

Precautionary measures to prevent exposure

Technical measures to prevent exposure Handle the product in closed systems or provide sufficient ventilation. Use local exhaust ventilation if necessary. Emergency eyewash equipment must be available at workplace.

Eye / face protection

Suitable eye protection Use tight-fitting safety goggles. (EN 166:2001)

Eye protection, comments Do not wear contact lenses when handling this product. It is advisable to have individual pocket eyewash. Appropriate for alkali chemicals.

Hand protection

Suitable gloves type Use appropriate chemical-resistant, impervious gloves. (EN ISO 374-1:2018, type A or B)

Suitable materials Nitrile rubber.

Skin protection

Suitable protective clothing Wear appropriate chemical-resistant, impervious protective clothing. Wear appropriate protective footwear.

Additional skin protection measures Wash contaminated skin after exposure. Remove contaminated clothing and shoes and wash/clean them before reuse.

Respiratory protection

Respiratory protection necessary at If it is not possible to reduce exposure levels to below exposure limit values by ventilation, use appropriate respirator.

Recommended type of equipment Particle filter mask. (FFP1/FFP2/FFP3)

Respiratory protection, comments See the relevant exposure scenario in the Appendix.

Thermal hazards

Thermal hazards Not relevant.

Appropriate environmental exposure control

Environmental exposure controls Prevent entry into sewers or the environment. All ventilation systems should be filtered before discharge to atmosphere.

Environmental exposure controls, comments See the relevant exposure scenario in the Appendix.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state Solid. Powder.

Colour White. Light brown. Beige.

Odour Odourless.

Odour limit	Comments: Not relevant.
pH	Status: In aqueous solution Value: 12,4 Comments: Saturated solution Temperature: 20 °C
Melting point / melting range	Value: > 450 °C Method: EU A.1
Boiling point / boiling range	Comments: Not applicable.
Flash point	Comments: Not applicable.
Flammability	Not flammable. (EU A.10)
Explosion limit	Comments: Not applicable.
Vapour pressure	Comments: Not applicable.
Vapour density	Comments: Not applicable.
Particle characteristics	d50: 6.6 - 11.7 µm (laser diffraction) (ISO13320:2020)
Relative density	Value: 2,24 Method: EU A.3
Bulk density	Value: 0,40 - 0,60 g/cm ³
Solubility	Medium: Water Value: 1844,9 mg/l Method: EU A.6
Partition coefficient: n-octanol/ water	Comments: Not applicable.
Auto-ignition temperature	Method: EU A.16 Comments: Not self-igniting.
Decomposition temperature	Value: > 450 °C
Viscosity	Comments: Not applicable.

9.2. Other information

9.2.2. Other safety characteristics

Comments	None reported.
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SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity	Dissociates in aqueous media. Reacts with carbon dioxide to form calcium carbonate, which is a common material in nature. When heated above 450 °C, calcium dihydroxide decomposes to produce calcium oxide and water.
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10.2. Chemical stability

Stability	Chemically stable under normal storage conditions.
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10.3. Possibility of hazardous reactions

Possibility of hazardous reactions Reacts exothermically with acids (releasing heat).

10.4. Conditions to avoid

Conditions to avoid Do not allow contact with air. Protect from moisture. Do not store in damp conditions or areas of high humidity.

10.5. Incompatible materials

Materials to avoid Acids. Water.
Aluminium. Brass. In the presence of moisture produces hydrogen which may cause risk of explosion.

10.6. Hazardous decomposition products

Hazardous decomposition products No hazardous decomposition products known.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Substance Calcium dihydroxide

Acute toxicity

Effect tested: LD50
Route of exposure: Oral
Method: OECD 425
Value: > 2000 mg/kg bw
Animal test species: Rat

Effect tested: LD50
Route of exposure: Dermal
Method: OECD 402
Value: > 2500 mg/kg bw
Animal test species: Rabbit

Other toxicological data The product is not classified as acutely toxic.

Other information regarding health hazards

Substance Calcium dihydroxide

Skin corrosion / irritation test result

Toxicity type: Skin irritation
Method: In vivo
Species: Rabbit
Evaluation result: Irritating.

Toxicity type: Skin corrosion
Method: In vitro OECD 431
Evaluation result: Not corrosive.

Assessment of skin corrosion / irritation, classification Causes skin irritation.

Substance Calcium dihydroxide

Eye damage or irritation, test results	Toxicity type: Eye damage Method: In vivo Species: Rabbit Evaluation result: Causes serious eye damage
Assessment of eye damage or irritation, classification	Causes serious eye damage.
Sensitisation	The product is not classified as a respiratory or skin sensitiser.
Mutagenicity	The product is not classified as a mutagen. (In vitro, OECD 471, 473, 476 read across)
Carcinogenicity, other information	The product is not classified as a carcinogen.
Reproductive toxicity	The product is not classified as toxic to reproduction.
Assessment of specific target organ toxicity - single exposure, classification	May cause respiratory irritation.
Assessment of specific target organ toxicity - repeated exposure, classification	The product is not classified as toxic to specific target organs at repeated exposure.
Assessment of aspiration hazard, classification	The product is not classified as an aspiration hazard.

Symptoms of exposure

In case of ingestion	Irritates the gastrointestinal tract.
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11.2 Other information

Endocrine disruption	No endocrine disrupting properties known.
Other information	No other health effects reported.

SECTION 12: Ecological information

12.1. Toxicity

Substance	Calcium dihydroxide
Aquatic toxicity, fish	Value: 50,6 mg/l Effect dose concentration: LC50 Test duration: 96 hour(s) Species: freshwater fish
	Value: 457 mg/l Effect dose concentration: LC50 Test duration: 96 hour(s) Species: marine water fish
Substance	Calcium dihydroxide
Aquatic toxicity, algae	Value: 184,57 mg/l Effect dose concentration: EC50 Test duration: 72 hour(s) Species: freshwater algae

	Value: 48 mg/l Effect dose concentration: NOEC Test duration: 72 hour(s) Species: freshwater algae
Substance	Calcium dihydroxide
Aquatic toxicity, crustacean	Toxicity type: Chronic Value: 32 mg/l Effect dose concentration: NOEC Test duration: 14 day(s) Species: marine water invertebrates
	Value: 49,1 mg/l Effect dose concentration: EC50 Test duration: 48 hour(s) Species: freshwater invertebrates
	Value: 158 mg/l Effect dose concentration: LC50 Test duration: 96 hour(s) Species: marine water invertebrates
Substance	Calcium dihydroxide
Toxicity to earthworm	Value: 2000 mg/kg Species: macro organisms Method: soil dry weight
Substance	Calcium dihydroxide
Toxicity to soil microorganisms	Value: 12000 mg/kg Species: microorganisms Method: soil dry weight
Plant toxicity	Value: 1080 mg/kg Effect dose concentration: NOEC Test duration: 21 day(s)
Impact on sewage treatment	Comments: At high concentration, through the rise of temperature and pH, the product is used for disinfection of sewage sludges.
Ecotoxicity	The product may affect the acidity (pH-factor) in water with risk of harmful effects to aquatic organisms.

12.2. Persistence and degradability

Persistence and degradability description/evaluation	Not relevant for inorganic substances.
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12.3. Bioaccumulative potential

Bioaccumulation, evaluation	Not relevant for inorganic substances.
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12.4. Mobility in soil

Mobility	The product is sparingly soluble, presents a low mobility in most soils.
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12.5. Results of PBT and vPvB assessment

Results of PBT and vPvB assessment Not relevant for inorganic substances.

12.6. Endocrine disrupting properties

Endocrine disrupting properties No endocrine disrupting properties known.

12.7. Other adverse effects

Additional ecological information The product is not classified as hazardous to the environment. Prevent entry into drains, sewers, waterways or soil.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Appropriate methods of disposal for the chemical Avoid release to the environment.

Appropriate methods of disposal for the contaminated packaging The used packaging is only meant for packing this product; it should not be reused for other purposes. After usage, empty the packing completely.

Other information Processing, use or contamination of this product may change the waste management options.
Dispose of in compliance with local and national regulations.

SECTION 14: Transport information

Dangerous goods No

14.1. UN number

Comments The product is not classified for transportation.

14.2. UN proper shipping name

14.3. Transport hazard class(es)

14.4. Packing group

14.5. Environmental hazards

IMDG Marine pollutant No

Comments The product is not classified as hazardous to the environment.

14.6. Special precautions for user

Special safety precautions for user Avoid any release of dust during transportation by using air-tight tanks.

14.7. Maritime transport in bulk according to IMO instruments

SECTION 15: Regulatory information

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

Legislation and regulations No specific regulations.

15.2. Chemical safety assessment

Chemical safety assessment performed Yes

SECTION 16: Other information

List of relevant H-phrases (Section 2 and 3) H315 Causes skin irritation.
H318 Causes serious eye damage.
H335 May cause respiratory irritation.

Training advice Read safety data sheet.

Key literature references and sources for data Previous version of the SDS (25.02.2019)
EULA Safety Data Sheet for Calcium dihydroxide (v. 4.0/EN, December 2020)
EH40/2005 Workplace exposure limits (4th ed, 2020)

Abbreviations and acronyms used DNEL: Derived No-Effect Level
EC50: Effective concentration: concentration which kills or immobilises 50 % of exposed organisms
LC50: Lethal concentration 50 % (median lethal concentration): concentration which kills 50 % of exposed organisms
LD50: Lethal dose 50 % (median lethal dose): dose which kills 50 % of exposed organisms
NOEC: No Observed Effect Concentration: concentration at which no effects are observed
OEL: Occupational exposure limit
PNEC: Predicted No-Effect Concentration
STEL: Short-term exposure limit.
TWA: Time-weighted average

Information added, deleted or revised 25.2.2019: The following sections have been revised:
1.1 Product identifier
1.3 Contact information
1.4 Emergency phone number
4.1 Description of first aid measures
9.1 Information on basic physical and chemical properties
14.3 Transport hazard class(es)
15.1 Safety, health and environmental regulations/legislation specific for the substance
16 Other information
13.12.2022: Update according to Annex II of the REACH Regulation ([EU] 2020/878). Added exposure limit values (section 8.1). Changes to sections: 2.2, 2.3, 4.1, 5.1, 6.2, 7.1, 8.1, 8.2, 9.1, 10.1, 10.5, 11.2, 12.6, 13.1, 14.5, 14.6, 16
27.10.2022: Updated the section 9.1 Particle characteristics

Last update date 27.1.2023

Version	2
Comments	<p>Disclaimer</p> <p>This safety data sheet (SDS) is based on the legal provisions of the REACH Regulation (EC 1907/2006; article 31 and Annex II), as amended. Its contents are intended as a guide to the appropriate precautionary handling of the material. It is the responsibility of recipients of this SDS to ensure that the information contained therein is properly read and understood by all people who may use, handle, dispose or in any way come in contact with the product. Information and instructions provided in this SDS are based on the current state of scientific and technical knowledge at the date of issue indicated. It should not be construed as any guarantee of technical performance, suitability for particular applications, and does not establish a legally valid contractual relationship. This version of the SDS supersedes all previous versions.</p>