



SAFETY DATA SHEET

Prepared in accordance with Annex II of REACH Regulation EC No. 1907/2006,
Regulation (EC) No. 1272/2008 and Regulation (EU) No. 2015/830

Version: 2.1/CZ

Revision Date: April 2017

Print Date: 9. October 2017

SECTION 1 IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifier

Name of mixture: Dry cement- and calcium hydrate-based plaster and mortar according to EN 998-1, EN 998-2, ETAG 004 - Mixtures for alternative uses in building industry

Synonyms: Lightweight mortar: Multipor, Xella Leichtputz, YTONG Innenputz

Please remember that the list is not intended to be exhaustive.

Chemical name and formula: Mixture
Trade name: See above
CAS: Mixture
EINECS: Mixture
Molar weight: Mixture
REACH Registration No.: Not registered, mixture

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

Dry mortar and plaster mixes - construction - for more information see the technical data sheets

Please remember that the list is not intended to be exhaustive.

Not recommended use: There is no not recommended use.

1.3 Details of the supplier of the safety data sheet

Name: VÁPENKA VITOŠOV s.r.o.
Address: č.p. 54, 789 01 Hrabová
Phone: +420 583 480 111, +420 583 480 306
Fax: +420 584 480 120, +420 584 480 140
E-mail of a competent person responsible for SDSs in the relevant country or in the EU: jiri.bachtik@salith.cz

1.4 Emergency telephone number

Emergency telephone number in Europe: 112
Number of the National Centre for the Prevention and Treatment of Intoxication:
Department of Occupational Diseases, Toxicological Information Centre
Na Bojišti 1, 128 08 PRAHA 2 224 919 293, 7/24 service
224 915 402, 224 914 570 – 1, 224 964 234
In-house phone for emergencies: +420 583 480 277
Available outside office hours: Yes No

SECTION 2 HAZARD IDENTIFICATION¹⁾

2.1 Classification of the substance or mixture

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

Hazard class	Hazard category
Skin irritation (Skin Irrit. 2, H315)	2
Serious eye damage/eye irritation (Eye Dam 1, H318)	1
Skin sensitisation (Skin Sens. 1B, H317)	1B
Specific target organ toxicity - single exposure, Respiratory tract irritation (STOT SE 3, H335)	3

Hazard statements:

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

2.2 Label elements

2.2.1 Labelling according to Regulation (EC) No 1272/2008

Signal word: Danger

Hazard symbol:



Hazard statements:

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

Instructions for safe handling (6 most serious on the packaging, if all precautions are covered):

- P102: Keep out of reach of children.
P261 Avoid inhalation of dust.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
P305+P351+P338 EYE CONTACT: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.



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P310	Call the POISON CENTRE or get medical help immediately.
P312	Call the POISON CENTRE or get medical help, if you feel unwell.
P302+P352	SKIN CONTACT: Wash with plenty of soap and water.
P333+P313	In case of skin irritation or rash: Get medical advice/ attention.
P304+P340	INHALATION: Remove the victim to fresh air and keep at rest in a position comfortable for breathing.
P501	Dispose of the contents/packaging according to the waste and packaging regulations as amended.

2.3 Other hazards

The substances in the mixture do not meet the criteria for PTB or vPvB according to Annex XIII of REACH (Regulation (EC) No 1907/2006).

No other hazards were detected.

- ¹⁾ This safety data sheet applies to original mixtures; materials after curing and maturing have no hazardous properties

SECTION 3 COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Not applicable - mixture.

3.2 Mixtures

Composition of the mixture, classification and identification of the mixture components (main components and ingredients contributing to the classification):

Component	Content (wt.%)	Reg. number	EINECS	CAS	According to Regulation (EC) No. 1272/2008	
					Hazard classes and categories	Hazard Statements
Portland clinker (cement)	< 40	Excluded from registration, 02-21196821 67-37-0000	266-043-4	65997-15-1	Skin Irrit. 2 Eye Dam 1 Skin Sens.1B* STOT SE 3, respiratory tract irritation	H315 H318 H317* H335
Calcium hydrate (calcium hydroxide) Ca(OH) ₂	Max. 2	01-21194751 51-45-0086	215-137-3	1305-62-0	Skin Irrit. 2 Eye Dam 1 STOT SE 3, respiratory tract irritation	H315 H318 H335
Glass (oxides, sodium-potassium)	< 60	?	266-046-0	65997-17-3	-	-

*For white cement clinker



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SECTION 4 FIRST AID

4.1 Description of first aid measures

General guidelines

No delayed effects are known. In case of any problems, consult a physician.

Inhalation

Remove the dust source or carry the person to fresh air. If necessary, seek medical advice.

Skin contact

Clean the contaminated surface carefully and gently to remove any traces of the product. Immediately wash the contaminated area with plenty of water. Remove contaminated clothing, shoes, watches, etc. If necessary, seek medical advice.

Eye contact

Open the eyelids, rinse the eyes with plenty of water for at least 20 minutes and seek medical help.

Do not rub your eyes to prevent mechanical damage to the cornea.

Remove contact lenses if present and easy to do. Continue rinsing.

Ingestion

If the person is conscious, wash their mouth with water and have them drink plenty of water. Do NOT induce vomiting. Get medical attention.

4.2 Most important acute and delayed symptoms and effects

The material is not acutely toxic by oral, dermal or inhalation route. The substance is classified as irritating to the skin and the respiratory tract and causes serious eye damage. Prolonged or repeated contact may cause contact dermatitis. Long-term repeated inhalation increases the risk of the development of lung diseases. The main health hazards are local effects - pH effects.

4.3 Advice on immediate medical attention and special treatment

Follow the instructions provided in section 4.1

SECTION 5 FIRE FIGHTING MEASURES

5.1 Extinguishing media

5.1.1 Suitable extinguishing media

Suitable extinguishing media: The product is non-flammable. Use a dry powder, foam or CO₂ fire extinguisher to fight fire.

Take appropriate firefighting measures considering the circumstances (situation) and the environment.

5.1.2 Unsuitable extinguishing media

Do not use water for the mixture. Protect from moisture. No unsuitable extinguishing media are known for the cured and matured material.

5.2 Special hazards arising from the substance or mixture

The mixture is not flammable or explosive, does not allow or support the burning of other materials.



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5.3 Advice for firefighters

The material does not create fire hazard, firefighters do not need any special protective equipment. Avoid generation of dust. Mount respiratory protective device. Take appropriate firefighting measures considering the circumstances (situation) and the environment.

SECTION 6 ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

6.1.1 For workers other than emergency workers

Ensure adequate ventilation.

Keep a minimum level of dust.

Keep all unprotected persons away.

Avoid contact with skin, eyes and clothing - use suitable protective equipment (see section 8).

Avoid inhalation of dust - ensure adequate ventilation and/or use appropriate respiratory protective equipment and other protective equipment (see section 8).

Protect the original mixture from moisture.

Observe the instructions for safe handling and use in Section 7.

6.1.2 For workers intervening in case of emergency

No emergency procedures are required.

Keep a minimum level of dust.

Ensure adequate ventilation.

Keep all unprotected persons away.

Avoid contact with skin, eyes and clothing - use suitable protective equipment (see section 8).

Avoid inhalation of dust - ensure adequate ventilation and/or use appropriate respiratory protective equipment and other protective equipment (see section 8).

Protect the original mixture from moisture.

6.2 Environmental precautions

Avoid leak and spillage of the material. Keep the material dry, if possible. Cover the area to avoid unnecessary risk of dusting, if possible. Avoid uncontrolled leakage into watercourses/water bodies and sewerage (risk of pH increase).

6.3 Methods and material for containment and cleaning up

Dusting shall be avoided in any case.

Keep the material dry, if possible.

Collect the material mechanically and dry. If it is not polluted or otherwise degraded, it can be reused.

Use a vacuum cleaner (high efficiency particulate filters - EPA and HEPA - EN 1822-1: 2009) that does not cause scattering/dusting or put the product in bags with a dustpan. Avoid the use of compressed air.

Workers shall wear appropriate personal protective equipment and prevent dust spreading. Prevent inhalation of dust and skin and eye contact.



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Wet material - place it in suitable containers, allow it to dry and solidify and dispose of according to section 13.

6.4 Reference to other sections

For more information on exposure control / protection of persons and disposal, please refer to sections 8 and 13.

SECTION 7 HANDLING AND STORAGE

7.1 Precautions for safe handling

7.1.1 Protective measures

Avoid contact with skin and eyes. Use personal protective equipment (see section 8 of this Safety Data Sheet). Do not wear contact lenses when handling the product. It is recommended to have an individual pocket eye shower available. Keep a minimum dust level. Minimize dust generation. Reduce dust sources using exhaust ventilation (dust collectors at handling sites).

7.1.2 Instructions for general hygiene at work

Avoid inhalation or ingestion of the material and skin and eye contact. General hygiene measures shall be taken to ensure safe handling of the material. These include proper personal and cleaning practices (i.e. regular cleaning using appropriate detergents). Do not drink, eat or smoke at work. At the end of the shift, take a shower and change your cloths.

7.2 Conditions for safe storage, including any incompatibilities

The mixture should be stored in dry conditions. Avoid contact of the original mixture with air humidity. Large volumes should be stored in dedicated silos. Keep out of reach of acids, do not use aluminium packaging. Keep out of the reach of children and away from food, drink, feedstuff and smoking accessories. Packaged products should be stored in original, well-sealed bags, in a cold and dry place, protected from dirt, to avoid loss of quality.

7.3 Specific end use(s)

Not established.

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTIVE EQUIPMENT

8.1 Control parameters

Cement

Inhalation DNEL (8h) 3 mg/m³

Dermal DNEL: Not applicable

Oral DNEL: Not relevant

DNEL values apply to respirable dust while the exposure estimates for the MEAS reflect the respirable (inhalable) fraction. Therefore, an additional safety reserve is inherently included in the assessment of risk and derivative risk control measures.

There is no DNEL for cements for dermal (skin) exposure of personnel, resulting from safety studies or human practice. As cements are classified as irritating to the skin and eyes, the dermal exposure must be reduced to the technically feasible minimum.



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PNEC aquatic environment: Not applicable

PNEC sediment: Not applicable

PNEC soil environment: Not applicable

The assessment of exposure with respect to the aquatic environment is based on possible changes in pH. Exposure is determined by evaluating the resulting impact of pH. The pH of surface water, ground water and waste water to the WWTP should not be higher than 9.

Calcium hydrate - calcium hydroxide:

Occupational exposure limit (OEL), 8 h TWA: 1 mg/m³ of inhalable fraction of calcium oxide / calcium hydroxide dust

Short-term exposure limit (STEL), 15 min: 4 mg/m³ of inhalable fraction of calcium oxide / calcium hydroxide dust

PNEC, water = 370 µg/l

PNEC, soil/soil moisture = 816 mg/l

Occupational health limits (NV No. 361/2007 Coll.):

The permissible exposure limit (PEL) of a chemical substance or dust is a full-shift time weighted average of the concentrations of gas, vapour or aerosol in the workplace atmosphere, that according to the current state of knowledge a worker may be exposed to in an eight hour or shorter shift of weekly working time without a risk of health damage, deterioration of their working ability and performance in the lifetime occupational exposure. The permissible exposure limit is set for work where the average pulmonary ventilation of a worker does not exceed 20 litres per minute in an eight-hour shift. The concentration of a chemical or dust in a non-process working atmosphere must not exceed 1/3 of the permissible exposure limits.

The maximum permissible concentration (NPK-P) is a concentration of a chemical that workers can be continuously exposed to for a short period of time without irritation of eyes or respiratory tract, or threatening their health and working performance reliability. When assessing the working atmosphere, the time-weighted average concentration of this substance measured for a maximum of 15 minutes can be compared with the highest permissible concentration. Such 15-minute periods of time with an average concentration above the exposure limit value but not exceeding the maximum permissible concentration may occur maximum 4 times at hour intervals within an eight-hour shift. In this case, the time-weighted average of concentrations for the entire shift should not exceed the value of the permissible exposure limit.

PEL for the total dust concentration (breathable fraction) is identified as PEL_c. An inhalable dust fraction is defined as airborne dust particles that can be inhaled by nose or mouth. (The particle size of the breathable fraction is 10 - 100 µm, respirable fraction <10 µm)

Occupational exposure limits to workplaces according to Government Regulation No. 361/2007 Coll., Guidance Exposure Limits to Workplaces according to Commission Directive 2000/39/EC

Substance	Government Regulation No. 361/2007 Coll.			Commission Directive No. 2000/39/EC			
	PEL _c (mg/m ³)	PEL (mg/m ³)	NPK-P (mg/m ³)	8h (mg/m ³)	8h (ppm)	Short term (mg/m ³)	Short term (ppm)
Portland clinker	10	-	-	-	-	-	-

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Substance	Government Regulation No. 361/2007 Coll.			Commission Directive No. 2000/39/EC			
	PEL _c (mg/m ³)	PEL (mg/m ³)	NPK-P (mg/m ³)	8h (mg/m ³)	8h (ppm)	Short term (mg/m ³)	Short term (ppm)
(cement)							
Calcium hydrate, calcium hydroxide	-	2	4	-	-	-	-
Vinyl acetate	-	18	36	-	-	-	-

8.2 Exposure controls

To reduce exposure, it is necessary to prevent the generation and spread of dust (dust removal, exhaust ventilation, suitable cleaning methods). Use of appropriate personal protective equipment is also recommended. Eye protection (e.g. protective goggles or face shields) must be used and facial protection, protective clothing and safety shoes must be worn as required and appropriate.

8.2.1 Appropriate technical controls

If dust is generated by the user activity, use local ventilation or other technical measures to keep the dust concentration below the recommended exposure limit.

8.2.2 Individual protective measures including personal protective equipment

8.2.2.1 General

Avoid kneeling in fresh mortar whenever possible. If kneeling cannot be avoided, use appropriate waterproof personal protective equipment.

Do not eat, drink or smoke while working with the material to prevent skin or mouth contact. Before starting work, apply protective cream and use it repeatedly at regular intervals. Workers shall wash themselves or have a shower or use skin moisturizing agents immediately after work. Remove contaminated clothing, shoes, watches, etc., and clean them thoroughly before reuse.

8.2.2.2 Eye and face protection



Do not wear contact lenses. Due to the dust, tight goggles (EN 166) with side protection or glasses with panoramic glasses are required. It is also advisable to have a pocket eye shower available.

8.2.2.3 Skin protection



The mixture is classified as irritating to skin and skin exposure shall be minimised as is technically feasible. The use of protective gloves (nitrile), standard protective working clothes completely covering skin, trousers (knee protection), long sleeved topcoats tightly fitting at openings and dust-proof boots is required. Use skin protection (including creams).

8.2.2.4 Respiratory protection



Ventilation is recommended to keep the dust concentration below the specified limit (threshold) values. If a person is potentially exposed to dust levels higher than the exposure limits, use respiratory protection. This should be adapted to the dust level and comply with the relevant EN standard (e.g. EN 149, EN 140, EN 14387, EN 1827) or with national standards.

8.2.2.5 Thermal hazard

As the mixture does not present a thermal hazard, no special measures are required.

8.2.3 Environmental exposure controls

According to the available technology.

All ventilation systems should be provided with filtration before an outlet into the atmosphere.

Avoid release to the environment, avoid penetration into water and sewerage. Capture any leaks (spill).

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties.

Appearance:	Solid material, finely ground powder, grey colour
Odour:	odourless
Odour threshold:	Not relevant
pH:	After mixing with water > 9 (at 20 °C)
Melting point/freezing point:	Not used (solid, > 450°C)
Boiling point and boiling range:	Not used (solid)
Flash Point:	Not used (solid)
Evaporation rate:	Not used (solid)
Flammability:	Non-flammable
Upper/lower limit values	
Flammability or explosiveness:	Non-combustible, non-explosive substance (free from any chemical structures normally associated with explosive properties)
Vapour pressure:	Not used (solid)
Vapour density:	Not relevant
Relative density:	About 2.5 to 3.5 (calculated from the original ingredients)
Solubility - in water:	low (< 2 g/l, 1.5 – 1.85 g/l)
Partition coefficient	
- n-octanol/water:	Not used (inorganic substance)
Auto-ignition temperature:	No temperature associated with self-ignition below 400°C
Decomposition temperature:	Not relevant
Viscosity:	Not used (solid)
Explosive properties:	Not used, non-explosive substance (free from any chemical structures normally associated with explosive properties)



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Oxidising properties: No oxidizing properties (based on the chemical structure, the substance does not contain free oxygen or any other structural groups known to react exothermically with flammable materials)

9.2 Other information

Not established.

SECTION 10 STABILITY AND REACTIVITY

10.1 Reactivity

After mixing with water, it hardens to a stable mass that is not reactive in the normal environment.

10.2 Chemical stability

The mixture is stable under normal conditions of use and storage (dry). Contact with incompatible materials should be avoided.

10.3 Possibility of hazardous reactions

The mixture reacts with acids and strong oxidizing agents.

10.4 Conditions to avoid

Minimize exposure to air and moisture to prevent degradation. Hardens with water.

10.5 Incompatible materials

Water, acids, strong oxidizing agents, aluminium.

10.6 Hazardous decomposition products

None.

SECTION 11 TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

11.1.1 Substances

The information is based on the data provided in the safety data sheets of input materials:

Hazard class	Cat.	Effect	Reference - SDS
Acute toxicity - dermal	-	OECD TG 402 limit test, rat, contact for 24 hours, 2000 mg/kg body weight. LD ₅₀ > 2500 mg/kg body weight (calcium hydroxide, OECD 402 rabbit) Based on available data, the classification criteria are not met.	Cement Lime hydrate



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Hazard class	Cat.	Effect	Reference - SDS
Acute toxicity - Inhalation (gases, vapours, dust and mist)	-	There were no acute effects if inhaled. LD ₅₀ > 2000 mg/kg body weight (OECD 425, rat) Based on available data, the classification criteria are not met.	Cement Lime hydrate
Acute toxicity - oral	-	No acute effects are known. Based on available data, the classification criteria are not met.	
Skin corrosion/irritation	2	May cause skin swelling or cracking when in contact with wet cement. Prolonged contact with concurrent friction can cause severe burns. Calcium hydroxide irritates skin (in vivo, rabbit). Based on experimental results, the mixture is classified as skin irritant [Skin Irrit 2 (H315 - Irritating to skin)]	Cement Lime hydrate
Serious eye damage/eye irritation	1	Portland cement clinker caused diverse effects on the cornea and the calculated irritation index was about 128. Direct contact with cement may cause corneal damage by mechanical stress, immediate or delayed irritation or inflammation. Direct contact with larger amounts of dry cement dust or staining/spraying with wet cement may cause various effects from mild eye irritation (e.g. conjunctivitis and palpebritis) up to chemical burns and blindness. Calcium hydroxide poses the risk of serious eye damage (eye irritation study (<i>in vivo, rabbit</i>)). According to experimental results, the mixture requires classification as highly irritating to eye [Eye Damage 1] (H318 - Causes serious eye damage)].	Cement Lime hydrate
Skin sensitisation	1B	After exposure to wet cement dust, some individuals may suffer eczema caused either by high pH which induces contact dermatitis by irritation after prolonged contact, or immunological reaction to soluble Cr (VI), which induces allergic contact dermatitis. The reaction may occur in various forms from mild rash to severe dermatitis and it is a combination of the two mechanisms above. If the cement contains a reducing agent to reduce the content of soluble Cr (VI), and if the limit for the soluble Cr (VI) is not exceeded in the shelf life, no sensitising effect is expected. No data available. Calcium hydroxide is a substance that does not sensitize the respiratory tract based on the nature of the phenomenon (change in pH) and the essential need for calcium for human nutrition. On the basis of knowledge, the mixture requires classification as skin sensitizing [Skin Sens. 1B (H317 - May cause an allergic skin reaction)].	Cement Lime hydrate
Respiratory sensitisation	-	There are no signs of respiratory hyperresponsiveness. No data available. Calcium hydroxide is a substance that does not sensitize the skin based on the nature of the phenomenon (change in pH) and the essential need of calcium for human nutrition. Based on available data, the classification criteria for sensitization are not met.	Cement Lime hydrate
Germ cell mutagenicity	-	No indication. Reverse mutation test on bacteria (Ames test, OECD 471): negative	Cement Lime hydrate



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Hazard class	Cat.	Effect	Reference - SDS
		Considering the ubiquity and essential nature of Ca and the physiological irrelevance of any pH change induced by calcium hydroxide in aqueous environments, Ca(OH) ₂ is clearly devoid of any genotoxic potential. Based on available data, the mutagenicity classification criteria are not met.	
Carcinogenicity	-	No causal relationship between the exposure to cement and cancer has been confirmed. Epidemiological literature does not list Portland cement as a possible human carcinogen. Portland cement is not classified as a human carcinogen (according to ACGIH A4: Agents with the concern that they could be carcinogenic for humans but which cannot be definitively assessed due to the lack of data. In vitro studies and animal tests do not provide indications of carcinogenicity, which would be sufficient for the classification of the agent by any other identification). Calcium (as calcium lactate) is not carcinogenic (experimental result, rat). The effect of calcium hydroxide on pH has no effect on carcinogenicity. Human epidemiological data support the assumption that calcium hydroxide has no carcinogenic potential. Based on available data, the classification criteria for carcinogenicity are not met.	Cement Lime hydrate
Reproductive toxicity	-	Calcium (as calcium carbonate) is not toxic for reproduction (experimental result, mouse). The effect on pH does not affect reproduction. Human epidemiological data support the assumption that calcium oxide has no potential for reproductive toxicity. No reproductive or developmental effects were detected in animal studies and human clinical trials of various calcium salts. Thus, calcium hydroxide is not toxic for reproduction or development. The classification criteria for reproductive toxicity according to Regulation (EC) No. 1272/2008 are not met.	Lime hydrate
STOT-single exposure	3	Portland cement dust may irritate the throat and respiratory tract. After exposing a person to concentrations higher than the exposure limits at the workplace, cough, sneezing and wheeziness / dyspnea may develop. All in all, the evidence clearly indicates that occupational exposure to cement dust causes respiratory function insufficiency. However, the available evidence is currently insufficient to establish some certainty in relation to the dose and effects. The data (experience) found in humans indicates that Ca(OH) ₂ irritates the respiratory tract. According to the known information and based on human data, the mixtures are classified as irritating to the respiratory tract; STOT SE 3 (H335 - May cause respiratory irritation).	Cement Lime hydrate
STOT - repeated exposure	-	There is COPD indication. The effects are only acute in case of high exposure. No adverse chronic effects or effects at lower concentrations were observed. Oral calcium toxicity is given by the upper limit (UL) for adults determined by the Scientific Committee for Food (SCF), i.e. UL = 2500 mg/d, equivalent to 36 mg/kg body weight/d (70 kg body weight) for calcium. Dermal Ca(OH) ₂ toxicity is not considered relevant with regard to the assumed insignificant absorption through the skin and due to local irritation, which is	Cement Lime hydrate



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Hazard class	Cat.	Effect	Reference - SDS
		the primary health effect (change in pH). Inhalation Ca(OH) ₂ toxicity (local effect, mucosal irritation) is determined by 8-h TWA according to the Scientific Committee on Occupational Exposure Limits (SCOEL) as 1 mg/m ³ of breathable dust fraction. (See section 8.1) Based on available data, the classification criteria are not met.	
Aspiration hazard	-	Not applicable; as no data indicating an aspiration hazard is available, the classification criteria are not met.	

Note: The data for CaO and Ca(OH)₂ is intertwined and the validity of the information is commonly considered valid for both substances - calcium hydroxide is formed in the reaction of calcium oxide with water.

Health condition impaired by exposure

Inhalation of dust may aggravate existing respiratory diseases or medical condition such as emphysema or asthma or the existing condition of the skin or eyes.

11.1.2 Mixtures

The mixture is classified as irritating to the skin and respiratory tract and poses the risk of serious eye damage - see section 2.1. Occupational exposure limit to prevent local sensory irritation and limited functioning of the respiratory tract - see section 8.1.

SECTION 12 ECOLOGICAL INFORMATION

12.1 Toxicity

Cement:

The product is not dangerous for the environment. The ecotoxicological tests of Portland cement on *Daphnia magna* and *Selenastrum coli* showed only low toxic effects. Therefore, the LC₅₀ and EC₅₀ values could not be determined. There is no indication of sediment toxicity. However, the presence of large quantity of cement in water may increase pH and therefore, under certain circumstances, it may be toxic to aquatic life (aquatic environment, aquatic organisms).

Lime hydrate:

12.1.1 Acute/long-term toxicity to fish

LC₅₀ (96h) for freshwater fish: 50.6 mg/l (calcium hydroxide)

LC₅₀ (96h) for sea fish: 457 mg/l (calcium hydroxide)

12.1.2 Acute/long-term toxicity to aquatic invertebrates

EC₅₀ (48h) for freshwater invertebrates: 49.1 mg/l (calcium hydroxide)

LC₅₀ (96h) for marine invertebrates: 158 mg/l (calcium hydroxide)

12.1.3 Acute/long-term toxicity to aquatic plants

EC₅₀ (72h) for freshwater algae: 184.57 mg/l (calcium hydroxide)



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NOEC (72h) for seaweed: 48 mg/l (calcium hydroxide)

12.1.4 Toxicity for microorganisms, e.g. bacteria

At high concentration, calcium oxide is used for the disinfection of waste slurry through the increase in temperature and pH.

12.1.5 Chronic toxicity to aquatic organisms

NOEC (14d) for marine invertebrates: 32 mg/l (calcium hydroxide)

12.1.6 Toxicity to soil organisms

EC₁₀/LC₁₀ or NOEC for soil micro-organisms: 2000 mg/kg dry soil (calcium hydroxide)

EC₁₀/LC₁₀ or NOEC for soil micro-organisms: 1 2000 mg/kg dry soil (calcium hydroxide)

12.1.7 Toxicity to terrestrial plants

NOEC (21d) for terrestrial plants: 1080 mg/kg (calcium hydroxide)

12.1.8 General effects

Acute effect through pH change. Although this product is used to adjust of water acidity, the content increased by more than 1 g/l can be dangerous for aquatic life. The pH value >12 is rapidly decreased due to dilution and conversion into carbonate.

12.1.9 Other information

The results for Ca(OH)₂ can be used for calcium oxide because calcium hydroxide is formed in its contact with moisture.

12.2 Persistence and degradability

Not relevant, since mixtures are inorganic materials. Hardened mixture poses no risk.

12.3 Bioaccumulative potential

Not relevant, since mixtures are inorganic materials. Hardened mixture poses no risk.

12.4 Mobility in soil

Not relevant, since mixtures are inorganic materials. Hardened mixture poses no risk.

Calcium oxide reacts with water or carbon dioxide producing calcium hydroxide or calcium carbonate, which are poorly soluble and exhibit low mobility in most soils.



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12.5 Results of PBT and vPvB assessment

Not relevant, since mixtures are inorganic materials. Hardened mixture poses no risk.

12.6 Other adverse effects

Does not apply, does not cause other adverse effects.

Note: The material is ecotoxic, if LC, EC or IC \leq 10 ml/l, TU \geq 10. I.e. **the mixture is most likely not eco-toxic with regard to its most harmful component.**

SECTION 13 DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

The mixture should be disposed of in accordance with local and national legislation. The processing, use or contamination of this product may affect the selection of the methods of waste management. The mixtures can be reused, if they are not contaminated or otherwise degraded. Waste treatment methods are not used here.

Do not dispose of into sewerage or surface water.

A product containing cement that has exceeded its expiration date/shelf life (and when it has been confirmed that it contains more than 0.0002% soluble Cr(VI)): must not be used/sold otherwise than for use in controlled closed and fully automated processes or should be recycled or disposed of in accordance with applicable legislation, or reducing agent should be used.

Product - unused residues or spilled dry material

Collect dry unused residues or spilled dry material as it is. Mark the containers. The material may be reused considering the shelf life and the requirement to avoid dusting. In case of disposal, harden the product with water and dispose of according to section "Product - after mixing with water/addition of water, hardened" below.

Product - slurry

Allow the slurry to solidify, avoid its penetration or pouring into sewage and drainage systems or watercourses (e.g. streams) and dispose of as explained below in section "Product - after mixing with water/addition of water, hardened".

Product - after mixing with water/addition of water, hardened

Dispose of according to local legislation. Avoid penetration into the waste water system. Dispose hardened product as specific waste. Since hardening makes the material relatively inert, the waste is not hazardous waste.

E.g.

Catalogue waste numbers:

10 13 04 Wastes from calcination and lime slaking

(10 Wastes from thermal processes, 10 13 Wastes from the manufacture of cement, lime and gypsum and products thereof)

10 13 14 Waste concrete and concrete slurry

(10 Wastes from thermal processes, 10 13 Wastes from the manufacture of cement, lime and gypsum and products thereof)

17 01 01 Concrete

(17 Construction and demolition waste (including excavated soil from contaminated sites), 17 01 Concrete, bricks, tiles and ceramics)



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Empty the packaging completely and dispose of in accordance with legal regulations

15 01 01 Paper and cardboard packaging

(15 Waste containers, absorbents, cleaning cloths, filter materials and protective clothing not specified otherwise, 15 01 Packaging (including separately collected municipal packaging waste))

15 01 05 Composite packaging

(15 Waste containers, absorbents, cleaning cloths, filter materials and protective clothing not specified otherwise, 15 01 Packaging (including separately collected municipal packaging waste))

SECTION 14 TRANSPORT INFORMATION

The mixture is not classified as dangerous for transport (ADR (road), RID (railway), IMDG / GGVSea (maritime transport)).

14.1 UN number

Not applicable.

14.2 Appropriate UN shipping name

Not applicable.

14.3 Transport hazard class(es)

Not applicable.

14.4 Packing group

Not applicable.

14.5 Environmental hazards

None

14.6 Special precautions for users

Avoid any dust release during transport by using suitable transport vehicles for powder materials.

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

Not Regulated.

SECTION 15 REGULATORY INFORMATION

15.1 Safety, health and environmental protection regulations / specific regulations regarding the substance or mixture

Authorization: Not required



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Restrictions on use:

The placing on the market and the use of mixtures containing cement are limited by the content of soluble Cr(VI) - Annex XVII, point 47 of REACH

1. Cement and cement-containing mixtures must not be used or placed on the market if after mixing with water contain more than 0,0002% of soluble hexavalent chromium in the total dry cement weight.
2. If reducing agents are used, the packaging of cement or cement-containing mixtures shall be legibly and indelibly marked with information on the date of packaging as well as the storage conditions and time appropriate for maintaining the activity of the reducing agent and keeping the content of soluble hexavalent chromium below the limit referred to in paragraph 1, without prejudice to the application of other Community provisions on the classification, packaging and labelling of hazardous substances and mixtures.
3. By way of derogation, paragraphs 1 and 2 shall not apply to the placing on the market and use in controlled closed and fully automated processes, where cement and cement-containing products are only handled by machinery with no skin contact possible.

[To be completed by the manufacturer: Any national measures applicable to the mixture].

Other EU regulations: Does not contain substances of SEVESO category (Directive 96/82/EC), ozone-depleting substances or persistent organic pollutants.

EU regulations: **The manufacturer may add other documents**

Regulation (EC) No. 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH)

Regulation (EC) No. 453/2010 of the European Parliament and of the Council amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH)

Regulation (EC) No. 1272/2008 of the European Parliament and of the Council on Classification, Labelling and Packaging of substances and mixtures (CLP)

National regulations: **The manufacturer may add other documents**

Act No. 350/2011 Coll., On Chemical Substances and Chemical Mixtures and on Amendment to Certain Acts (Chemical Law), as amended, incl. implementing rules

Act No. 258/2000 Coll., On the Protection of Public Health and on Amendments to Certain Related Acts, as amended

Act No. 262/2006 Coll., Labour Code, as amended

Act No. 201/2012 Coll., On Air Protection, as amended

Act No. 254/2001 Coll., On Water and on Amendments to Certain Acts (Water Act), as amended

Act No. 185/2001 Coll., On Waste and on Amendments to Certain Other Acts (Act on Waste), as amended

Act No. 477/2001 Coll., On Packaging and on Amendments to Certain Acts (Act on Packaging), as amended

Decree No. 381/2001 Coll., establishing the Catalogue of Wastes, List of Hazardous Waste and lists of wastes and states for export, import and transit of waste and the procedure for approval of export, import and transit of waste (Waste Catalogue), as amended

Decree No. 383/2001 Coll., On the Details of Waste Management, as amended



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Government Decree No. 361/2007 Coll., laying down the conditions for the protection of the occupational health, as amended

Decree No. 432/2003 Coll., laying down the conditions for the classification of work into categories, limit values of biological exposure test indicators, conditions for the collection of biological material for biological exposure tests and details of the reports on work with asbestos and biological agents

Act No. 111/1994 Coll., On Road Transport, as amended

Decree No. 8/1985 Coll., On the Convention on International Carriage by Rail (COTIF), as amended

Decree No. 64/1987 Coll., On the European Agreement concerning the International Carriage of Dangerous Goods by Road (ADR), as amended

Act No. 120/2002 Coll., On the Conditions for the Marketing of Biocidal Products and Active Ingredients and on Amendments to Certain Related Acts, as amended

Government Decree No. 21/2003 Coll., laying down the technical requirements for personal protective equipment, as amended

Government Decree No. 495/2001 Coll., laying down the scope and details of the provision of personal protective equipment, washing agents, detergents and disinfectants, as amended

Act No. 372/2011 Coll., On Health Services and the Conditions for their Provision (Health Services Act), as amended

Act No. 262/2006 Coll., Labour Code, as amended

Decree No. 376/2001 Coll., On Evaluation of Hazardous Properties of Waste

15.2 Chemical Safety Assessment

No chemical safety assessment has been performed for this mixture. The chemical safety assessment has been carried out for input substances with hazardous properties contained in the mixture. This information is further applied and taken as a priority for the classification of the mixture. The exposure scenarios of these substances are attached as annex to the SDS.

SECTION 16 OTHER INFORMATION

The information is based on our latest knowledge but provides no guarantee of any specific product properties and does not establish any legally valid contractual relationship.

16.1 Standard hazard statements

H225 Highly flammable liquid and vapour.

H315 Causes skin irritation.

H317 May cause an allergic skin reaction

H318 Causes serious eye damage.

H335 May cause respiratory irritation.

16.2 Precautions for safe handling

P102: Keep out of reach of children.

P261 Avoid inhalation of dust.

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

P305+P351+P338 EYE CONTACT: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.

P310 Call the POISON CENTRE or get medical help immediately.

P312 Call the POISON CENTRE or get medical help, if you feel unwell.



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P302+P352	SKIN CONTACT: Wash with plenty of soap and water.
P333+P313	In case of skin irritation or rash: Get medical advice/ attention.
P304+P340	INHALATION: Remove the victim to fresh air and keep at rest in a position comfortable for breathing.
P501	Dispose of the contents/packaging according to the waste and packaging regulations as amended.

16.3 Abbreviations

ACGIH American Conference of Industrial Hygienists

ADR/RID European Agreements on the Transport of Dangerous Goods by Road/Railway

APF Assigned protection factor

SDS Safety Data Sheet

CAS Chemical Abstracts Service, CAS maintains the most comprehensive list of chemicals. Each substance registered in the CAS registry is assigned a CAS registry number. The CAS registry number (commonly referred to as CAS number) is widely used as a specific numerical identifier of chemical substances.

CLP Classification, labelling and packaging (Regulation (EC) No. 1207/2008)

COPD Chronic Obstructive Pulmonary Disease

WWTP Wastewater treatment plant

DNEL: Derived no-effect level

ECHA European Chemicals Agency

EINECS European Inventory of Existing Commercial Chemical Substances

ES/SE Exposure scenario

EU European Union

Eye Dam/Irrit Serious eye damage / irritation

EC₅₀ Median effective concentration (concentration that causes death or immobilisation of 50% of tested organisms, e.g. Daphnia magna)

EPA Type of high efficiency air filter

F Highly flammable

Flam.Liq. Flammable liquid

HEPA Type of high efficiency air filter

IATA: International Air Transport Association

IMDG International Agreement on the Maritime Transport of Dangerous Goods

IC₅₀ Inhibitive concentration (a concentration that causes a 50 percent inhibition of growth or growth rate of algal culture or a 50 percent inhibition of the growth of Sinapis alba root as compared to a control group over a selected period of time)

LC₅₀ Median lethal concentration (concentration that causes the death of 50% of the tested fish in a period of time)

LD₅₀ Median lethal dose

LVE Limit value of exposure

LOEL Lowest Observed Effect Level (the lowest tested dose or exposure level at which a statistically significant effect in the exposed population was observed compared to an appropriate control group)

MEASE Metals Estimation and Assessment of Substance Exposure, a tool for the estimate and assessment of substance exposure, EBRC Consulting GmbH for Eurometaux,
<http://www.ebrc.de/ebrc/ebrc-mease.php>



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NOEC No Observable Effect Concentration (the highest tested concentration of a toxic substance at which there were still no statistically significant adverse effects on the organisms in comparison with the control group (up to about 5% mortality), the concentration of no observable effect)

NOEL No Observed Effect Level (a dose with no observed adverse effect - the value of the dose with no observed effects is the highest tested dose value or exposure level at which no statistically significant effects in the treated group were observed compared with the relevant control group)

OECD Organization for Economic Co-operation and Development

OECD TG OECD Technical Guidance

OELV Occupational Exposure Limit Value

OEL Occupational Exposure Limit

PBT Persistent, Bioaccumulative and Toxic

PEL Permissible Exposure Limit

PEL_c Permissible Exposure Limit for Dust Concentration

PNEC Predicted No-Effect Concentration

REACH Registration, Evaluation and Authorization of Chemicals (Regulation (EC) No. 1907/2006)

SCOEL Scientific Committee on Occupational Exposure Limit Values

Skin Corr./Irrit. Skin corrosive/irritation

Skin Sens. – Skin sensitisation

STEL Short-term exposure limit

STOT Specific Target Organ Toxicity, SE - single exposure, RE - repeated exposure

STP Sewage treatment plant

TLV-TWA Threshold Limit Value - Time-Weighted Average (threshold limit, time-weighted average concentration of a chemical in the air (mg.m⁻³) that a worker may be exposed to during working hours, usually 8 hours)

TWA Time Weighted Average

VLE-MP Exposure limit value - weighted average in mg by cubic meter of air

vPvB Very persistent, very bioaccumulative

16.4 References to literature and data sources:

- (1) Safety data sheets of the manufacturers of mixture components
- (2) Original product safety data sheet
- (3) Technical sheets and specifications
- (4) DANCE database <http://www.mpo.cz/cz/prumysl-a-stavebnictvi/dance/seznam-klasifikovanych-latek.html>
- (5) ESIS database <http://esis.jrc.ec.europa.eu/>

16.5 Revision

April 2017 - Changes to the format of the Safety Data Sheet

16.6 Instructions for training

In addition to training programs on occupational health and safety and protection of the environment, the company must ensure that workers read this Safety Data Sheet (SDS), understand it and apply it.



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16.7 Scope of liability

This Safety Data Sheet (SDS) has been prepared in accordance with the legal provisions of REACH (EC 1907/2006, Article 31 and Annex II), as amended. It specifies the conditions for necessary preventive measures when handling the material. It is the responsibility of the recipients (customers, users, distributors, etc.) of the safety data sheet to ensure that the information contained therein is correctly understood by all personnel who can use, process, dispose of or in any way come into contact with the product. The information and instructions given in this SDS are based on the current state of scientific and technical knowledge at the time of publication. This information is reliable provided that the product is used under the prescribed conditions and in accordance with the intended uses stated on the packaging or in the technical instructions/material data sheets. The user shall be solely responsible for any other use of this product, including the use of this product in combination with any other product or any other process. This implies that the user is responsible for identifying appropriate security measures and enforcing legislation covering their own activities. This document does not guarantee the technical execution and processing of the material, its suitability for specific applications and does not replace a legally valid contractual relationship. This version of the Safety Data Sheet replaces all previous versions.

APPENDIX

There are exposure scenarios for cement and lime hydrate (Ca(OH)_2) applicable for this Safety Data Sheet.

End of Material Safety Data Sheet



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Cement

PROC	Intended use - Process category	Production / processing in building industry and construction materials	Professional / industrial use
2	Used in a continuous closed manufacturing process with occasionally controlled exposure (e.g. by sampling)	X	X
3	Used in a closed batch production process (synthesis or formulation)	X	X
5	Mixing or blending in batch processes for formulation of mixtures and articles (multistage and/or significant contact)	X	X
7	Spraying in industrial facilities and applications		X
8a	Transport of the substance/mixture (charging/discharging/ from/into vessels/large containers in non-specialised facilities		X
8b	Transport of the substance/mixture (charging/discharging/ from/into vessels/large containers in specialised facilities	X	X
9	Substance/mixture transport in small vessels (specialised filling line including weighing)	X	X
10	Application of adhesives and other surface materials by rollers or brushes		X
11	Spraying outside industrial facilities and applications		X
13	Treatment of articles by dipping and pouring		X
14	Production of mixtures or articles by tableting, compression, extrusion, pelletisation	X	X
19	Hand mixing, which involves direct contact with the substance; there is only personal protective equipment available		X

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22	Potentially closed processing of minerals / metals at elevated temperatures.		X
26	Handling of solid inorganic substances at ambient temperature.	X	X

Exposure scenario	PROC*	Exposure	Local control / local measures	Effectiveness
Industrial production of hydraulic building and construction materials	2, 3	Unlimited length (up to 480 minutes per shift, 5 shifts per week)	Not required	-
	14, 26		A) Not required or B) Standard local exhaust	- 78 %
	5, 8b, 9		A) Full / complete ventilation or B) Standard local exhaust	17 % 78 %
Industrial use of dry hydraulic building and construction materials (inside, outside)	2		Not required	-
	14, 22, 26		A) Not required or B) Standard local exhaust	- 78 %
	5, 8b, 9		A) Full / complete ventilation or B) Standard local exhaust	17 % 78 %
Industrial use of dry suspensions of hydraulic building and construction materials	7		A) Not required or B) Standard local exhaust	- 78 %
	2, 5, 8b, 9, 10, 13, 14		Not required	-
Professional use of dry hydraulic building and construction materials (inside, outside)	2		Not required	-
	9, 26		A) Not required or B) Standard local exhaust	- 72 %
	5, 8a, 8b, 14		A) Not required or B) Integrated local ventilation	- 87 %
	19		Local measures are not applicable, unless in well ventilated rooms or outdoors	50%
Professional use of dry suspensions of hydraulic	11	A) Not required or	-	



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building and construction materials		B) Standard local exhaust	72 %
	2, 5, 8a, 8b, 9, 10, 13, 14, 19	Not required	-

Exposure scenario	PROC*	Exposure	Specifications of Respiratory Protective Equipment (RPE)	RPE Efficiency - Defined Protection Factor (APF)
Industrial production of hydraulic building and construction materials	2, 3	Unlimited length (up to 480 minutes per shift, 5 shifts per week)	Not required	-
	14, 26		A) P1 mask (FF, FM) or B) Not required	APF = 4 -
	5, 8b, 9		A) P2 mask (FF, FM) or B) P1 mask (FF, FM)	APF = 10 APF = 4
Industrial use of dry hydraulic building and construction materials (inside, outside)	2		Not required	-
	14, 22, 26		A) P1 mask (FF, FM) or B) Not required	APF = 4 -
	5, 8b, 9		A) P2 mask (FF, FM) or B) P1 mask (FF, FM)	APF = 10 APF = 4
Industrial use of dry suspensions of hydraulic building and construction materials	7		A) P1 mask (FF, FM) or B) Not required	APF = 4 -
	2, 5, 8b, 9, 10, 13, 14		Not required	-
Professional use of dry hydraulic building and construction materials (inside, outside)	2		P1 mask (FF, FM)	APF = 4
	9, 26		A) P2 mask (FF, FM) or B) P1 mask (FF, FM)	APF = 10 APF = 4
	5, 8a, 8b, 14		A) P3 mask (FF, FM) or B) P1 mask (FF, FM)	APF = 20 APF = 4
	19	P2 mask (FF, FM)	APF = 10	
Professional use of dry suspensions of hydraulic building and construction materials	11	A) P2 mask (FF, FM) or B) P1 mask (FF, FM)	APF = 10 APF = 4	



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Exposure scenario	PROC*	Exposure	Specifications of Respiratory Protective Equipment (RPE)	RPE Efficiency - Defined Protection Factor (APF)
	2, 5, 8a, 8b, 9, 10, 13, 14, 19		Not required	-

Lime hydrate

- a separate document