

Safety data sheet

according to 1907/2006/EC, Article 31

Creation: 12/18/2008

Version number 5

Revision: 5/23/2013


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

- **1.1 Product identifier**
- Trade name: **HaftMörtel HM 50**
- **1.2 Relevant identified uses of the substance or mixture and uses advised against**
- **Application of the substance / the preparation**
Dry mortar to be mixed with water and then using as render for adhesive layers to concrete and insulation board (no EWI-systems), for revision of plasters and paints for interior and exterior use
- **Uses advised against** Of all other uses advised against.
- **1.3 Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Baumit GmbH
Reckenberg 12
D-87541 BAD HINDELANG
Tel. + 49 8324 921 1025
Fax + 49 8324 921 1029
eMail (qualified person): sdb@baumit.de
- **Further information obtainable from:** Department Quality Assurance
- **1.4 Emergency telephone number:** Poison Information Center Mainz +49 6131 19240


SECTION 2: Hazards identification

- **2.1 Classification of the substance or mixture**
 - **Classification according to Regulation (EC) No 1272/2008**
Eye Dam. 1 H318 Causes serious eye damage.
Skin Irrit. 2 H315 Causes skin irritation.
STOT SE3 H335 May cause respiratory irritation.

 - **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**
Xi; Irritant
R37/38-41: Irritating to respiratory system and skin. Risk of serious damage to eyes.
 - **Information concerning particular hazards for human and environment:**
The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.
 - **Classification system:**
The classification is according to the latest editions of the EU-lists, and extended by company and literature data.
 - **Additional information:**
When used properly, dry place for at least 6 months from date of manufacture low in chromate.

 - **2.2 Label elements**
 - **Labelling according to Regulation (EC) No 1272/2008**
The product is classified and labelled according to the CLP regulation.
 - **Hazard pictograms**
- 

GHS05



GHS07
- **Signal word** Danger

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- **Hazard-determining components of labelling:**

Cement, portland, chemicals
calcium dihydroxide

- **Hazard statements**

H315 Causes skin irritation.
H318 Causes serious eye damage.
H335 May cause respiratory irritation.

- **Precautionary statements**

P102 Keep out of reach of children.
P261 Avoid breathing dust.
P271 Use only outdoors or in a well-ventilated area.
P280 Wear protective gloves/protective clothing/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. Immediately call a POISON CENTER or doctor/physician.
+P310
P302+P352+P332 IF ON SKIN: Wash with plenty of soap and water. If skin irritation occurs:
+P313 Get medical advice/attention.
P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P362 Take off contaminated clothing and wash before reuse.
P501 Dispose of contents/container to in accordance with national regulations for waste recycling.

- **2.3 Other hazards**

Inhalation of large amounts of dust increases the risk of developing lung diseases. The product reacts with moisture strongly alkaline. The offset with the product may cause skin disorders (eg in the wet mortar knees) on prolonged contact. The mixture is low in chromate, since the content of sensitizing chromium (VI) is reduced by additions below 0.0002% in the cement content of such usable product. Therefore there is no risk of sensitization by chromate. Prerequisite for the effectiveness of the chromate is the proper dry storage and compliance with the maximum storage time.

- **Results of PBT and vPvB assessment** Not applicable.
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

SECTION 3: Composition/information on ingredients

- **3.2 Chemical characterization: Mixtures**

- **Description:** Mixture of substances listed below with nonhazardous additions.

- **Dangerous components:**

CAS: 65997-15-1 EINECS: 266-043-4	Portland cement clincer Xi R37/38-41-43;	>20%
	Eye Dam. 1, H318; Skin Irrit. 2, H315; Skin Sens. 1, H317; STOT SE 3, H335	
CAS: 1305-62-0 EINECS: 215-137-3 Reg.nr.:01-2119475151-45-xxxx	calcium dihydroxide Xi, R37/38-41	<10%
	Eye Dam. 1, H318; Skin Irrit. 2, H315; STOT SE 3, H335	

- **Additional information:** For the wording of the listed risk phrases refer to section 16.

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SECTION 4: First aid measures

4.1 Description of first aid measures

General information:

For first aiders, no special personal protective equipment is required. First aiders should avoid contact with the wet mortar.

After inhalation:

Remove dust source and provide fresh air or move victim to fresh air. In case of complaints, such as malaise, cough or irritation persists, seek medical attention. If unconscious, place and transport in stable lateral position.

In case of unconsciousness place patient stably in side position for transportation.

After skin contact:

Wash affected skin area immediately with plenty of water to remove all traces of product. Damp gloves, clothes, shoes, watches, etc. Immediately take off or remove. Wash clothing, shoes, watches, etc. before reuse or thoroughly clean. Consult a skin doctor. Immediately wash with water and soap and rinse thoroughly.

Immediately wash with water and soap and rinse thoroughly.

After eye contact:

Do not rub eyes dry because by the additional mechanical stress. Eye damage may be caused. If necessary, remove contact lenses and flush the eye immediately with water holding eyelids open for at least 20 minutes to remove all particles. If possible, isotonic eyewash solution (eg 0.9% NaCl). Always consult an occupational physician or ophthalmologist. Rinse opened eye for several minutes under running water and seek medical advice.

Rinse opened eye for several minutes under running water. Then consult a doctor.

After swallowing:

Do not induce vomiting. If the person is conscious, rinse mouth with water and drink plenty of water. Seek medical advice or poison control center.

4.2 Most important symptoms and effects, both acute and delayed

Eye contact with the dry or wet product may cause serious and possibly permanent damage. The product can also be in the dry state by prolonged contact an irritating effect on moist skin (due to sweating or humidity) have. The contact with moist skin may cause skin irritation, dermatitis or other serious skin damage. Cement may aggravate existing diseases of the skin, eyes and respiratory tract, eg with pulmonary emphysema or asthma.

4.3 Indication of any immediate medical attention and special treatment needed

If a physician be consulted, to be presented by way of this MSDS.

SECTION 5: Firefighting measures

5.1 Extinguishing media

The mixture is not flammable, neither as delivered even in mixed conditions. Extinguishing agents and fire fighting are therefore matched to the surrounding fire.

Suitable extinguishing agents:

CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

5.2 Special hazards arising from the substance or mixture

No. The product is not explosive or flammable, and non-fire with other materials promoting.

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· 5.3 Advice for firefighters

No special measures for fire fighting required. Do not allow the quenching water into the sewage system. Closed containers exposed to fire cool with water.

· **Protective equipment:** No special measures required.

SECTION 6: Accidental release measures

· 6.1 Personal precautions, protective equipment and emergency procedures

Emergency responders:

With high dust levels protective equipment as described in Section 8.2.2 is required.

For non-emergency personnel:

Wear protective clothing as described in Section 8. Avoid generation of dusts. Ensure adequate ventilation. The instructions for safe handling follow as described in Section 7.

Emergency plans are not required.

· 6.2 Environmental precautions:

Keep dry mixture and cover to prevent dust. Do not empty into drains, surface water or groundwater can (pH increase). Inform the appropriate authorities in case of contamination of rivers, lakes or sewers in accordance with local laws. Not empty into drains or onto the ground.

Do not allow to enter sewers/ surface or ground water.

· 6.3 Methods and material for containment and cleaning up:

Possibly protect the spilled material with tarp against drifts up dry and if possible further use. In this work, note wind direction and keep rearranging the drop height low (z. B. with blades).

For cleaning at least industrial vacuum / -entstauber of dust class M (DIN EN 60335-2-69) use. Do not dry sweep. Never use compressed air for cleaning. If, during a dry cleaning for dust, it is important to use personal protective equipment. Avoid inhalation of dust and contact with the nascent skin and eyes.

Solidify and dispose of the mixed adhesive (see section 13.1).

Ensure adequate ventilation.

Ensure adequate ventilation.

· 6.4 Reference to other sections

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

SECTION 7: Handling and storage

· 7.1 Precautions for safe handling

In areas where people work, do not eat, drink or smoke. Avoid generation of dusts. When using bagged and open mixing tank fill container with water, then let run in the dry product carefully. Keep falling height low. Can start a stirrer slowly. Empty bags not, or only in a sack over, squeeze. Avoid contact with skin and eyes by personal protective equipment in accordance with Section 8.2.2. Ensure adequate ventilation, if necessary, respiratory protection in accordance with Section 8.2.2

to use. When processing do not kneel in the fresh product. With machine

Processing (eg, Shine or continuous mixers), the dust can be reduced by carefully laying, opening and emptying bags as well as the use of a special additional equipment. Use products after the indicated storage duration not more, since the effect of the reducing agent contained subsides and the content of soluble chromium (VI) may exceed those mentioned in

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section 2.3 limit. In these cases, may develop an allergic Chromatdermatitis with prolonged contact due to the water-soluble chromate contained in the product.

For packages over 10 kg:

By using mechanical means lifting and carrying of containers minimize.

· **Information about fire - and explosion protection:** No special measures required.

· **7.2 Conditions for safe storage, including any incompatibilities**

Dry, not together with acids and store them separately from food. Prevent entry of water and moisture. Always store in original container. Improper storage (moisture ingress) or exceeding the maximum storage period, the effect of chromate which may be present may decrease (see section 7.1).

· **Storage:**

· **Requirements to be met by storerooms and receptacles:** No special requirements.

· **Information about storage in one common storage facility:** Not required.

· **Further information about storage conditions:** Keep container tightly sealed.

· **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

· **Additional information about design of technical facilities:** No further data; see item 7.

· **8.1 Control parameters**

· **Ingredients with limit values that require monitoring at the workplace:**

65997-15-1 Cement, portland, chemicals	
WEL	Long-term value: 10* 4** mg/m ³ *inhalable dust **respirable dust
1305-62-0 calcium dihydroxide	
WEL	Long-term value: 5 mg/m ³

· **Additional information:** The lists valid during the making were used as basis.

· **8.2 Exposure controls**

Appropriate engineering controls:

To reduce the dust enclosed systems should (eg silo with conveyor system), Local exhaust or other engineering controls, eg Plastering machines or continuous mixers are with special additional equipment for dust detection is used.

· **Personal protective equipment:**

· **General protective and hygienic measures:**

Do not eat or drink while working.

Use skin protection cream for skin protection.

Avoid contact with the eyes.

Wash hands before breaks and at the end of work.

Avoid contact with the eyes and skin.

Immediately remove all soiled and contaminated clothing

· **Respiratory protection:**

Is there a risk of exceeding the exposure limit values, eg the open handling of the powdery dry product, a suitable respirator should be used. Mixing and decanting dry mortar in open systems, such as mixing by hand, giving up sacks in plaster machines.:

Adherence to the limits is by effective dust technical measures, eg local exhaust ventilation to ensure. If this is not possible, particle filtering half mask type FFP2 are (tested to EN149) to use.

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Manual processing of ready-made mortar: No respiratory protection is required. Mechanical processing of mortar:

No respiratory protection is required. General information on the use of respiratory protection can be found in the BG rule BGR / GUV R 190 A operator training in the correct use of personal protective equipment is required to ensure the necessary effectiveness. In case of brief exposure or low pollution use respiratory filter device; Use suitable respiratory protective device in case of intensive or longer exposure.

- **Protection of hands:**

Waterproof, abrasion and wear alkali-resistant protective gloves with CE-labeling. Leather gloves are not suitable because of their water permeability and may release chromate compounds. Studies have shown that nitrile impregnated gloves offer (layer thickness about 0.15 mm) over a period of 480 min sufficient protection. Change Soaked gloves. Prepared keep gloves to change. General information about the use of protective gloves can be found in the BG regulation BGR 195 closed long-sleeved protective clothing and tight shoes wear. If contact with fresh mortar is unavoidable, the protective clothing should also be waterproof. Make sure that no fresh mortar from above enters the shoes or boots. Use skin protection plan. After working use skin care products in particular.



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

- **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

- **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

- **Eye protection:**

When dust or risk of splashing tight fitting safety glasses according to EN 166 bear (eyewash provide). General information on the use of eye and face protection can be found in the BG rule BGR 192nd



Tightly sealed goggles

- **Limitation and supervision of exposure into the environment**

Avoid release to the environment. Use surplus or properly disposed of. Not contaminate water with the product as this, an increase in pH may be caused. At a pH value of about 9 ecotoxicological effects may occur. Wastewater and groundwater regulations must be observed.

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SECTION 9: Physical and chemical properties

· 9.1 Information on basic physical and chemical properties

· General Information

· Appearance:

Form: powdery, grainy

Colour: grey

· Odour: Characteristic

· Odour threshold: Not applicable

· pH-value at 20 °C: 11,5-13,5

· Change in condition

Melting point/Melting range: Not applicable

Boiling point/Boiling range: Not applicable

· Flash point: Not applicable

· Flammability (solid, gaseous): Not applicable

· Ignition temperature:

Decomposition temperature: Not applicable

· Self-igniting: Product is not selfigniting.

· Danger of explosion: Product does not present an explosion hazard.

· Explosion limits:

Lower: Not applicable

Upper: Not applicable

· Vapour pressure: Not applicable

· Density: 1200-1500 g/l

· Relative density: Not applicable

· Vapour density: Not applicable

· Evaporation rate: Not applicable

· Solubility in / Miscibility with water at 20 °C: <2 g/l (calcium dihydride)

· Partition coefficient (n-octanol/water): Not applicable

· Viscosity:

Dynamic: Not applicable

Kinematic: Not applicable

· Solvent content:

Organic solvents: 0.0 %

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VOC (EC)	0.00 %
Solids content:	100.0 %
· 9.2 Other information	No further relevant information available.

SECTION 10: Stability and reactivity

- **10.1 Reactivity**
Alkaline reaction with water. In contact with water intended reaction takes place in the product hardens and forms a solid mass, which does not react with their environment.
- **10.2 Chemical stability** The product is stable (assuming proper and dry storage).
- **Thermal decomposition / conditions to be avoided:**
No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions**
No dangerous reactions (see also section 10.5).
Not determined
- **10.4 Conditions to avoid**
Prevent entry of water and moisture during storage (alkaline reaction with moisture and hardens).
- **10.5 Incompatible materials:**
Reacts exothermically with acids: the moist product is alkaline and reacts with acids, ammonium salts and base metals, eg Aluminum, zinc, brass. In the reaction with base metals, hydrogen is formed.
- **10.6 Hazardous decomposition products:** No dangerous decomposition products known.

SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
The mixture as a whole has not been studied toxicologically. The Information on toxicological effects resulting from the appropriate specification for cement and calcium dihydroxide. Portland cement (normal cements) and Portland cement clinker have the same toxicological and ecotoxicological properties.
- **Acute toxicity:**
- **Primary irritant effect:**
- **on the skin:** Irritant to skin and mucous membranes.
- **on the eye:** Strong irritant with the danger of severe eye injury.
- **Additional toxicological information:**
The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:
Irritant

SECTION 12: Ecological information

- **12.1 Toxicity**
CALCIUM DIHYDROXID
Toxicity to soil organisms
EC10 / LC10 or NOEC for soil macro-organisms: 2000 mg / kg soil dw

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EC10 / LC10 or NOEC for soil microorganisms: 12000 mg / kg soil dw
 Toxicity in plants NOEC (21d) for Plants: 1080 mg / kg
 General effects: Acute pH effect.

Although calcium dihydroxide can be used for the neutralization of acidic water, can be damaged when exceeding 1 g / l aquatic organisms. A pH > 12 is due to dilution and carbonation decrease rapidly.

PORTLAND CEMENT

Ecotoxicological tests with Portland cement to *Daphnia magna* (U.S. EPA, 1994a) [reference (6)] and *Selenastrum Coli* (U.S. EPA, 1993) [reference (7)] have shown only a slight toxic effect. Therefore, the LC50 and EC50 values could not be determined [Reference (8)]. There were no toxic effects on sediments are found [Reference (9)]. The addition of large quantities of cement in water can cause a pH increase and therefore be toxic to aquatic life under certain conditions.

- **Aquatic toxicity:**

CALCIUM DIHYDROXIDE

Acute / Prolonged toxicity to fish: LC50 (96h) for freshwater fish: 50.6 mg / l

LC50 (96h) for marine fish: 457 mg / l

Acute / Prolonged toxicity to aquatic invertebrates: EC50 (48h) in invertebrates

Freshwater organisms: 49.1 mg / l

LC50 (96h) in invertebrates

Sea water organisms: 158 mg / l

Acute / Prolonged Toxicity to aquatic plants: EC50 (72h) for freshwater algae: 184.57 mg / l

NOEC (72h) for freshwater algae: 48 mg / l

Acute / Prolonged toxicity to microorganisms, eg Bacteria: At high calcium dihydroxide concentration causes an increase in the temperature and pH.

Chemical toxicity to aquatic organisms: NOEC (14d) in invertebrates

Sea water organisms: 32 mg / l

- **12.2 Persistence and degradability** No further relevant information available.

- **12.3 Bioaccumulative potential** No further relevant information available.

- **12.4 Mobility in soil** No further relevant information available.

- **Additional ecological information:**

- **General notes:**

Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water
 Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

Rinse off of bigger amounts into drains or the aquatic environment may lead to increased pH-values. A high pH-value harms aquatic organisms. In the dilution of the use-level the pH-value is considerably reduced, so that after the use of the product the aqueous waste, emptied into drains, is only low water-dangerous.

- **12.5 Results of PBT and vPvB assessment**

- **PBT:** Not applicable.

- **vPvB:** Not applicable.

- **12.6 Other adverse effects**

The mixture contains Portland cement clinker and calcium dihydroxide. The addition of large amounts in connection with water leads to a pH increase. The pH drops rapidly by dilution (inorganic mineral building material).

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SECTION 13: Disposal considerations

- **13.1 Waste treatment methods**
- **Recommendation**
Must not be disposed together with household garbage. Do not allow product to reach sewage system. Dispose of contents to in accordance with national regulations for waste recycling
- **Uncleaned packaging:** Dispose of container to in accordance with national regulations for waste recycling
- **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

SECTION 14: Transport information

· 14.1 UN-Number · ADR, ADN, IMDG, IATA	No
· 14.2 UN proper shipping name · ADR, ADN, IMDG, IATA	No
· 14.3 Transport hazard class(es) · ADR, IMDG, IATA	
· Class	No
· Label	-
· ADN/R Class:	No
· 14.4 Packing group · ADR, IMDG · IATA	No No
· 14.5 Environmental hazards: · Marine pollutant:	No
· 14.6 Special precautions for user · Danger code (Kemler):	Not applicable. -
· 14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
· UN "Model Regulation":	No

SECTION 15: Regulatory information

- **15.2 Chemical safety assessment:**
A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

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- **Relevant phrases**

- H315 Causes skin irritation.
- H317 May cause an allergic skin reaction.
- H318 Causes serious eye damage.
- H335 May cause respiratory irritation.
- R37/38 Irritating to respiratory system and skin.
- R41 Risk of serious damage to eyes.
- R43 May cause sensitisation by skin contact.

- **Department issuing MSDS:** Quality Assurance

- **Contact:** info@baumit.de

- **Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
 RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
 IMDG: International Maritime Code for Dangerous Goods
 DOT: US Department of Transportation
 IATA: International Air Transport Association
 IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)
 ICAO: International Civil Aviation Organization
 ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)
 PP: Severe Marine Pollutant
 P: Marine Pollutant
 GHS: Globally Harmonized System of Classification and Labelling of Chemicals
 VCI: Verband der chemischen Industrie, Deutschland (German chemical industry association)
 ACGIH: American Conference of Governmental Industrial Hygienists
 EINECS: European Inventory of Existing Commercial Chemical Substances
 ELINCS: European List of Notified Chemical Substances
 CAS: Chemical Abstracts Service (division of the American Chemical Society)
 NFPA: National Fire Protection Association (USA)
 HMIS: Hazardous Materials Identification System (USA)
 WHMIS: Workplace Hazardous Materials Information System (Canada)
 GefStoffV: Gefahrstoffverordnung (Ordinance on Hazardous Substances, Germany)
 TRGS: Technische Regeln für Gefahrstoffe (Technical Rules for Dangerous Substances, BAuA, Germany)
 VfF: Verordnung über brennbare Flüssigkeiten, Österreich (Ordinance on the storage of combustible liquids, Austria)
 VOCV: Lenkungsabgabe auf flüchtigen organischen Verbindungen, Schweiz (Swiss Ordinance on volatile organic compounds)
 VOC: Volatile Organic Compounds (USA, EU)
 MAL-Code: Måleteknisk Arbejdshygienisk Luftbehov (Regulation for the labeling concerning inhalation hazards, Denmark)
 ISO: International Organization for Standardization
 DNEL: Derived No-Effect Level (REACH)
 PNEC: Predicted No-Effect Concentration (REACH)
 LC50: Lethal concentration, 50 percent
 LD50: Lethal dose, 50 percent
 PBT: Persistent, Bioaccumulative and Toxic
 SVHC: Substances of Very High Concern
 vPvB: very Persistent and very Bioaccumulative

- **Sources**

Portland Cement Dust - Hazard assessment document EH75/7, UK Health and Safety Executive, 2006: <http://www.hse.gov.uk/pubns/web/portlandcement.pdf>.
 TRGS 900, Technische Regel für Gefahrstoffe „Arbeitsplatzgrenzwerte“, 2006
 MEASE 1.02.01 Exposure assessment tool for metals and inorganic substances, EBRC Consulting GmbH für Eurometaux, 2010: <http://www.ebrc.de/ebrc/ebrc-mease.php>.
 Observations on the effects of skin irritation caused by cement, Kietzman et al, Dermatosen, 47, 5, 184-189 (1999).

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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).

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).

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.

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

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

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

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

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

Cytotoxicity and genotoxicity of cement dusts in A549 human epithelial lung cells in vitro: Gminski et al, Abstract DGPT conference Mainz, 2008.

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.

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, H. Notø, H. Kjuus, M. Skogstad and K.-C. Nordby, National Institute of Occupational Health, Oslo, Norway, March 2010.

Anonymous, 2006: Tolerable upper intake levels for vitamins and minerals Scientific Committee on Food, European Food Safety Authority, ISBN: 92-9199-014-0 [SCF document]

Anonymous, 2008: Recommendation from the Scientific Committee on Occupation

· * Data compared to the previous version altered.

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