physical and chemical properties

Appearance:	Cement is a finely ground inorganic solid (grey or white powder)
Odour:	odourless
Odour threshold:	none, as odourless
pH	11-13.5 (T=20 °C in water, water/solids ratio 1:2)
Melting point:	> 1250 °C
Boiling point or boiling range:	Not applicable, as the melting point is above 1250 °C under normal conditions
Flash point:	Not applicable, as no liquid
Evaporation rate:	Not applicable, as no liquid
Flammability (solid, gaseous):	Not applicable, as material is solid and non-combustible
Upper/lower flammability or explosive limits:	Not applicable, as not gaseous
Vapour pressure:	not applicable, as melting point > 1250 °C
Vapour density:	not applicable, as melting point > 1250 °C
Relative density:	2.75-3.20 g/cm ³ ; bulk density: 0.9-1.5 g/cm ³
Solubility in water (T=20 °C):	low (0.1-1.5 g/l)
Partition coefficient: n-octanol/ water:	not applicable, as inorganic
Auto-ignition temperature:	Not applicable (non-pyrophoric - no organo-metallic, organo-semi-metallic or organo-phosphane bonds or derivatives and no other pyrophoric components)
Decomposition temperature:	not applicable, as no inorganic peroxides are contained
Viscosity:	Not applicable, as no liquid
Explosive properties:	Non-explosive and non-pyrotechnic. No gas evolution or self-sustaining exothermic chemical reactions.
Oxidising properties:	Not applicable, as cement does not have oxidising properties.

9.2. Other information

Not applicable.

10. Stability and reactivity

10.1. Reactivity

Cement is a hydraulic substance. In contact with water, a deliberate reaction takes place. Cement hardens and forms a solid mass that does not react with its surroundings.

10.2. Chemical stability

Cement is stable as long as it is stored properly and dry (section 7). Avoid contact with incompatible materials. Damp cement is alkaline and incompatible with acids, ammonium salts, aluminium and other base metals. Hydrogen can be formed. Cement is soluble in hydrofluoric acid, forming corrosive silicon tetrafluoride gas. Avoid contact with these incompatible materials. With water, cement forms calcium silicate hydrates, calcium aluminate hydrates and calcium hydroxide. The calcium silicates in cement can react with strong oxidising agents such as fluorides.

10.3. Possibility of hazardous reactions

Not applicable.

10.4. Conditions to avoid

Moisture during storage can lead to lump formation and loss of product quality.

10.5. Incompatible materials

Acids, ammonium salts, aluminium or other base metals.

10.6. Hazardous decomposition products

Cement does not decompose into hazardous components.

11. Toxicological information

11.1. Information on toxicological effects

Hazard class	Cat.	Effect	Reference
Acute toxicity Dermal	-	Limit test, rabbit, 24 hours exposure, 2000 mg/kg body weight - no lethality. Based on the available data, the classification criteria are not met	(2)
Acute toxicity inhalation	-	Limit test, rat, at 5 g/m ³ , no acute toxicity. Study was conducted with Portland cement clinker, the main component of cement. Based on the available data, the classification criteria are not met	(9)
Acute toxicity Oral	-	No acute oral toxicity was observed in animal studies with cement kiln dust and cement dust. Based on the available data, the classification criteria are not met.	Literature research
Corrosive/irritant effect on the skin	2	Cement has an irritating effect on the skin and mucous membranes. Dry cement in contact with moist skin or skin in contact with moist or wet cement can lead to various irritating and inflammatory reactions of the skin, e.g. reddening and cracking. Prolonged contact in connection with mechanical abrasion can lead to serious skin damage.	(2) and human experience
Severe eye damage / irritation	1	In the in vitro test, Portland cement clinker (main component of cement) showed varying degrees of impact on the cornea. The calculated 'irritation index' is 128. Direct contact with cement can lead to corneal damage, firstly due to the mechanical effect and secondly due to immediate or subsequent irritation or inflammation. or later irritation or inflammation. Direct contact with large quantities of dry cement or splashes of moist cement can have effects ranging from moderate eye irritation (e.g. conjunctivitis or inflammation of the eyelid margin) to serious eye damage and blindness.	(10), (11) and human experience
Sensitisation of the skin	1B	In some people, skin eczema can develop after contact with moist cement. These are triggered either by the pH value (irritant contact dermatitis) or by immunological reactions with water-soluble chromium(VI) (allergic contact dermatitis).	(3), (4), (17)
Sensitisation of the respiratory tract	-	There is no evidence of respiratory sensitisation. Based on the available data, the classification criteria are not met.	(1)
Germ cell mutagenicity	-	No evidence of germ cell mutagenicity. Based on the available data, the classification criteria are not met.	(12), (13)

Carcinogenicity	-	A causal relationship between exposure to cement and cancer has not been established. Epidemiological studies did not allow any conclusions to be drawn about a link between exposure to cement and cancer. Portland cement is not classified as a human carcinogen according to ACGIH A4: 'Substances that cannot be conclusively assessed regarding human carcinogenicity due to inadequate data. In vitro tests or animal studies do not provide sufficient evidence of carcinogenicity to assign this substance to another classification.' Portland cement contains over 90 % Portland cement clinker Based on the available data, the classification criteria are not met.	(1) (14)
Reproductive toxicity	-	Based on the available data, the classification criteria are not met.	No evidence based on human experience
Specific target organ toxicity from single exposure	3	Exposure to cement dust can lead to irritation of the respiratory organs (throat, throat, lungs). Coughing, sneezing and shortness of breath may result if exposure is above the occupational exposure limit.	(1)
Specific target organ toxicity with repeated exposure	-	Long-term exposure to respirable cement dust above the occupational exposure limit can lead to coughing, shortness of breath and chronic obstructive changes of the respiratory tract. No chronic effects have been observed at low concentrations. Based on the available data, the classification criteria are not met.	(15)
Aspiration hazard	-	Not applicable, as cement is not present as an aerosol.	

Cements (normal cements) and Portland cement clinker have the same toxicological and ecotoxicological properties.

Health effects of exposure Cement can aggravate existing skin, eye and respiratory diseases, for example emphysema or asthma.

12. Environmental information

12.1. Toxicity

Cement is not considered hazardous to the environment. Ecotoxicological studies with Portland cement on *Daphnia magna* (U.S. EPA, 1994a) [reference (5)] and *Selenastrum coli* (U.S. EPA, 1993) [reference (6)] have shown only a low toxic effect. Therefore, the LC50 and EC50 values could not be determined [Reference (7)]. No toxic effects on sediments could be determined either [reference (8)]. However, the release of large quantities of cement into water can lead to an increase in pH and thus be toxic to aquatic life under certain circumstances.

Persistence and degradability

12.2. Not applicable, as cement is an inorganic mineral material. Cement residues remaining after hydration do not pose a toxicological risk.

Bioaccumulative potential

12.3. Not applicable, as cement is an inorganic mineral material. Cement residues remaining after hydration do not pose a toxicological risk.

Mobility in soil

12.4. Not applicable, as cement is an inorganic mineral material. Cement residues remaining after hydration do not pose a toxicological risk.

Results of PBT and vPvB assessment

12.5. Not applicable, as cement is an inorganic mineral material. Cement residues remaining after hydration do not pose a toxicological risk.

Other adverse effects

12.6. Not applicable.

13. Notes on disposal

13.1. Waste treatment process

Product with an expired effective date of the reducing agent (and if its content of water-soluble chromium(VI) is greater than 0.0002%):

The product may no longer be used or placed on the market unless it is used in controlled, closed and fully automated processes or it is treated again with chromate reducer.

Unused residual quantity of dry product

Pick up dry. Label container. If possible, continue to use while avoiding exposure to dust (observe expiry date). In case of disposal, harden with water and dispose of as described under 'Products hardened after addition of water'.

Moist products and product sludges

Allow moist products and product sludges to harden and do not allow them to enter the sewage system or bodies of water. Dispose of as described under 'Products hardened after addition of water'.

Cured products after addition of water

Dispose of in accordance with local regulations. Do not allow to enter the sewage system. Dispose of the hardened product as concrete waste and concrete slurry.

Packaging

Empty the packaging completely and dispose of it for recycling. Otherwise, dispose of the completely emptied packaging in accordance with the waste code.

14. Transport information

Cement is not subject to the international dangerous goods regulations (IMDG, IATA, ADR/RID). Therefore, no dangerous goods classification is required.

14.1. UN number

Not applicable.

14.2. UN proper shipping name

Not applicable.

14.3. Transport hazard classes

Not applicable.

14.4. Packaging group

Not applicable.

14.5. Environmental hazards

Not applicable.

14.6. Special precautions for the user

Not applicable.

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

Not applicable.

15. Legislation

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

EU regulations Restrictions on use:

According to Annex XVII paragraph 47 of EC Regulation 1907/2006 (REACH) there is a ban on the use and placing on the market of cements and preparations containing cements,

1. Cement and cement-containing preparations shall not be used or placed on the market if their soluble chromium (VI) content after hydration exceeds 0,0002 % of the dry mass of the cement.

2. Without prejudice to the validity of other Community legislation on the classification, packaging and labelling of dangerous substances and preparations, where reducing agents are used, the packaging of cement or cement-containing preparations shall indicate clearly and indelibly when the product was packaged and under what conditions and for how long it can be stored without the reducing agent becoming ineffective and without the soluble chromium (VI) content exceeding the limit referred to in point 1.

3. By way of derogation, points 1 and 2 shall not apply to placing on the market with regard to controlled closed and fully automated processes and to use in such processes where cement and cementitious preparations come into contact exclusively with machinery and where there is no risk of skin contact.

4. the standard adopted by the European Committee for Standardisation (CEN) for testing the water-soluble chromium (VI) content of cements and cementitious mixtures shall be used as the method for demonstrating compliance with paragraph 1.

As part of the 'European Agreement on Workers' Health Protection through the Good Handling and Use of Crystalline Silica and Products Containing it (NePSi)', cement manufacturers have undertaken to introduce so-called "good practices" for safe handling (<http://www.nepsi.eu/good-practice-guide.aspx>).

National regulations (Austria)

Chemicals Prohibition Ordinance (Chem-VerbotsVO 2003), Federal Law Gazette II No. 477/2003, Federal Law Gazette II No. 158/2005, Federal Law Gazette II No. 114/2007, Federal Law Gazette II No. 276/2007 and Federal Law Gazette II No. 361/2008

National regulations (Germany)

Ordinance on Protection against Hazardous Substances (Hazardous Substances Ordinance - GefStoffV)
Water hazard class: WGK 1 (slightly hazardous to water), self-classification according to AwSV of 18/04/2017

GISCODE: ZP 1 (cementitious products, low chromate)

Storage class according to TRGS 510: Storage class 13 (non-combustible solids)

Ordinance on the European Waste Catalogue (Waste Catalogue Ordinance)

Technical Rule for Hazardous Substances 900 Occupational exposure limits (TRGS 900)

Technical Rule for Hazardous Substances 402 Determination and assessment of hazards during activities involving hazardous substances: Inhalative exposure (TRGS 402)

15.2. Chemical safety assessment

The mixture has not undergone a chemical safety assessment.

16. Other information

16.1. Notes on changes

Updating legal regulations Conversion to GHS labelling

16.2. Abbreviations and acronyms

ACGIH	American Conference of Industrial Hygienists
ADR/RID	European Agreements on the transport of Dangerous goods by Road/Railway
APF	Assigned protection factor (Protection factor of respiratory masks)
CAS	Chemical Abstracts Service
CLP	Classification, labelling and packaging (Regulation (EC) No 1272/2008)
EC50	Half maximal effective concentration (Medium effective concentration)
ECHA	European Chemicals Agency (European Chemicals Agency)
EINECS	European Inventory of Existing Commercial chemical Substances
EPA	Type of high efficiency air filter (Highly efficient air filter type)
HEPA	Type of high efficiency air filter (Highly efficient air filter type)
IATA	International Air Transport Association
IMDG	International agreement on the Maritime transport of Dangerous Goods
IUPAC	International Union of Pure and Applied Chemistry
LC50	Median lethal dose (Mean lethal dose)
MEASE	Metals estimation and assessment of substance exposure
PBT	Persistent, bio-accumulative and toxic (persistent, bioaccumulative, toxic)
PROC	Process category (Process category/utilisation category)
REACH	Registration, Evaluation and Authorisation of Chemicals (Regulation (EC) 1907/2006)
SDB	Safety data sheet
STOT	Specific target organ toxicity (Specific target organ toxicity)
UVCB	Substances of Unknown or Variable composition, Complex reaction products or Biological materials
VCi	German Chemical Industry Association
vPvB	Very persistent, very bioaccumulative (very persistent, very bioaccumulative)

16.3. Procedure categories and descriptors

For the professional user, process categories and descriptors can be assigned according to ECHA Guidance Document R. 12 (ECHA-2010-G-05) (see table)

PROC	Identified uses	Production Formulation of	Commercial industrial use of
2	Use in a closed, continuous process with occasional controlled exposure (e.g. sampling)	Hydraulic binders and building materials	
3	Use in closed batch process (formulation)	X	X
5	Mixing or blending in batch processes for the formulation of mixtures and products (multiple and/or significant contact)	X	X
7	Industrial spraying	X	X
8a	Transfer (charging/discharging) from/to vessels/large container(s) in a system that is not specifically designed for one product only		X

8b	Transfer (loading/emptying) from/to container(s)/large container(s) in system specially designed for one product only		X
9	Transfer into small containers (special filling system, including weighing	X	X
10	Application by rolling or brushing	X	X
11	Non-industrial spraying		X
13	Treatment of products by dipping and moulding		X
14	Production of mixtures or products by tableting, pressing, extruding, peletising		X
19	Hand mixing with close contact and only personal protective equipment	X	X
22	Potentially closed processing with minerals/metals at elevated temperature Industrial area		X
26	Handling of inorganic solids at ambient temperature	X	X

16.4. Bibliographic information and data sources

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- (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).
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- (8) Final report Sediment Phase Toxicity Test Results with Corophium volutator for Portland clinker prepared for Norcem A.S. by AnalyCen Ecotox AS, 2007.
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- (10) TNO report V8815/09, Evaluation of eye irritation potential of cement clinker G in vitro using the isolated chicken eye test, April 2010.
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- (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) Prospective monitoring of exposure and lung function among cement workers, Interim report of the study after the data collection of Phase I-II 2006-2010, Hilde Notø, Helge Kjuus, Marit Skogstad and Karl-Christian Nordby, National Institute of Occupational Health, Oslo, Norway, March 2010.
- (16) MEASE, Metals estimation and assessment of substance exposure, EBRC Consulting GmbH für 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, Kare Lenvik, Helge Kjuus, NIOH, Oslo, December 2011.
- (17) Technische Regel für Gefahrstoffe „Arbeitsplatzgrenzwerte“, 2014, GMBI Nr. 74, S. 1545 (3)

16.5. Methods for the assessment of classification information in accordance with Article 9 of Regulation (EC) 1272/2008 [CLP]

Assessment according to Regulation (EC) No 1272/2008	classification procedure.
Skin. 2, H315	based on test data
Eye damage. 1, H318	based on test data
Sens. skin 1B, H317	Human experience
STOT einm. 3, H335	Human experience

16.6. Training advice

In addition to training programs for employees on health, safety and the environment, companies must ensure that employees can read, understand and implement the safety data sheet requirements.

DISCLAIMER

This safety data sheet was created taking into account Article 31 and Annex II of Regulation (EC) No. 1907/2006 (REACH) and any relevant amendments thereto. All information and advice contained in this leaflet is based on the current state of science and technology at the time of the date stated in the leaflet. The information contained in the leaflet is reliable and applies provided that the respective product is used properly as intended and in accordance with the packaging information and/or instructions in the technical literature. Any other use of the product, including use in conjunction with other products or processes, is the sole responsibility of the user or recipient of this leaflet. The recipient of this leaflet is responsible for ensuring that the information and advice contained therein have been fully read and understood by those persons who use, process, recycle or otherwise come into contact with the product. Should the recipient of this leaflet create formulations containing the product after receiving it, he is responsible for ensuring that all relevant information and instructions from the current safety data sheet are transferred to his own product data sheets in accordance with Regulation (EC) No. 1907/2006.