

Safety Data Sheet

According to regulation (EC) No. 1907/2006 (REACH)



31820 Calcium hydroxide

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Revised edition: 01.01.2021

Version: 3.0

Printed: 11.02.2022

1. Identification of the Substance/Mixture and of the Company/Undertaking

1.1. Product Identifier

Product Name: Calcium hydroxide

Article No.: 31820

UFI: --

1.2. Relevant identified Uses of the Substance or Mixture and Uses advised against

Identified uses:

Construction materials industry, chemical industry, agriculture, biocidal applications, drinking water treatment, animal feed, foodstuff, pharmaceutical industry, construction, paper and paint.

Uses advised against:

1.3. Details of the Supplier of the Safety Data Sheet (Producer/Importer)

Company: Kremer Pigmente GmbH & Co. KG

Address: Hauptstr. 41-47, 88317 Aichstetten, Germany

Tel./Fax.: Tel +49 7565 914480, Fax +49 7565 1606

Internet: www.kremer-pigmente.com

E-Mail: info@kremer-pigmente.com

Importer: --

1.4. Emergency No.

Emergency No.: +49 7565 914480 (Mon-Fri 8:00 - 17:00)

1.4.2 Poison Center:

2. Hazards Identification

2.1. Classification of the Substance or Mixture

Classification according to Regulation (EC) No. 1272/2008 (CLP/GHS)

*Skin irritation, hazard category 2
Serious eye damage, hazard category 1
Specific Target Organ Toxicity (single exposure), hazard category 3 (Respiratory tract irritation)*

H315 Causes skin irritation.

Cat.: 2

H318 Causes serious eye damage.

Cat.: 1

H335 May cause respiratory irritation.

Cat.: 3

Possible Environmental Effects:

2.2. Label Elements

Classification according to Regulation (EC) No. 1272/2008 (CLP/GHS)

Hazard designation:

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GHS05-2



GHS07

Signal word:

Danger

Hazard designation:

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

Safety designation:

P102 Keep out of reach of children.
P261 Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.
P280 Wear protective gloves/ clothing/ eye/ face protection.
P302+P352 If on skin: Wash with soap and water.
P304+P340 If inhaled: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses and continue rinsing.
P310 Immediately call a poison center or physician.
P501 Dispose of contents/ container according to regional, national and international regulations.

Hazardous components for labelling:

2.3. Other Hazards

3. Composition/Information on Ingredients

3.1. Substance

3.2. Mixture

Chemical Characterization:

Information on Components / Hazardous Ingredients:

Calcium hydroxide (H315-318-335); REACH Reg. No. 01-2119475151-45-0005	92 - 96 %	CAS-Nr: 1305-62-0 EINECS-Nr: 215-137-3 EC-Nr:
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Additional information:

SVHC (Candidate List of Substances of very High Concern): The listed substances are not present in amounts greater than 0.1 % (w/w).

4. First Aid Measures

4.1. Description of the First Aid Measures

General information:

If complaints or symptoms occur seek medical treatment.

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After inhalation:

Supply fresh air.
In case of irritation of the respiratory system seek medical help.

After skin contact:

Remove contaminated clothing.
Wash off immediately with water.
If symptoms persist, consult a physician.

After eye contact:

Rinse open eyes with plenty of water and call a physician.

After ingestion:

Rinse mouth with water and drink plenty of water.
Do not induce vomiting.
Consult a doctor.

4.2. Most important Symptoms and Effects, both Acute and Delayed

Symptoms:

Eye contact: risk of serious eye damage.
The substance is classified as irritating to skin and respiratory tract.

Effects:

4.3. Indication of any Immediate Medical Attention and special Treatment needed

Treatment:

Treat symptomatically.

5. Fire-Fighting Measures

5.1. Extinguishing Media

Suitable extinguishing media:

Product itself does not burn.
Use extinguishing media for surrounding fire.

Unsuitable extinguishing media:

5.2. Special Hazards arising from the Substance or Mixture

Special hazards:

No special hazards.

5.3. Advice for Firefighters

Protective equipment:

Wear self-contained respiratory protective device.

Further information:

6. Accidental Release Measures

6.1. Personal Precautions, Protective Equipment and Emergency Procedures

Personal precautions:

Avoid formation of dust, wear protective clothing. Keep spectators away.
Avoid contact with skin, eyes and clothing. Do not ingest or inhale.

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6.2. Environmental Precautions

Environmental precautions:

Do not allow entering sewage system or water.

6.3. Methods and Material for Containment and Cleaning Up

Methods and material:

Clean up mechanically. Avoid dust formation.

6.4. Reference to other Sections

Protective clothing, see Section 8.

Dispose of contaminated material according to Section 13.

7. Handling and Storage

7.1. Precautions for Safe Handling

Instructions on safe handling:

Avoid contact with eyes and skin.

It is recommended to provide a portable eye rinsing bottle.

Hygienic measures:

Change contaminated clothing. Preventive skin protection recommended. Wash hands after work.

Keep away from foodstuffs and drinks. Do not eat, drink or smoke during work. Wash hands before breaks and at the end of work.

7.2. Conditions for Safe Storage, including any Incompatibilities

Storage conditions:

Store in a cool and dry place.

Protect against humidity and water.

Keep product away from children.

Requirements for storage areas and containers:

Aluminium is not suitable for transportation or storage, when there is a risk of contact with water.

Information on fire and explosion protection:

Do not store together with: acids.

Storage class:

13; Non combustible solids (TRGS 510)

Further Information:

7.3. Specific End Use(s)

Further information:

8. Exposure Controls/Personal Protection

8.1. Parameters to be Controlled

Parameters to be controlled (DE):

TRGS 900

TLV: 10 mg/m³ inhalable fraction (general dust limit)

TLV: 1.25 mg/m³ air-borne fraction (general dust limit)

Parameters to be controlled:

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IOELV (EC): 1 mg/m³ (long-term value); 4 mg/m³ (short-term value)

Derived No-Effect Level (DNEL):

4 mg/m³ (worker/consumer, inhalation, short-term exposure - local effects)

1 mg/m³ (worker/consumer, inhalation, long-term exposure - local effects)

Predicted No-Effect Concentration (PNEC):

Fresh water: 0.49 mg/l

Sea water: 0.32 mg/l

Sewage treatment system (STP): 3 mg/l

Soil: 1080 mg/kg (dw)

Additional Information:

8.2. Exposure Controls

Technical protective measures:

Provide adequate ventilation/exhaust system.

Personal Protection

General protective measures:

Wear adequate protective clothing.

Respiratory protection:

Required in case of insufficient ventilation.

Hand protection:

Protective gloves (EN 374)

Protective glove material:

Nitrile rubber (NBR) (0.2 mm)

Eye protection:

Do not wear contact lenses.

Tightly fitting safety goggles (EN 166).

It is recommended to provide a portable eye rinsing bottle.

Body protection:

Protective clothing fully covering skin, full length trousers, long sleeved overalls, with close fittings at openings and shoes resistant to caustics and avoiding dust penetration.

Environmental precautions:

Prevent from getting into the soil, surface water and sewage system.

9. Physical and Chemical Properties

9.1. Information on Basic Physical and Chemical Properties

Form: powder

Color: whitish-beige

Odor: odorless

Odor threshold:

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	<i>not determined</i>
<i>pH-Value:</i>	12.4
<i>Melting temperature:</i>	> 450°C
<i>Boiling temperature:</i>	<i>not applicable</i>
<i>Flash point:</i>	<i>not applicable</i>
<i>Evaporation rate:</i>	<i>No information available.</i>
<i>Flammability (solid, gas):</i>	<i>not flammable</i>
<i>Upper explosion limit:</i>	<i>not applicable</i>
<i>Lower explosion limit:</i>	<i>not applicable</i>
<i>Vapor pressure:</i>	<i>not applicable</i>
<i>Vapor density:</i>	<i>not relevant</i>
<i>Density:</i>	2.24 g/cm ³
<i>Solubility in water:</i>	1844.9 mg/l (EC A.6)
<i>Coefficient of variation (n-Octanol/Water):</i>	<i>not applicable</i>
<i>Auto-ignition temperature:</i>	
<i>Decomposition temperature:</i>	> 450°C
<i>Viscosity, dynamic:</i>	<i>not applicable</i>
<i>Explosive properties:</i>	<i>not explosive</i>
<i>Oxidizing properties:</i>	
<i>Bulk density:</i>	

9.2. Further Information

<i>Solubility in solvents:</i>	
<i>Viscosity, kinematic:</i>	
<i>Burning class:</i>	
<i>Solvent content:</i>	
<i>Solid content:</i>	

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Particle size:

Other information:

10. Stability and Reactivity

10.1. Reactivity

Calcium hydroxide dissociates into calcium cations and hydroxyl anions in aqueous media.

10.2. Chemical Stability

No decomposition if used according to specifications (dry storage).

10.3. Possibility of Hazardous Reactions

Exothermic reaction with acids.

When heated above 450°C, calcium hydroxide decomposes to calcium oxide (CaO) and water. Calcium oxide reacts with water and causes heat (risk for flammable material).

10.4. Conditions to Avoid

Conditions to avoid:

Avoid humidity and air, to avoid decomposition.

Thermal decomposition:

10.5. Incompatible Materials

Exothermal reaction mit acids under formation of salts.

In case of humidity: reacts with aluminium and brass under the formation of hydrogen.

10.6. Hazardous Decomposition Products

Calcium hydroxide reacts with carbon dioxide to form calcium carbonate, which is a natural product.

10.7. Further Information

11. Toxicological Information

11.1. Information on Toxicological Effects

Acute Toxicity

LD50, oral: > 2000 mg/kg (rat; OECD 425)

LD50, dermal: > 2500 mg/kg (rabbit; OECD 402)

LC50, inhalation:

No information available.

Primary effects

Irritant effect on skin:

Calcium hydroxide irritates the skin (in vivo, rabbit)

Calcium hydroxide is not corrosive to skin (in vitro; OECD 431)

Irritant effect on eyes:

Calcium hydroxide can cause serious eye damage (in vivo, rabbit).

Inhalation:

No information available.

Ingestion:

No information available

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Sensitization:

Non sensitizing.

Mutagenicity:

No genotoxic potential.

Reproductive toxicity:

No reproductive toxicity expected.

Carcinogenicity:

Not cancerogenic.

Teratogenicity:

Does not impair the fertility.

Specific target organ toxicity (STOT):

Single exposure: may cause respiratory irritation.

Repeated exposure: primary irritant effect on the mucous membranes (if inhaled).

Additional toxicological information:

Aspiration hazard: not applicable

Endocrine Disrupting Properties:

Does not present a risk to human health.

12. Ecological Information

12.1. Aquatic Toxicity

Fish toxicity:

Calcium hydroxide: LC50: 50.6 mg/l (96h; freshwater fish)

Calcium hydroxide: LC50: 457 mg/l (96h; seawater fish)

Daphnia toxicity:

Calcium hydroxide: EC50: 49.1 mg/l (48h; Daphnia magna)

Calcium hydroxide: LC50: 158 mg/l (96h; Daphnia magna)

Calcium hydroxide: NOEC: 32 mg/l (14d)

Bacteria toxicity:

At high concentrations, the product causes an increase of the pH value. This effect is used for the purification of sewage sludge.

Toxicity to soil dwelling organisms:

Calcium hydroxide: EC10/LC50/NOEC: 2000 mg/kg soil dw (macro-organisms)

Calcium hydroxide: EC10/LC50/NOEC: 12000 mg/kg soil dw (micro-organisms)

Toxicity to Terrestrial Plants:

NOEC: 1080 mg/kg (21d)

Algae toxicity:

Calcium hydroxide: EC50: 184.57 mg/l (72h, freshwater algae)

Calcium hydroxide: NOEC: 48 mg/l (72h, freshwater algae)

12.2. Persistency and Degradability

Method is not applicable for inorganic substances.

12.3. Bioaccumulation

Not applicable.

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12.4. Mobility

Calcium hydroxide is nearly insoluble and so presents a low mobility in most ground.

12.5. Results of PBT- und vPvP Assessment

This product is neither a PBT or vPvB substance nor does it contain a PBT or vPvB substance.

12.6. Other Adverse Effects

Water hazard class:

1 (German Regulation) (Assessment by list): slightly hazardous.

Behaviour in sewage systems:

Further ecological effects:

Acute pH Effect. Although this product can be used to neutralize acidified water, water organisms can be damaged when 1 g/l is exceeded. The pH value > 12 is rapidly reduced due to dilution and carbonization.

Endocrine Disrupting Properties:

None known.

AOX Value:

13. Disposal Considerations

13.1. Waste Treatment Methods

Product:

If possible reuse product.

Dispose of according to official national and local regulations.

European Waste Code (EWC):

101304 - Wastes from calcination and hydration of lime.

Uncleaned packaging:

Empty container completely.

Non-contaminated packaging may be recycled.

Waste Code No.:

150105 - Composite packaging

14. Transport Information

14.1. UN Number

ADR, IMDG, IATA

14.2. UN Proper Shipping Name

ADR/RID:

No hazardous goods according to ADR / DOT (US) (land transportation).

IMDG/IATA:

Not hazardous goods

14.3. Transport Hazard Classes

ADR Class:

not applicable

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Hazard no.:

Classification code:

Tunnel restriction code:

IMDG Class (sea):

not applicable

Hazard no.:

EmS No.:

IATA Class:

Hazard no.:

14.4. Packaging Group

ADR/RID:

not applicable

IMDG:

IATA:

14.5. Environmental Hazards

None

14.6. Special Precautions for User

*Not classified as a dangerous good under transport regulations.
Avoid formation of dust.*

14.7. Transportation in Bulk according to Annex II of MARPOL 73/78 and IBC-Code

14.8. Further Information

15. Regulatory Information

15.1. Safety, Health and Environmental Regulations/Legislation specific for the Substance or Mixture

Water hazard class:

1, slightly hazardous for water (according to the German Regulation AwSV)

Local regulations on chemical accidents:

Seveso III Directive: not applicable under Directive 2012/18/EC.

Employment restrictions:

Restriction and prohibition of application:

EC. REACH, Section XVII, Restrictions on the Manufacture, Placing on the Market and Use of Certain Dangerous Substances, Preparations and Articles: not applicable

Technical instructions on air quality:

15.2. Chemical Safety Assessment

A Chemical Safety Assessment has been carried out for this product.

15.3. Further Information

Regulation (EC) 2037/2000 - Substances that Deplete the Ozone Layer: not regulated / not applicable

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16. Other Information

This product should be stored, handled and used in accordance with good hygiene practices and in conformity with any legal regulations. This information contained herein is based on the present state of knowledge and is intended to describe our product from the point of view of safety requirements. It should be therefore not be construed as guaranteeing specific properties.