



## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### PAGEL Ready-to-use mortar – grout and repair mortar

Print date: 01.08.2013

Product code: PAGEL-001-13

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

##### 1.1. Product identifier

PAGEL Ready-to-use mortar – grout and repair mortar ; V1/XX; V14/XX; V15/XX; V40/XX; V80/XX;V1A/XX; V2/XX; VBXX; VTXX; E1XX; FMXX; VSXX; MSXX; MHXX; SPXX; M3XX; UXX; RXX; TWXX; KAXX; D1; PXX; FEXX; BXX; RXX; ZXX

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

**Use of the substance/mixture** Dry mortar admixing with water.

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

Company name:	PAGEL Spezial-Beton GmbH Co. KG	
Street:	Wolfsbankring 9	
Place:	D-45355 Essen	
Telephone:	+49 (0)201 / 68504-37	Telefax: +49 (0)201 / 68504-31
e-mail:	info@pagel.com	
Contact person:	Daniel Schempershofe	
e-mail:	schempershofe@pagel.de	
Internet:	www.pagel.com	

##### 1.4. Emergency telephone number:

Deutschland: +49 - 6131 / 19240 (24 h)  
United Kingdom +44 870 600 626 / 0870 600 6266

#### SECTION 2: Hazards identification

##### 2.1. Classification of the substance or mixture

Indications of danger: Xi - Irritant  
R phrases:  
Irritating to respiratory system and skin.  
Risk of serious damage to eyes.  
May cause sensitisation by skin contact.

##### **GHS classification**

Hazard categories:  
Skin corrosion/irritation: Skin Irrit. 2  
Serious eye damage/eye irritation: Eye Dam. 1  
Respiratory/skin sensitization: Skin Sens. 1  
Specific target organ toxicity - single exposure: STOT SE 3  
Hazard Statements:  
Causes skin irritation.  
May cause an allergic skin reaction.  
Causes serious eye damage.  
May cause respiratory irritation.

##### 2.2. Label elements

##### **Hazardous components which must be listed on the label**

Portland cement

Signal word:	Danger
Pictograms:	GHS05-GHS07



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#### Hazard statements

Causes skin irritation.  
May cause an allergic skin reaction.  
Causes serious eye damage.  
May cause respiratory irritation.

#### Precautionary statements

Keep container tightly closed.  
Wear protective gloves/protective clothing/eye protection/face protection.  
IF ON SKIN: Wash with plenty of soap and water.  
Avoid breathing dust.  
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.

#### Additional advice on labelling

The product is classified and labelled in accordance with EC directives or respective national laws.

#### 2.3. Other hazards

As a result of the irritant properties of this product, repeated skin contact may adversely affect an existing dermatitis condition (or other existing skin condition).

### SECTION 3: Composition/information on ingredients

#### 3.2. Mixtures

##### Chemical characterization

Preparation / mixture of mineral binders, aggregates and additives

##### Hazardous components

EC No	Chemical name	Quantity
CAS No	Classification	
Index No	GHS classification	
REACH No		
266-043-4	Portland cement	30 - 99 %
65997-15-1	Xi - Irritant R37/38-41-43 STOT SE 3, Skin Irrit. 2, Eye Dam. 1, Skin Sens. 1; H335 H315 H318 H317	
270-659-9	Portlandcement, Flue dust	0 - 5 %
68475-76-3	Xi - Irritant R37/38-41-43 STOT SE 3, Skin Irrit. 2, Eye Dam. 1, Skin Sens. 1; H335 H315 H318 H317	
01-2119486767-17		

Full text of R and H phrases: see Section 16.

##### Further Information

The preparation is low in chromium. The content of soluble chromium (VI) compounds has been lowered with agent to below 2 ppm in the cement portion. Proper storage and compliance with the expiration date is a prerequisite for the effectiveness of the chromate reduction.



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#### **SECTION 4: First aid measures**

##### **4.1. Description of first aid measures**

###### **General information**

If you feel unwell, seek medical advice (show the label where possible). Show this safety data sheet to the doctor in attendance. If unconscious, place the person in the recovery position and seek medical advice immediately. Never give anything by mouth to an unconscious person. Protection is needed for the First Aider.

###### **After inhalation**

Fresh air supply. Upon irritation of the respiratory tract or mucous membranes (e.g. coughing), indisposition or prolonged exposure, consult a doctor.

Oxygen, if needed. Lay the affected person down, and keep her or him warm and calm.

Large quantities: Call a physician immediately.

###### **After contact with skin**

Remove adhering matter immediately. Before washing use a dry brush to remove dust from skin. Wash contaminated skin areas thoroughly with soap and water. Rinse well with water. Take off contaminated clothing and shoes immediately. Remove and wash contaminated clothing before re-use. If skin irritation persists, call a physician.

No rings, watches or similar things should be worn. Product residues can remain and, therefore, can trigger skin reactions.

###### **After contact with eyes**

Rinse with plenty of water immediately, also under the eyelids, for at least 15 minutes. Remove contact lenses, if applicable. Keep eye wide open while rinsing. Do not rub eyes dry, because the mechanical stress can cause additional corneal injury. Consult an ophthalmologist immediately. Protect unharmed eye.

###### **After ingestion**

Do not induce vomiting. Rinse mouth. Liquid spit out! Drink 1 or 2 glasses of water. Call a physician immediately.

Lay the affected person down, and keep her or him warm and calm.

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

Irritation of the eyes, skin and mucous membranes. Danger of corrosion.

Conjunctivitis, Danger of blindness, Abdominal pain

Chronic exposure may cause dermatitis.

Repeated inhalation can lead to prolonged respiratory tract illnesses.

Literary reference (1)

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

Symptomatic treatment (decontamination and vital functions).

#### **SECTION 5: Firefighting measures**

##### **5.1. Extinguishing media**

###### **Suitable extinguishing media**

The product is not flammable. Use extinguishing measures that are appropriate to the environment.

###### **Unsuitable extinguishing media**

High volume water jet.



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#### **5.2. Special hazards arising from the substance or mixture**

The product itself does not burn.

#### **5.3. Advice for firefighters**

In the event of fire, wear self-contained breathing apparatus.

#### **Additional information**

Prevent extinguishing water used by the fire department, or any other forms of the diluted product, from ending up in surface water or drinking water reservoirs. Contaminated extinguishing water and soil must be disposed of in accordance with official regulations.

### **SECTION 6: Accidental release measures**

#### **6.1. Personal precautions, protective equipment and emergency procedures**

Do not breathe dust. Use personal protective equipment. When handling the product, follow hygiene and safety precautions. Protect leaked material with tarpaulins to prevent it blowing away. (See section 7.)

#### **6.2. Environmental precautions**

Do not allow material to contaminate ground water system. Do not flush into surface water or sanitary sewer system. Avoid subsoil penetration.  
Contact the responsible authority immediately if the product ends up in the soil, a body of water, or the sewer system.

#### **6.3. Methods and material for containment and cleaning up**

- Mop up whilst dry. Use approved industrial vacuum cleaner for removal. (EPA / HEPA - filter, EN 1822 - 1:2009)
- Avoid dust formation. Use breathing apparatus.
- or
- Moisten and remove. Allow to solidify, use mechanical handling equipment. Dispose of as described in section 13.

#### **6.4. Reference to other sections**

See section 8.

### **SECTION 7: Handling and storage**

#### **7.1. Precautions for safe handling**

##### **Advice on safe handling**

Avoid dust formation. Do not breathe dust. Avoid contact with skin, eyes and clothing. Do not eat, drink, smoke or take snuff at work. Keep away from food and drink. Do not allow product to come in contact with humid air before use.

For bagged goods and when using open mixing containers, first fill with water, then carefully add the dry cement. Maintain low drop height. Start stirrer slowly.

##### **Advice on protection against fire and explosion**

No special protective measures against fire required.

##### **Further information on handling**

When handling the product, follow hygiene and safety precautions. Handle, store and transport in compliance with local regulations and in labelled containers that are suitable for this product. When using do not eat or drink.

#### **7.2. Conditions for safe storage, including any incompatibilities**

##### **Requirements for storage rooms and vessels**

See information supplied by the manufacturer. Store only in the original container. Never allow product



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to get in contact with water during storage. Keep in a dry, cool place. Protect from contamination. Protect from humid air and water. Use only clean equipment.

#### Further information on storage conditions

When not in use, the product must be stored in its original transport packing. Store product upright. Keep containers dry and tightly closed to avoid moisture absorption and contamination. Proper storage and compliance with the expiration date is a prerequisite for the effectiveness of the chromate reduction.

#### 7.3. Specific end use(s)

No data available.

### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

##### Occupational exposure limits

CAS No	Substance	ppm	mg/m <sup>3</sup>	fib/cm <sup>3</sup>	Category	Origin
65997-15-1	Cement (Portland), total inhalable dust	-	10		TWA (8 h)	
		-	-		STEL (15 min)	

#### 8.2. Exposure controls

##### Appropriate engineering controls

When the concentration in the air is over the maximum occupational exposure limit, an approved respiratory protection apparatus must be worn. In case of dust release use dust mask. Provide for appropriate exhaust ventilation and dust collection at machinery.

Literary reference (3) MEASE

##### Protective and hygiene measures

Avoid contact with skin and eyes.

Remove and wash contaminated clothing before re-use. Do not eat, drink, smoke or take snuff at work.

Wash hands before breaks and at the end of workday. Shower or bathe at the end of working.

##### Eye/face protection

In case of risk of splashing, wear protective glasses. Tightly fitting safety goggles (EN 166).

##### Hand protection

Protective gloves, chemical-resistant. The manufacturer recommends the following glove materials: nitril-impregnated cotton gloves with CE Mark. Safety gloves should be selected for the actual conditions of use and in accordance with the instructions for use provided by the manufacturer. Use tested protective gloves. Protective gloves should be replaced immediately if damaged or in case of signs of wear. Please note that the daily use of a chemical glove in practice may be considerably shorter than the permeation time calculated in EN 374 as a result of many different factors (for example temperature). Gloves made of the following materials are not suitable: leather gloves.

Wear gloves only with clean hands.

Wash and dry one's hands after use of gloves. Preventive skin protection by skin protection cream.

##### Skin protection

Wear suitable protective clothing. Protect from water.

Impervious clothing, long sleeved clothing / closed work clothing, safety shoes / boots. Take off all contaminated clothing immediately.



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Avoid contact of powder with neck and wrists due to possible skin irritation and / or dermatitis. No rings, watches or similar things should be worn. Product residues can remain and, therefore, can trigger skin reactions.

#### Respiratory protection

effective dust mask EN149, EN140, EN14387, EN1827 (Respirator with FFP1 or FFP2 filter).

In the case of respirable dust and/or fumes, use self-contained breathing apparatus and dust impervious protective suit.

#### Environmental exposure controls

Should not be released into the environment. The official regulations are to be followed.

### SECTION 9: Physical and chemical properties

#### 9.1. Information on basic physical and chemical properties

Physical state:	powder
Colour:	grey / white
Odour:	odourless

#### Test method

pH-Value (at 20 °C):	11,0 - 13,5*
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#### Changes in the physical state

Melting point:	> 1250 °C
Flash point:	n.a.

#### Explosive properties

The product is not explosive.

Lower explosion limits:	n.a.
Upper explosion limits:	n.a.
Ignition temperature:	n.a.
Vapour pressure:	n.a.
Density:	2,75 - 3,2 g/cm <sup>3</sup>
Bulk density:	0,9 - 1,5 kg/m <sup>3</sup>
Water solubility: (at 20 °C)	0,1 - 1,5 g/L
Partition coefficient:	n.a.
Viscosity / dynamic:	n.a.
Viscosity / kinematic:	n.a.
Evaporation rate:	n.a.

#### 9.2. Other information

\*pH (solid - water 2:1)

### SECTION 10: Stability and reactivity

#### 10.1. Reactivity

Reacts with water to develop heat.

#### 10.2. Chemical stability



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Stable under proper storage and handling.

#### **10.3. Possibility of hazardous reactions**

No dangerous reactions occur under normal storage conditions and in normal use.

#### **10.4. Conditions to avoid**

Stable at normal conditions.

#### **10.5. Incompatible materials**

acids, aluminium, ammonium salts  
Corrodes base metals.

#### **10.6. Hazardous decomposition products**

No decomposition if stored and applied as directed.

#### **Further information**

Never allow product to get in contact with water during storage.

### **SECTION 11: Toxicological information**

#### **11.1. Information on toxicological effects**

##### **Acute toxicity**

No data is available on the product itself.

Long term exposure to concentrations over the maximum occupational exposure limit can lead to health problems. Product dust may be irritating to eyes, skin and respiratory system. Risk of infection of the lung after prolonged inhalation of dust particles. These may irritate eyes, nose and throat. Dust causes irritation to the eyes, skin and mucous membranes and may lead to toxic lung oedemas.

Swallowing large amounts can be detrimental to health. Ingestion causes irritation of upper respiratory system and gastrointestinal disturbance.

Toxicity after skin contact:

LD50/dermal/rabbit: 2000 mg/kg (24 h) (4)

##### **Irritation and corrosivity**

The product causes irritation of eyes, skin and mucous membranes.

After eye contact:

Irritating to eyes. Resin particles, like other inert materials, are mechanically irritating to eyes. At high concentrations product causes severe inflammation of conjunctiva and cornea. May cause irreversible eye damage. Danger of blindness.

After skin contact:

Repeated or prolonged exposure

Product can cause local skin irritation especially in skin folds or when wearing of tight clothing. May cause: redness. May cause skin irritation and/or dermatitis.

In some individuals, eczema can form after contact with wet cement.

Literary reference (4, 11,12)

##### **Sensitising effects**

The eczema is triggered either by the pH value (irritative contact dermatitis) or by immunological reactions with water-soluble chromium (VI) compounds (allergic contact dermatitis). (Literary reference 1, 5, 13)

##### **STOT-single exposure**

lungs (Difficulty in breathing)

Literary reference (1, 17)



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#### Severe effects after repeated or prolonged exposure

Inhalation of dust may cause shortness of breath, tightness of the chest, a sore throat and cough. Repeated or continued skin contact can cause skin changes. This preparation is a skin irritant, and repeated contact can intensify the irritant effect. Repeated or prolonged contact causes sensitisation, asthma and eczemas. Excessive exposure may aggravate preexisting asthma and other respiratory disorders (e.g. emphysema, bronchitis, reactive airways dysfunction syndrome).

#### Carcinogenic/mutagenic/toxic effects for reproduction

No data is available on the product itself.  
Literary reference (1, 14, 15, 16)

#### Practical experience

#### Other observations

When mixed with water, the product may produce serious eye for individuals and skin damage in case of extended contact. Mechanical skin stress at the same time is able to intensify such effects.

## SECTION 12: Ecological information

### 12.1. Toxicity

Slight acute toxicity. - Daphnia Magna (U.S. EPA, 1994a) (7); algae (*Selenastrum capricornutum*) (U.S. EPA, 1993) (8).

The product is not considered to be hazardous to water organisms.

Aquatic toxicity:

Larger amounts: A possible toxic effect on aquatic life cannot be ruled out as a result of the change in pH value.

If the product is release it is primarily adsorbed by sediments and soil.

### 12.2. Persistence and degradability

Not applicable

### 12.3. Bioaccumulative potential

Not applicable,

### 12.4. Mobility in soil

Not applicable,

### 12.5. Results of PBT and vPvB assessment

Not applicable

### 12.6. Other adverse effects

None known.

#### Further information

Do not flush into surface water or sanitary sewer system. Do not allow material to contaminate ground water system. Avoid subsoil penetration.

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

#### Advice on disposal

Hardened material : Disposal in accordance with the official regulations.  
Do not flush into surface water or sanitary sewer system.

Waste from residues

Unhardened material - Mop up whilst dry. Mop up avoiding dust formation and proceed as set out in





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the Waste Law.

#### Waste disposal number of waste from residues/unused products

170101 CONSTRUCTION AND DEMOLITION WASTES (INCLUDING EXCAVATED SOIL FROM CONTAMINATED SITES); concrete, bricks, tiles and ceramics; concrete

#### Waste disposal number of used product

101314 WASTES FROM THERMAL PROCESSES; wastes from manufacture of cement, lime and plaster and articles and products made from them; waste concrete and concrete sludge

#### Waste disposal number of contaminated packaging

150110 WASTE PACKAGING; ABSORBENTS, WIPING CLOTHS, FILTER MATERIALS AND PROTECTIVE CLOTHING NOT OTHERWISE SPECIFIED; packaging (including separately collected municipal packaging waste); packaging containing residues of or contaminated by dangerous substances  
Classified as hazardous waste.

#### Contaminated packaging

Empty containers must be completely drained to the state of the art before being disposed of. Dispose according to the local regulations. After use recycling.

### SECTION 14: Transport information

#### Land transport (ADR/RID)

##### Other applicable information (land transport)

Not classified as dangerous regarding transport regulations.

#### Inland waterways transport (ADN)

##### Other applicable information (inland waterways transport)

Not classified as dangerous regarding transport regulations.

#### Marine transport (IMDG)

##### Other applicable information (marine transport)

Not classified as dangerous regarding transport regulations.

#### Air transport (ICAO)

##### Other applicable information (air transport)

Not classified as dangerous regarding transport regulations.

#### 14.5. Environmental hazards

Dangerous for the environment: no

#### 14.6. Special precautions for user

Not classified as dangerous regarding transport regulations.

#### 14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

Not classified as dangerous regarding transport regulations.

### SECTION 15: Regulatory information

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

##### EU regulatory information

##### Additional information

No Substances of Very High Concern (SVHC) according REACH Article 57.  
Observe : Directive 1907/2006 (REACH) ANNEX XVII, 47

##### National regulatory information



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Water contaminating class (D): 1 - slightly water contaminating

#### 15.2. Chemical safety assessment

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

### SECTION 16: Other information

#### Full text of R phrases referred to under Sections 2 and 3

Irritating to respiratory system and skin.  
Risk of serious damage to eyes.  
May cause sensitisation by skin contact.

#### Full text of H statements referred to under Sections 2 and 3

Causes skin irritation.  
May cause an allergic skin reaction.  
Causes serious eye damage.  
May cause respiratory irritation.

#### Further Information

The information is based on present levels of our knowledge. It does not, however, give assurances of product properties and establishes no contract legal rights.

The product is to be used exclusively for the applications named in the technical leaflet or in the processing instructions.

The receiver of our product is singularly responsible for adhering to existing laws and regulations.

#### Literary reference

- (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 „Arbeitsplatzgrenzwerte“, 2009, GMBI Nr.29 S.605.
- (3) 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>.
- (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.



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(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](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 conference 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) 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.

IMDG - International Maritime Dangerous Goods

IATA - International Air Transport Association

ADR/RID - Agreement on the transport of dangerous goods by road/Regulations on the international transport of dangerous goods by rail

n.a. = not applicable

n.d. = not determined

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