Safety Data Sheet

according to Regulation (EC) No 1907/2006

Portland cement in accordance with ASTM C150 Type 1

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

1.1. Product identifier

Portland cement in accordance with ASTM C150 Type 1

UFI: 1910-S040-R000-RR0M

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

Use of the substance/mixture

Test dust

1.3. Details of the supplier of the safety data sheet

Company name:	KSL staubtechnik gmbh	
Street:	Westendstraße 11	
Place:	D-89415 Lauingen	
Telephone:	+49 (0) 9072 95 00-0	Telefax: +49 (0) 9072 95 00-50
E-mail:	info@ksl-staubtechnik.de	
Contact person:	Dr. R. Stadler	Telephone: +49 (0) 9072 95 00-0
E-mail (Contact person):	info@ksl-staubtechnik.de	
Internet:	www.ksl-staubtechnik.de	

1.4. Emergency telephone number:

+49 (0) 9072 / 95 00-0 (Availability: Mon-Thu 08:00-16:00, Fri 08:00-12:00)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008

Skin Irrit. 2; H315
Eye Dam. 1; H318
STOT SE 3; H335

Full text of hazard statements: see SECTION 16.

Cement dust can irritate the respiratory tract. When cement comes into contact with water or becomes damp, a strongly alkaline solution is formed. Due to its high alkalinity, damp cement can cause skin and eye irritation.

2.2. Label elements

Regulation (EC) No 1272/2008

Hazard components for labelling

Portland cement clinker

Signal word: Danger

Pictograms:

Hazard statements

H315	Causes skin irritation.
H318	Causes serious eye damage.
H335	May cause respiratory irritation.
EUH203	Contains chromium (VI). May produce an allergic reaction.

Precautionary statements

P280	Wear protective gloves/protective clothing and eye protection/face protection.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Precautionary statements

P310	Immediately call a doctor.
P302+P352	IF ON SKIN: Wash with plenty of Water and soap.
P333+P313	If skin irritation or rash occurs: Get medical advice/attention.
P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P312	Call a doctor if you feel unwell.

Special labelling

When cement comes into contact with water or becomes damp, it forms a highly alkaline solution. This can cause skin and eye irritation, as well as dermatitis or severe rashes.

2.3. Other hazards

Does not meet the criteria for PBT or vPvB as set out in Annex XIII to the REACH Regulation (EC) No 1907/2006. The product contains chromate reducers, which ensure that the content of water-soluble chromium(VI) is less than 0.0002 per cent (determined in accordance with EN 196-10). If stored incorrectly (exposure to moisture) or left to age, the chromate reducer may lose its effectiveness prematurely, and a sensitising effect of the cement upon skin contact cannot be ruled out. (H317 or EUH203)
When stored correctly in a dry place, bagged goods remain low in chromate for at least 6 months from the date of filling, and loose goods for at least 2 months from the date of loading.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Chemical characterization

Standard cement in accordance with DIN EN 197-1 and DIN EN 197-4 or, where applicable, a certificate of approval from the German Institute for Building Technology.

Relevant ingredients

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification (Regulation (EC) No 1272/2008)			
65997-15-1	Portland cement clinker			5-100 %
	Skin Irrit. 2, Eye Dam. 1, Skin Sens. 1B, STOT SE 3; H315 H318 H317 H335			
68475-76-3	Flue dust, Portlan cement production			0,1-5 %
	270-659-9			
	Eye Irrit. 2; H319			

Full text of H and EUH statements: see section 16.

Further Information

Portland cement clinker is exempt from the registration requirement under Article 2.7(b) and Annex V.10 of Regulation (EC) No 1907/2006 (REACH).
Flue dust is a substance (UVCB) produced during the manufacture of cement clinker; other common names include cement kiln dust, bypass dust, filter dust, EGR dust and clinker dust.

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

If symptoms persist, it is advisable to consult a doctor. Tell the doctor what substance/product was involved and what measures were taken. No special personal protective equipment is required for first aiders. However, first aiders should avoid coming into contact with wet cement.

After inhalation

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

After contact with skin

Remove any dry cement and rinse thoroughly with plenty of water. Rinse off any damp cement with plenty of

water. Change contaminated, saturated clothing. Clean these thoroughly before reusing them. If you experience any symptoms, consult a doctor.

After contact with eyes

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 under running water with the eyelid open to remove all particles. At least 20 minutes. If possible, use isotonic eye solution (0.9% NaCl). Always consult an occupational health doctor or an ophthalmologist.

After ingestion

Do NOT induce vomiting. If the person is conscious, rinse their mouth and give them plenty of water to drink. Consult a doctor or the poison control centre.

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

Eyes: Eye contact with cement (dry or wet) can cause serious and possibly permanent damage to the eyes.
skin: Cement can cause irritation to damp skin (due to perspiration or humidity) if it comes into prolonged contact with it.Contact between cement and damp skin can cause skin irritation, dermatitis or serious skin damage. For further information, see (1).
respiratory system: Repeated inhalation of large quantities of cement dust over a prolonged period increases the risk of lung disease.

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

If you seek medical attention, please present this safety data sheet.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Cement is non-flammable.

5.2. Special hazards arising from the substance or mixture

Cement is neither explosive nor flammable, nor does it promote combustion in other materials.

5.3. Advice for firefighters

No special measures are required, as cement does not pose a fire hazard.

Additional information

none

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

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

For emergency responders

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

6.2. Environmental precautions

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

6.3. Methods and material for containment and cleaning up

For containment

Dry cement: Pick up any spilt cement and use it if possible. For cleaning, use dry methods wherever possible, such as vacuum extraction (portable units with high-efficiency filter systems (EPA and HEPA filters, EN 1822-1:2009) or equivalent technologies), which do not generate dust. Never use compressed air for cleaning. If dry cleaning results in the formation of dust, personal protective equipment must be worn. Avoid inhaling cement dust and skin contact. Return any spilled material to the container. It can be used at a later date.
Wet cement: Collect this and place it in a container. Allow the material to dry and solidify before it can be disposed of as described in section 13.

Other information

Never use compressed air for cleaning.

6.4. Reference to other sections

Safe handling: see section 7
Personal protection equipment: see section 8
Disposal: see section 13

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling

Please follow the recommendations in section 8.

Advice on protection against fire and explosion

not applicable

Advice on general occupational hygiene

When using do not eat, drink or smoke. Wash hands after use/contact. Wear a dust mask and safety goggles in dusty atmospheres. Wear protective gloves.

Further information on handling

Do not sweep when dry. For cleaning, use dry methods wherever possible, such as vacuum extraction (portable units with high-efficiency filter systems (EPA and HEPA filters, EN 1822-1:2009) or equivalent technologies), which do not generate dust.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Cement should be stored in dry (to minimise internal condensation), water-protected conditions, kept clean and protected from contamination. Do not enter cement storage areas such as silos, hoppers, silo lorries or other containers without taking appropriate safety precautions, as there is a risk of being buried under spilled cement and suffocating. In such enclosed spaces, cement can form walls and bridges, which may, however, collapse unexpectedly. Do not use aluminium containers, as there is a risk of material incompatibility.
In the case of cements containing chromate reducers, it should be noted that, if stored incorrectly (exposure to moisture) or left to age, the chromate reducer may lose its effectiveness prematurely, and a sensitising effect of the cement upon skin contact cannot be ruled out (see section 2.3).

Hints on joint storage

Store in a dry place, tightly sealed, preferably in the original container.

Further information on storage conditions

This product is classified under GISCODE ZP 1 (cement-based products, low in chromium) (see Section 15). Further information on safe handling, protective measures and rules of conduct can be found in GISCODE ZP 1. It is available as part of the Hazardous Substances Information System of the German Construction Industry's Professional Association.

7.3. Specific end use(s)

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

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Additional advice on limit values

To date, no national critical limit values exist.

8.2. Exposure controls

Appropriate engineering controls

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

Individual protection measures, such as personal protective equipment

Eye/face protection

Wear closed safety goggles in accordance with EN 166 if dust is generated.

Hand protection

Wear waterproof, abrasion- and alkali-resistant protective gloves. Leather gloves are not suitable as they are

permeable to water and may release chromium-containing compounds. When working with cement, chemical-resistant gloves (Category III) are not required. Suitable options include, for example, nitrile-coated cotton gloves (layer thickness approx. 0.15 mm). Observe the maximum wearing time (480 minutes). Change gloves if they become damp. Keep spare gloves to hand. General information on skin protection can be found in DGUV Rule 112-195. Wear closed, long-sleeved protective clothing and sturdy footwear. If contact with damp cement cannot be avoided, the protective clothing should also be waterproof. Ensure that no damp cement runs into your shoes or boots from above. Follow the skin protection plan. Use skin care products, particularly after work.

Skin protection

General: Handle the product in accordance with the safety instructions. Do not eat, drink or smoke at work. Wash hands and shower if necessary before breaks and at the end of work. Avoid contact with eyes and skin. After work, workers should wash or shower and use skin care products. Clean contaminated clothing, shoes, watches, etc. before reuse.

Respiratory protection

If exposure limits are exceeded (e.g. when handling powdered products in an open environment), a suitable respirator must be worn. General information on this subject can be found in DGUV Rule 112-190. If compliance with the occupational exposure limits cannot be achieved through dust control measures, e.g. local extraction systems, FFP-type particulate-filtering half-masks (in accordance with DIN EN 149) must be used. Staff must be trained in the correct use of personal protective equipment to ensure the required level of protection.

Environmental exposure controls

Air: Avoid drifting due to wind. Compliance with the dust emission limit values in accordance with the Technical Instructions on Air Quality Control.
Water: Do not allow cement to enter the groundwater or the sewage system. Exposure may cause the pH value to rise. Ecotoxicological effects may occur if the pH value exceeds 9. Water discharged into or flowing into the sewage system or surface water must therefore not result in such a pH value. The Waste Water and Groundwater Regulations must be observed.
soil : Compliance with the Federal Soil Protection Act (BBodSchG) and the Federal Soil Protection and Contaminated Sites Ordinance (BBodSchV). No specific control measures are required.

Exposure controls : Occupational exposure limits can often only be complied with by using technical and/or personal protective measures. If no suitable workplace measurements of exposure are available, an exposure assessment can be carried out and appropriate protective measures derived using the MEASE tool (Reference 3). For the identified professional uses (Section 16), technical control measures and personal protective measures are specified (8.2.2). The tables should be interpreted such that only A-A combinations and B-B combinations are possible. Furthermore, it should be noted that the data apply to continuous exposure of 8 hours per day, 5 days a week. For private consumers, the products must only be used outdoors or in well-ventilated areas, and personal protective equipment must be worn (general information in 8.2.2).

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state:	Powder - solid
Colour:	grey , white
Odour:	odourless
Odour threshold:	no data available
Melting point/freezing point:	> 1250 °C
Boiling point or initial boiling point and boiling range:	not applicable
Flammability:	not applicable
Lower explosion limits:	not applicable
Upper explosion limits:	not applicable
Flash point:	not applicable
Auto-ignition temperature:	not applicable
Decomposition temperature:	not applicable
pH-Value (at 20 °C):	11-13,5 (2000 g/l)

Viscosity / kinematic:	not applicable
Water solubility (at 20 °C):	low 0,1-1,5 g/l

Solubility in other solvents

not determined

Partition coefficient n-octanol/water:	not applicable
Vapour pressure:	not applicable
Density:	2,75-3,20 g/cm³
Bulk density:	0,9-1,5 kg/m³
Relative vapour density:	not applicable
Particle characteristics:	typical mean particle size 5-30 µm

9.2. Other information

Information with regard to physical hazard classes

Explosive properties

The product is not: Explosive.

Oxidizing properties

The product is not: oxidising.

SECTION 10: Stability and reactivity

10.1. Reactivity

Cement is a hydraulic material. When it comes into contact with water, a controlled reaction takes place. As a result, the cement hardens and forms a solid mass that does not react with its surroundings.

10.2. Chemical stability

Cement is stable provided it is stored correctly and in a dry place (Section 7). Avoid contact with incompatible materials. Damp cement is alkaline and incompatible with acids, ammonium salts, aluminium and other base metals. This may result in the formation of hydrogen. Cement is soluble in hydrofluoric acid, forming corrosive silicon tetrafluoride gas. Avoid contact with these incompatible materials. When mixed 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

No known hazardous reactions.

10.4. Conditions to avoid

Moisture and water during storage can lead to clumping and loss of product quality.

10.5. Incompatible materials

Acids, ammonium salts, aluminium or other base metals. The uncontrolled use of aluminium powder in wet cement should be avoided, as it produces hydrogen.

10.6. Hazardous decomposition products

No known hazardous decomposition products.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity

Based on available data, the classification criteria are not met.

ATEmix calculated

ATE (oral) > 2000 mg/kg; ATE (dermal) > 2000 mg/kg; ATE (inhalation dust/mist) > 5 mg/l

Irritation and corrosivity

Skin corrosion/irritation: Causes skin irritation.
Serious eye damage/eye irritation: Causes serious eye damage.

Sensitising effects

Based on available data, the classification criteria are not met.
Contains chromium (VI). May produce an allergic reaction.

Carcinogenic/mutagenic/toxic effects for reproduction

Germ cell mutagenicity: Based on available data, the classification criteria are not met.
Carcinogenicity: Based on available data, the classification criteria are not met.
Reproductive toxicity: Based on available data, the classification criteria are not met.

STOT-single exposure

May cause respiratory irritation. (Portland cement clinker)

STOT-repeated exposure

Based on available data, the classification criteria are not met.

Aspiration hazard

Based on available data, the classification criteria are not met.
Apart from causing skin sensitisation, cements (ordinary cements) and Portland cement clinker have the same toxicological and ecotoxicological properties.

Information on likely routes of exposure

Cement can exacerbate existing conditions affecting the skin, eyes and respiratory tract, such as pulmonary emphysema or asthma.

11.2. Information on other hazards

Endocrine disrupting properties

Based on available data, the classification criteria are not met.
There are no known endocrine-disrupting properties or other harmful effects.

Other information

The mixture is classified as hazardous according to regulation (EC) No 1272/2008 [CLP].

SECTION 12: Ecological information

12.1. Toxicity

Based on available data, the classification criteria are not met.

Cement is not considered to be harmful to the environment. Ecotoxicological studies involving Portland cement and Daphnia magna (U.S. EPA, 1994a) [Reference (6)] and Selenastrum coli (U.S. EPA, 1993) [Reference (7)] have shown only a minor toxic effect. Consequently, the LC50 and EC50 values could not be determined [Reference (8)]. No toxic effects on sediments were observed either [Reference (9)]. However, the release of large quantities of cement into water can lead to an increase in pH and may therefore, under certain circumstances, be toxic to aquatic life.

12.2. Persistence and degradability

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

12.3. Bioaccumulative potential

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

12.4. Mobility in soil

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

12.5. Results of PBT and vPvB assessment

Based on available data, the classification criteria are not met.
Not applicable, as cement is an inorganic mineral material. Any cement residues remaining after hydration do not pose a toxicological risk.

12.6. Endocrine disrupting properties

Based on available data, the classification criteria are not met.
not applicable

12.7. Other adverse effects

not applicable

Further information

Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal recommendations

Dispose of waste according to applicable legislation. Pick up the product dry. Do not dispose of in sewage or surface water. Discuss the exact waste code with the waste disposal company.
Product in which the expiry date of the reducing agent has passed (and where the content of water-soluble chromium(VI) exceeds 0.0002 per cent): The product must no longer be used or placed on the market, unless it is used in controlled, closed and fully automated processes or is re-treated with a chromate reducer.
Any unused residue of the dry product: Collect whilst dry. Label the container. Where possible, continue to use whilst minimising exposure to dust (observe the use-by date). If disposing of, cure with water and dispose of as described under ‘Products cured after the addition of water’. Waste code according to AVV: 10 13 06.

Contaminated packaging

Allow wet products and product slurries to set completely; do not allow them to enter the sewerage system or watercourses. Dispose of as described under ‘Products that have set after the addition of water’.
Products that have set after water has been added: Dispose of in accordance with local regulatory requirements. Do not allow the product to enter the sewerage system. Dispose of the hardened product as concrete waste and concrete slurry. Waste code according to AVV, depending on origin: 17 01 01 (concrete) or 10 13 14 (concrete waste and concrete slurry)
Empty the packaging completely and send it for recycling. Otherwise, dispose of the completely emptied packaging in accordance with waste code AVV: 15 01 01 (paper waste and cardboard packaging) or AVV: 15 01 05 (composite packaging).

SECTION 14: Transport information

Land transport (ADR/RID)

14.1. UN number or ID number:	No dangerous good in sense of this transport regulation.
14.2. UN proper shipping name:	No dangerous good in sense of this transport regulation.
14.3. Transport hazard class(es):	No dangerous good in sense of this transport regulation.
14.4. Packing group:	No dangerous good in sense of this transport regulation.

Inland waterways transport (ADN)

14.1. UN number or ID number:	No dangerous good in sense of this transport regulation.
14.2. UN proper shipping name:	No dangerous good in sense of this transport regulation.
14.3. Transport hazard class(es):	No dangerous good in sense of this transport regulation.
14.4. Packing group:	No dangerous good in sense of this transport regulation.

Marine transport (IMDG)

14.1. UN number or ID number:	No dangerous good in sense of this transport regulation.
14.2. UN proper shipping name:	No dangerous good in sense of this transport regulation.
14.3. Transport hazard class(es):	No dangerous good in sense of this transport regulation.
14.4. Packing group:	No dangerous good in sense of this transport regulation.

Air transport (ICAO-TI/IATA-DGR)

14.1. UN number or ID number:	No dangerous good in sense of this transport regulation.
14.2. UN proper shipping name:	No dangerous good in sense of this transport regulation.
14.3. Transport hazard class(es):	No dangerous good in sense of this transport regulation.
14.4. Packing group:	No dangerous good in sense of this transport regulation.

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: No

14.6. Special precautions for user

No dangerous good in sense of this transport regulation.

14.7. Maritime transport in bulk according to IMO instruments

No dangerous good in sense of this transport regulation.

SECTION 15: Regulatory information

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

EU regulatory information

Downstream user conditions or monitoring arrangements:

Cement is a mixture and is therefore not subject to the registration requirements of EC Regulation 1907/2006 (REACH). Portland cement clinker is exempt from the registration requirement in accordance with Article 2.7(b) and Annex V.10 of EC Regulation 1907/2006 (REACH).

Information according to Directive 2012/18/EU (SEVESO III):	Not subject to 2012/18/EU (SEVESO III)

Additional information

Restrictions on use: In accordance with Annex XVII, paragraph 47, of EC Regulation 1907/2006, there is a ban on the use and placing on the market of cements and cement-containing preparations, 1. Cement and cement-containing preparations must not be used or placed on the market if their content of soluble chromium VI after hydration exceeds 0.0002 per cent of the dry mass of the cement. 2. Where reducing agents are used, without prejudice to the validity of other Community legislation on the classification, packaging and labelling of dangerous substances and preparations, the packaging of cement or cement-based preparations must clearly and permanently indicate the date on which the product was packaged, as well as the conditions and duration under which it may be stored without the effect of the reducing agent diminishing and the content of soluble chromium VI exceeding the limit value specified in paragraph 1. 3. Notwithstanding the above, points 1 and 2 shall not apply to the placing on the market in relation to controlled, closed and fully automated processes, nor to the use in such processes where cement and cement-based preparations come into contact exclusively with machinery and there is no risk of skin contact. 4. The standard adopted by the European Committee for Standardisation (CEN) for testing the content of water-soluble chromium VI in cement and cement-based mixtures shall be used as the method for demonstrating compliance with paragraph 1.

National regulatory information

Employment restrictions:	Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC). Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.
Water hazard class (D):	1 - slightly hazardous to water

Additional information

Hazardous Substances Ordinance (GefStoffV) , German Chemicals Prohibition Ordinance (ChemVerbotsV) , GISCODE ZP 1 (cement-based products, low in chromium), TRGS 900 , TRGS 510 , TRGS 402 , TRGS 500 , Waste code according to the Waste Catalogue Regulation (AVV) , Regulation on occupational health care (ArbMedVV) , BG principles for occupational health check-ups

15.2. Chemical safety assessment

Chemical safety assessments for substances in this mixture were not carried out.

SECTION 16: Other information

Abbreviations and acronyms

Skin Irrit. 2: Skin irritation, hazard category 2
Eye Dam. 1: Serious eye damage, hazard category 1
Eye Irrit. 2: Eye irritation, hazard category 2
Skin Sens. 1B: Skin sensitisation, hazard category 1B
STOT SE 3: Specific target organ toxicity - single exposure, hazard category 3

CLP: Classification, labelling and Packaging
REACH: Registration, Evaluation and Authorization of Chemicals
GHS: Globally Harmonised System of Classification, Labelling and Packaging of Chemicals
UN: United Nations
EC/EEC: European Community/European Economic Community
EU: European Union

CAS: Chemical Abstracts Service
DNEL: Derived No Effect Level
DMEL: Derived Minimal Effect Level
PNEC: Predicted No Effect Concentration
ATE: Acute toxicity estimate
LC50: Lethal concentration, 50%
LD50: Lethal dose, 50%
LL50: Lethal loading, 50%
EL50: Effect loading, 50%
EC50: Effective Concentration 50%
ErC50: Effective Concentration 50%, growth rate
NOEC: No Observed Effect Concentration
BCF: Bio-concentration factor
PBT: persistent, bioaccumulative, toxic
vPvB: very persistent, very bioaccumulative
M-factor: Multiplying factor
ADR: Accord européen sur le transport des marchandises dangereuses par Route
(European Agreement concerning the International Carriage of Dangerous Goods by Road)
RID: Regulations concerning the international carriage of dangerous goods by rail
ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
(Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures)
IMDG: International Maritime Code for Dangerous Goods
EmS: Emergency Schedules
MFAG: Medical First Aid Guide
IATA: International Air Transport Association
DGR: Dangerous Goods Regulations
ICAO: International Civil Aviation Organization
TI: Technical Instructions
MARPOL: International Convention for the Prevention of Marine Pollution from Ships
IBC: Intermediate Bulk Container
SVHC: Substance of Very High Concern
For abbreviations and acronyms, see: ECHA Guidance on information requirements and chemical safety assessment, chapter R.20 (Table of terms and abbreviations).

Key literature references and sources for data

We refer to information provided by raw material suppliers/manufacturers and the ECHA database on classification and labelling as sources for the most important data and technical information.
(1) Portland Cement Dust – Hazard assessment document EH75/7, UK Health and Safety Executive, 2006: http://www.hse.gov.uk/pubns/web/portlandcement.pdf. (2) Technische Regel für Gefahrstoffe: https://www.baua.de/DE/Angebote/Rechtstexte-und-Technische-Regeln/Regelwerk/TRGS/TRGS.html. (3) MEASE 1.02.01 Exposure assessment tool for metals and inorganic substances, EBRC Consulting GmbH für Eurometaux, 2010: http://www.ebrc.de/tools/mease.php (4) Observations on the effects of skin irritation caused by cement, Kietzman et al, Dermatosen, 47, 5, 184- 189 (1999). (5) 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. (6) 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). (7) 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). (8) 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. (9) Final report Sediment Phase Toxicity Test Results with Corophium volutator for Portland clinker prepared for Norcem A.S. by AnalyCen Ecotox AS, 2007. (10) TNO report V8801/02, An acute (4-hour) inhalation toxicity study with Portland Cement Clinker CLP/GHS 03-2010-fine in rats, August 2010. (11) TNO report V8815/09, Evaluation of eye irritation potential of cement clinker G in vitro using the isolated chicken eye test, April 2010. (12) TNO report V8815/10, Evaluation of eye irritation potential of cement clinker W in vitro using the isolated chicken eye test, April 2010. (13) European Commission's Scientific Committee on Toxicology, Ecotoxicology and the Environment (SCTEE) opinion of the risks to health from Cr (VI) in cement (Europäische Kommission, 2002): http://ec.europa.eu/health/archive/ph_risk/committees/sct/documents/out158_en.pdf. (14) 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 (15) Cytotoxicity and genotoxicity of cement dusts in A549 human epithelial lung cells in vitro; Gminski et al, Abstract DGPT confer-ence Mainz, 2008. (16) 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. (17) 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. (18) Occurrence of allergic contact dermatitis caused by chromium in cement. A review of epidemiological investigations, Kåre Len-vik, Helge Kjuus, NIOH, Oslo, December 2011. (19) ECHA Support Questions and answers agreed with National Helpdesks. ID1659 May 2020. https://echa.europa.eu/es/support/qas-support/qas-agreed-with-national-hepldesks

Classification for mixtures and used evaluation method according to Regulation (EC) No 1272/2008 [CLP]

Classification	Classification procedure
Skin Irrit. 2; H315	Calculation method
Eye Dam. 1; H318	Calculation method
STOT SE 3; H335	Calculation method

Relevant H and EUH statements (number and full text)

H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
EUH203	Contains chromium (VI). May produce an allergic reaction.

Further Information

The information in this safety data sheet describes the safety requirements of our product and is based on our current state of knowledge. It does not constitute a guarantee of product properties and does not establish a contractual legal relationship. This safety data sheet is intended solely as a source of information for the user. It has been compiled with the utmost care; however, no guarantee can be given for the accuracy of the data, nor can any liability be accepted for the consequences of printing, typesetting or transmission errors. Existing laws, regulations and rules, including those not mentioned in this data sheet, must be observed by the recipient of our products on their own responsibility.

(The data for the relevant ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)