

Product name  
**QUICKLIME**

**1. IDENTIFICATION OF THE SUBSTANCE AND OF THE COMPANY**


<b>1.1. Identification of the substance</b>	
Substance name	<b>Quicklime</b>
Synonyms	Lime, Burnt lime, Un-slaked lime, Building lime, Fat lime, Chemical lime, Fluxing lime, Hard burnt lime, Soft burnt lime, Pebble lime, Calcium oxide, Quick lime, Calcium monoxide, Calcined limestone. <i>This list may not be exhaustive.</i>
Chemical name and formula	<b>Calcium oxide – CaO</b>
Trade Name	<b>Darabos fehér mész</b>
CAS n°	1305-78-8
EINECS n°	215-138-9
Molecular weight	56,08

<b>1.2. Use of the substance</b>
<ul style="list-style-type: none"> <li>- Building material industry: mortar, rendering, silica brick, aerated concrete, refractories</li> <li>- Chemical industry: catalyst, neutralisation, pH-adjustment</li> <li>- Steel industry: fluxes, refining</li> <li>- Agriculture: fertiliser</li> <li>- Biocidal use</li> <li>- Environmental protection: flue gas treatment, waste water treatment, sludge treatment</li> <li>- Drinking water treatment: pH-value, decarbonisation, softening, hardening</li> <li>- Feed, food and pharmaceutical industries: nutrition, additive, sugar refining</li> <li>- Civil engineering: soil stabilisation</li> <li>- Paper and paint industry</li> <li>- Glass industry</li> </ul> <p><i>Please note that this list may not be exhaustive.</i></p>

<b>1.3. Company identification</b>
Name of the company : KALCINÁTOR Kft Address : 3508 Miskolc Fogarasi street 6 Tel +36-46-561 626 / Fax +36-46-563 200 E-mail of the of competent person responsible for SDS: udvardin@carmeuse.hu

<b>1.4. Emergency telephone</b>	
European Emergency N°	<b>112</b>
National centre for Prevention and Treatment of Intoxications N°	Medical Toxicological Information Service ( ETTSZ )
Fire brigade / SAMU N°	<b>105</b>
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**

<b>2.1. Indication of hazard</b>
<p><b>Xi Irritant</b></p> 

## 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 take place.

## 3. COMPOSITION / INFORMATION ON INGREDIENTS

### 3.1. Composition / information on ingredients

Calcium oxide 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.

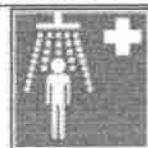
### 4.2. Inhalation

Move source of dust or move affected 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. The product reacts with water and generates heat. This may cause risk to flammable material.

### 5.2. Extinguishing media

The product does not burn. Avoid water and the humidification of the quicklime, use dry powder, foam or CO<sub>2</sub> type of fire extinguishers to fight the surrounding fire.

### 5.3. Combustion products

None

## 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.
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### 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.
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## 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. Minimise 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.
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### 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.
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## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### 8.1. Exposure limit values

8.1.1. CAS N° / EINECS N°	1305-78-8 / 215-138-9
8.1.2. Chemical name	Calcium oxide
8.1.3. Occupational exposure standard (OES)	<b>5 mg/m<sup>3</sup></b> 25/200 EüSZSM N° 175

### 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	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) solid material of varying sizes: Lump, granular or fine powder.
9.1.2. Odour	Slight earthy odour.
9.2. Important health, safety and environmental information	
Remark	Calcium oxide reacts exothermically with water to form Calcium hydroxide: $\text{CaO} + \text{H}_2\text{O} \rightarrow \text{Ca(OH)}_2 + 1155 \text{ kJ/kg CaO}$
pH	12,4 $\text{Ca(OH)}_2$ saturated solution at 25°C
Solubility in water	1850 mg/l at 0°C 1650 mg/l at 20°C 770 mg/l at 100°C } for $\text{Ca(OH)}_2$
Solubility	Soluble in ammonium salts, acids and glycerine. Insoluble in alcohol.
9.3. Other information	
Melting point	2570°C
Boiling point	2850°C at 100 hPa
Specific gravity	3,3 – 3,4 g/cm <sup>3</sup> at 20°C
Bulk density	700 – 1300 kg/m <sup>3</sup> 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.
10.2. Materials to avoid	
	Calcium oxide reacts exothermically with water to form calcium hydroxide: $\text{CaO} + \text{H}_2\text{O} \rightarrow \text{Ca(OH)}_2 + 1155 \text{ kJ/kg CaO}$ Calcium oxide reacts exothermically with acids to form calcium salts. Calcium oxide reacts with aluminium and brass in the presence of moisture leading to the formation of hydrogen: $\text{CaO} + 2 \text{Al} + 7 \text{H}_2\text{O} \rightarrow \text{Ca(Al(OH)}_4)_2 + 3 \text{H}_2$
10.3. Additional remarks	
	Calcium oxide absorbs moisture and 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 oxide is not toxic. Large amounts 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>C. carpio</i> $LC_{50} = 1070$ mg/l for 96 hours, the substance is non-toxic because the $LC_{50}$ -value is $> 100$ mg/l.
12.1.2. Acute/Prolonged toxicity to aquatic invertebrates	On aquatic crustacea $LC_{50} = 160$ mg/l for 24 hours.
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 temperature and pH, calcium oxide is used for 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 however calcium oxide 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 oxide reacts with water and/or carbon dioxide to form respectively calcium hydroxide and/or calcium carbonate, which are sparingly soluble, and so present 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.

## 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)	Code UN 1910 – Class 8 – Group of packing III

14.2. Special precaution	
	Avoid any release of dust during transportation, by using tight tanks for powders and covered trucks for pebbles.

