

SAFETY DATA SHEET

According to Annex II of the REACH Regulations (EC) 1907/2006)

Product name

HYDRATED LIME

1. IDENTIFICATION OF THE SUBSTANCE AND OF THE COMPANY

1.1. Identification of the substance

Substance name	Hydrated lime
Synonyms	Slaked lime, Air slaked lime, Building lime, Fat lime, Chemical lime, Finishing lime, Mason's lime, Calcium hydroxide, Lime, Lime water. <i>Please note that this list may not be exhaustive</i>
Chemical name and formula	Calcium hydroxide – Ca(OH)₂ (or calcium dihydroxide)
Trade Name	Beremendi hidrat
CAS n°	1305-62-0
EINECS n°	215-137-3
Molecular weight	74,09

1.2. Use of the substance

- Building material industry: mortar, rendering, silica brick, aerated concrete
- Chemical industry: catalyst, neutralisation, pH-adjustment
- Agriculture: fertiliser
- Biocidal use
- Environmental protection: flue gas treatment, waste water treatment, sludge treatment
- Drinking water treatment: pH-value, decarbonisation, softening, hardening
- Feed, food, cosmetics and pharmaceutical industries: nutrition, additive, sugar refining
- Civil engineering: soil stabilisation, asphalt
- Paper and paint industry
- Glass industry

Please note that this list may not be exhaustive.

1.3. Company identification

Name of the company: CARMEUSE Hungária Kft
 Address: 7827 Beremend Hrsz. 064/1
 Tel / Fax: Tel +36-72-574-930 / Fax +36-72-574 931
 E-mail of the of competent person responsible for SDS: udvardin@carmeuse.hu

1.4. Emergency telephone

European Emergency N°	112
National centre for Prevention and Treatment of Intoxications N°	Medical Toxicological Information Service (ETTSZ)
Fire brigade / SAMU N°	105
Emergency telephone at the company	+ 36 1476 64 64, +36-80-201-199
Available outside office hours	X yes <input type="checkbox"/> no

2. HAZARD IDENTIFICATION

2.1. Indication of hazard

Xi Irritant




2.2. Human health	
Risk phrases	R37 Irritating to respiratory system R38 Irritating to skin R41 Risk of serious damage to eyes
Warning phrase	In contrast to the powder itself, the product, when diluted with water, can produce severe skin damage in humans, (alkaline burns), especially if prolonged skin contacts takes place.

3. COMPOSITION / INFORMATION ON INGREDIENTS


3.1. Composition / information on ingredients	
Calcium hydroxide and minor constituents of geological origin varying from source to source.	

4. FIRST-AID MEASURES

4.1. Eyes	
	Irrigate eyes immediately with plenty of water and seek medical advice. Quick response is essential.

4.2. Inhalation	
	Move source of dust or move person to fresh air. Seek medical attention immediately.

4.3. Ingestion	
	Wash mouth with water and drink copious quantities of water. Do not induce vomiting. Seek medical advice immediately.

4.4. Skin	
	Carefully and gently brush the contaminated body surfaces in order to remove all traces of product. Wash affected area immediately with plenty of water. Remove contaminated clothing. If necessary, seek medical advice.

4.5. General advise	
	No known delayed effects. Consult a physician for all exposures except for minor instances.

5. FIRE-FIGHTING MEASURES

5.1. Flammability	
	The substance is not flammable and non-combustible; it inhibits the spread of flame.

5.2. Extinguishing media	
	The product does not burn. Use a dry powder, foam or CO ₂ type of fire extinguishers to fight the surrounding fire.

5.3. Combustion products	
	When heated above 580°C, calcium hydroxide decomposes to produce calcium oxide (CaO) and water (H ₂ O). Calcium oxide reacts with water and generates heat. This may cause risk to flammable material.

6. ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions	
	Avoid contact with skin and eyes, keep dust levels to a minimum, and ensure that sufficient ventilation or suitable respiratory protective equipment is used (Section 8).

6.2. Environmental precautions

Contain the spillage. Keep the material dry if possible. Cover area if possible to avoid unnecessary dust hazard. Avoid uncontrolled spills to watercourses and drains (pH rising). Any large spillage into watercourses must be alerted to the Environment Agency or other regulatory body.

6.3. Methods for cleaning up

Keep the material dry if possible. Pick up the product mechanically in a dry way. Use vacuum suction unit, or shovel into bags.

7. HANDLING AND STORAGE

7.1. Handling

Precautions for safe handling

Avoid contact with skin and eyes. Wear protective equipment (see section 8). Keep dust levels to a minimum. Minimize dust generation. Enclose dust sources, use exhaust ventilation (dust collector at handling points). Handling systems should preferably be enclosed. When handling bags usual precautions should be paid to the risks outlined in the Council Directive 90/269/EEC.

7.2. Storage

Precautions for safe storage

Store under dry conditions. Minimise contact with air and moisture. Bulk storage should be in purpose – designed silos. Keep away from acids, significant quantities of paper, straw, and nitro compounds. Keep out of reach of children. Do not use aluminium for transport or storage if there is a risk of contact with water.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1. Exposure limit values

8.1.1. CAS N° / EINECS N° 1305-62-0 / 215-137-3

8.1.2. Chemical name Calcium hydroxide (or calcium dihydroxide)

8.1.3. Occupational exposure standard (OES) **5 mg/m³**
25/200 EüSZSM N° 172

8.2. Exposure controls

8.2.1. Occupational exposure controls

Handling systems should preferably be enclosed or suitable ventilation installed to maintain atmospheric dust below the OES, if not wear suitable protective equipment.

8.2.1.1. Respiratory protection



Use approved dust respirators to EN 149 category FFP2, or air stream-helmet for heavy exposure.

8.2.1.2. Hand protection



Use approved nitrile impregnated gloves having CE marking.

8.2.1.3. Eye protection



Tight fitting goggles with side shields, or wide vision full goggles.
Do not wear contact lenses when handling this product. It is also advisable to have individual pocket eyewash.

8.2.1.4. Skin protection

Use clothing fully covering skin, full length pants, long sleeved overalls, with close fittings at openings. Footwear resistant to caustics, and avoiding dust penetration.

8.2.1.5. General safety and hygiene measure

Wear clean, dry personal protective equipment.
Barrier cream can be used if necessary.
If heavily exposed daily, employees must shower, and if necessary use a barrier cream to protect exposed skin, particularly neck, face and wrists.

8.2.2. Environmental exposure controls

All ventilation systems should be filtered before discharge to atmosphere.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1. General information

9.1.1. Appearance	White or off white (beige) fine powder.
9.1.2. Odour	Slight earthy odour.

9.2. Important health, safety and environmental information

pH	12,4 Ca(OH) ₂ saturated solution at 25°C
	1850 mg/l at 0°C
Solubility in water	1650 mg/l at 20°C 770 mg/l at 100°C
Solubility	Soluble in ammonium salts, acids and glycerine. Insoluble in alcohol.

9.3. Other information

Melting point	Decomposition at 580°C, to form CaO and H ₂ O
Boiling point	Not applicable
Specific gravity	2,24 g/cm ³ at 20°C
Bulk density	200 – 800 kg/m ³ at 20°C
Vapour pressure	Non volatile
Partition coefficient	Not applicable
Flash point	Not applicable
Flammability	Not flammable
Explosive properties	Not flammable

10. STABILITY AND REACTIVITY

10.1. Conditions to avoid

Minimise exposure to air and moisture to avoid degradation.
When heated above 580°C, calcium hydroxide decomposes to produce calcium oxide (CaO) and water (H₂O): $\text{Ca(OH)}_2 \rightarrow \text{CaO} + \text{H}_2\text{O}$

10.2. Materials to avoid

Calcium hydroxide reacts with carbon dioxide to form calcium carbonate:
 $\text{Ca(OH)}_2 + \text{CO}_2 \rightarrow \text{CaCO}_3 + \text{H}_2\text{O}$
Calcium hydroxide reacts with acids to form calcium salts.
Calcium hydroxide reacts with aluminium and brass in the presence of moisture, leading to the formation of hydrogen gas:
 $\text{Ca(OH)}_2 + 2 \text{Al} + 6 \text{H}_2\text{O} \rightarrow \text{Ca(Al(OH)}_4)_2 + 3 \text{H}_2$

10.3. Additional remarks

Calcium hydroxide absorbs carbon dioxide from air to form calcium carbonate, which is a common substance in nature.

11. TOXICOLOGICAL INFORMATION

11.1. Acute effect

Eye contact	Risk of serious damage to eyes.
Inhalation	Inhalation of dust causes discomfort to the upper respiratory tract. Irritant to the respiratory tract in high concentration of dust.
Ingestion	Calcium hydroxide is not toxic. A large amount may cause irritation to the gastrointestinal tract.
Skin contact	Irritating to skin in the presence of moisture.

11.2. Long term exposure

Eye contact	Risk of serious damage to eyes.
Inhalation	Prolonged and repeated inhalation of dust may affect the respiratory tract.
Skin contact	In case of prolonged skin contact, product may cause serious damage to skin in combination with moisture.

12. ECOLOGICAL INFORMATION

12.1. Ecotoxicity	
12.1.1. Acute/Prolonged toxicity to fish	On <i>Gambusia affinis</i> $LC_{50} = 160$ mg/l for 96 hours, the substance is non-toxic because LC_{50} -value is > 100 mg/l.
12.1.2. Acute/Prolonged toxicity to aquatic invertebrates	No test data
12.1.3. Acute/Prolonged toxicity to aquatic plants	No test data
12.1.4. Toxicity to micro-organisms, e.g., bacteria	At high concentration, through the rise of pH, calcium hydroxide is used for the disinfection of sewage sludge.
12.1.5. Chronic toxicity to aquatic organisms	No data
12.1.6. Toxicity to soil dwelling organisms	No data
12.1.7. Toxicity to terrestrial plants	No data but calcium hydroxide is used as a fertiliser.
12.1.8. General effect	Acute pH effect. Although this product is useful to correct water acidity, an excess of more than 1 g/l may be harmful to aquatic life. pH value of >12 will rapidly decrease as result of dilution and carbonation

12.2. Mobility	
	Calcium hydroxide reacts with carbon dioxide to form calcium carbonate, which is sparingly soluble, and so presents a low mobility in most soils. Moreover those products are used as fertilisers.

12.3. Persistence and degradability	
	Not relevant for inorganic substances.

12.4. Bioaccumulative potential	
	Not relevant for inorganic substances.

13. DISPOSAL CONSIDERATIONS

	Disposal should be in accordance with local and national legislation.
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14. TRANSPORT INFORMATION

14.1. Transport consideration	
14.1.1. Classification	Not classified as hazardous for transport.
14.1.2. ADR (Road)	Not subject to identification
14.1.3. RID (Rail)	Not subject to identification
14.1.4. IMDG / GGVSea (Sea)	Not subject to identification
14.1.5. IATA-DGR/ICAO-TI(Air)	Not subject to identification

14.2. Special precaution	
	Avoid any release of dust during transportation, by using tight tanks.

