

PRODUCT SAFETY DATA SHEET

prepared in accordance with Annex II of the REACH Regulation EC 1907/2006,
Regulation (EC) 1272/2008 and Regulation (EC) 453/2010

Version:

Revision date: September 2014

Printing Date: 9/25/14

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

1.1 Product Identifier

Substance name: Calcium magnesium dioxide/Calcium magnesium tetrahydroxide

Synonyms: Dolomitic Lime, Dolomitic quicklime, Calcined dolomite, Burnt dolomite, Dolomite dead burned refractory, Calcium magnesium oxide.
Slaked dolime, Air slaked dolime, Building dolime, Autoclaved lime, Type S, Calcium magnesium tetrahydroxide
Please note that this list may not be exhaustive.

Chemical name and formula: Calcium Magnesium Dioxide - CaMgO_2
Calcium Magnesium Tetrahydroxide – $\text{CaMg}(\text{OH})_4$

Trade name: **Desical® spezial, Desical® plus, Desical® sensitiv, Desical® aktiv, Desical® forte**

CAS: 37247-91-9 Calcium magnesium dioxide 5% - 20%
39445-23-3 Calcium magnesium tetrahydroxide 5% - 20%

EINECS: 253-425-0 Calcium magnesium dioxide
254-454-1 Calcium magnesium tetrahydroxide

Molecular Weight: 96.39 g/mol
132,42 g/mol

REACH Registration number: 01-2119474202-47-0011 Calcium magnesium dioxide

1.2 Relevant identified uses of the substance and uses advised against

Use of the substance:

The substance is intended for the following non-exhaustive list of uses:

Biocidal Use

Building material industry, Chemical industry, Agriculture, Environmental protection (e.g. flue gas treatment, waste water treatment, sludge treatment), Drinking water treatment, Feed, food and pharmaceutical industry, Civil engineering, Paper and paint industry

1.2.1 Identified uses

All uses listed in table 1 of the Appendix of this SDS are identified uses.

1.2.2 Uses advised against

No use identified in Table 1 of the Appendix of this SDS is advised against.

1.3 Details of the supplier of the Safety Data Sheet

Name: **Kalkwerk Hufgard GmbH**

Address: **Antoniusstr. 2-4, D-63768 Hösbach-Rottenberg**

Phone N°: **+49 (0) 60 24 / 67 39 -0**

Fax N°: **+49 (0) 60 24 / 67 39 -70**

E-mail of competent person res- **info@hufgard.de**

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possible for SDS in the MS or in the EU

1.4 Emergency telephone number

European Emergency N°: 112

National centre for Prevention and Treatment of Intoxications N°: **Clinic of Toxicology, Mainz**
+49 (0) 61 31 / 19 24 0

Emergency telephone at the company: +49 (0) 60 24 / 67 39 -0

Available outside office hours: Yes No

2 SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance

2.1.1. Classification according to Regulation (EC) 1272/2008

Skin irrit. 2, H315
STOT SE 3, H335 - Route of exposure: Inhalation
Eye Dam. 1, H318

2.1.2. Classification according to Directive 67/548/EEC

Xi: R37, R38, R41

2.1.3. Additional information

For full text of H-statements and R-phrases: see SECTION 16

2.2. Label elements

2.2.1. Labelling according to Regulation (EC) 1272/2008

Signal word: Danger

Hazard pictogram:



Hazard statements:

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

Precautionary statements:

P102: Keep out of reach of children
P280: Wear protective gloves/protective clothing/eye protection/face protection
P305+P351+P338: If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P302+P352: IF ON SKIN: Wash with plenty of water
P310: Immediately call a poison center or doctor/physician.

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P261: Avoid breathing dust/spray
P304+P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
P501: Dispose of contents/container in accordance with local/regional/national/international regulation

2.3. Other hazards

The substances do not meet the criteria for PBT or vPvB substances.
No other hazards identified.

3 SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substances

Main constituent

| CAS number | EC number | Registration No | Identification name | Weight % content (or range) | Classification according to 67/548/EEC |
|------------|-----------|-----------------------|-----------------------------------|-----------------------------|----------------------------------------|
| 37247-91-9 | 253-425-0 | 01-2119474202-47-0011 | Calcium magnesium dioxide | 5%-20% | Xi: R37,R38, R41 |
| 39445-23-3 | 254-454-1 | | Calcium-magnesium tetra-hydroxide | 5%-20% | Xi: R37,R38, R41 |

| CAS number | EC number | Registration No | Identification name | Weight % content (or range) | Classification according to Regulation (EC) No 1272/2008 [CLP] |
|------------|-----------|-----------------------|-----------------------------------|-----------------------------|------------------------------------------------------------------------------|
| 37247-91-9 | 253-425-0 | 01-2119474202-47-0011 | Calcium magnesium dioxide | 5%-20% | <i>Eye Dam 1 H318 Skin Irrit. 2 H315 STOT SE 3 (inhalation) H335</i> |
| 39445-23-3 | 254-454-1 | | Calcium-magnesium tetra-hydroxide | 5%-20% | <i>Eye Dam 1 H318 Skin Irrit. 2 H315 STOT SE 3 (inhalation) H335</i> |

4 SECTION 4: FIRST AID MEASURES

4.1. Description of first aid measures

General advice

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

Following inhalation

Move source of dust or move person to fresh air. Obtain medical attention immediately.

Following skin contact

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.

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Following eye contact

Rinse eyes immediately with plenty of water and seek medical advice.

After ingestion

Clean mouth with water and drink afterwards plenty of water. Do NOT induce vomiting. Obtain medical attention.

4.2. Most important symptoms and effects, both acute and delayed

Calcium magnesium dioxide, Calcium magnesium tetrahydroxide are not acutely toxic via the oral, dermal, or inhalation route. The substances are classified as irritating to skin and the respiratory tract, and entails a risk of serious damage to the eye. There is no concern for adverse systemic effects because local effects (pH-effect) are the major health hazard.

4.3. Indication of any immediate medical attention and special treatment needed

Follow the advises given in section 4.1

5 SECTION 5: FIRE FIGHTING MEASURES

5.1. Extinguishing media

5.1.1. Suitable extinguishing media

Suitable extinguishing media: The product is not combustible. Use a dry powder, foam or CO₂ fire extinguisher to extinguish the surrounding fire.

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

5.1.2. Unsuitable extinguishing media

Do not use water. Avoid humidification.

5.2. Special hazards arising from the substance or mixture

Calcium magnesium oxide reacts with water and generates heat. This may cause risk to flammable material.

5.3. Advice for fire fighters

Avoid generation of dust. Use breathing apparatus. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

6 SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Ensure adequate ventilation.

Keep dust levels to a minimum.

Keep unprotected persons away.

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

Avoid inhalation of dust – ensure that sufficient ventilation or suitable respiratory protective equipment is used, wear suitable protective equipment (see section 8).

Avoid humidification.

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6.1.2. For emergency responders

Keep dust levels to a minimum.

Ensure adequate ventilation.

Keep unprotected persons away.

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

Avoid inhalation of dust – ensure that sufficient ventilation or suitable respiratory protective equipment is used, wear suitable protective equipment (see section 8).

Avoid humidification.

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 increase). Any large spillage into watercourses must be alerted to the Environment Agency or other regulatory body.

6.3. Methods and material for containment and cleaning up

In all cases avoid dust formation.

Keep the material dry if possible.

Pick up the product mechanically in a dry way.

Use vacuum suction unit, or shovel into bags.

6.4. Reference to other sections

For more information on exposure controls/personal protection or disposal considerations, please check section 8 and 13 and the annex of this safety data sheet.

7 SECTION 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

7.1.1. Protective measures

Avoid contact with skin and eyes. Wear protective equipment (refer to section 8 of this safety data sheet). Do not wear contact lenses when handling this product. It is also advisable to have individual pocket eyewash. 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.

7.1.2. Advice on general occupational hygiene

Avoid inhalation or ingestion and contact with skin and eyes. General occupational hygiene measures are required to ensure safe handling of the substance. These measures involve good personal and housekeeping practices (i.e. regular cleaning with suitable cleaning devices), no drinking, eating and smoking at the workplace. Shower and change clothes at end of work shift. Do not wear contaminated clothing at home.

7.2. Conditions for safe storage, including any incompatibilities

The substance should be stored under dry conditions. Any contact with air and moisture should be avoided. 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.

7.3. Specific end use(s)

Please check the identified uses in section 1.2 of this safety data sheet.

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For more information please see the relevant exposure scenario, available via your supplier/given in the Appendix, and check section 2.1: Control of worker exposure.

8 SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1. Control parameters

DNELs:

| Workers | | | | |
|-------------------|--------------------------------------------|------------------------|--------------------------------------------|--------------------------|
| Route of exposure | Acute effect local | Acute effects systemic | Chronic effects local | Chronic effects systemic |
| Oral | Not required | | | |
| Inhalation | 4 mg / m ³ (Respirable dust) | No hazard identified | 1 mg / m ³ (Respirable dust) | No hazard identified |
| Dermal | Hazard identified but no DNEL available | No hazard identified | Hazard identified but no DNEL available | No hazard identified |

| Consumers | | | | |
|-------------------|--------------------------------------------|------------------------|--------------------------------------------|--------------------------|
| Route of exposure | Acute effect local | Acute effects systemic | Chronic effects local | Chronic effects systemic |
| Oral | No exposure expected | No hazard identified | No exposure expected | No hazard identified |
| Inhalation | 4 mg / m ³ (Respirable dust) | No hazard identified | 1 mg / m ³ (Respirable dust) | No hazard identified |
| Dermal | Hazard identified but no DNEL available | No hazard identified | Hazard identified but no DNEL available | No hazard identified |

PNECs:

| Environment protection target | PNEC | Remarks |
|-------------------------------------------|----------------------|----------------------------------|
| Fresh water | 0.49 mg / L | |
| Freshwater sediments | No PNEC available | Insufficient data available |
| Marine water | 0.32 mg / L | |
| Marine sediments | No PNEC available | Insufficient data available |
| Food (bioaccumulation) | No hazard identified | No potential for bioaccumulation |
| Microorganisms in sewage treatment | 3 mg / L | |
| Soil (agricultural) | 1080 mg / kg soil dw | |
| Air | No hazard identified | |

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National OELs for the substance: *not relevant*

8.2. Exposure controls

To control potential exposures, generation of dust should be avoided. Further, appropriate protective equipment is recommended. Eye protection equipment (e.g. goggles or visors) must be worn, unless potential contact with the eye can be excluded by the nature and type of application (i.e. closed process). Additionally, face protection, protective clothing and safety shoes are required to be worn as appropriate.

Please check the relevant exposure scenario, given in the Appendix/available via your supplier.

8.2.1. Appropriate engineering controls

If user operations generate dust, use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne dust levels below recommended exposure limits.

8.2.2. Individual protection measures, such as personal protective equipment

8.2.2.1. Eye/face protection

Do not wear contact lenses. For powders, tight fitting goggles with side shields, or wide vision full goggles. It is also advisable to have individual pocket eyewash.

8.2.2.2. Skin protection

Since calcium magnesium dioxide and calcium magnesium tetrahydroxide are classified as irritating to skin, dermal exposure has to be minimised as far as technically feasible. The use of protective gloves (nitrile), protective standard working clothes fully covering skin, full length trousers, long sleeved overalls, with close fittings at openings and shoes resistant to caustics and avoiding dust penetration are required to be worn.

8.2.2.3. Respiratory protection

Local ventilation to keep levels below established threshold values is recommended. A suitable particle filter mask is recommended, depending on the expected exposure levels - please check the relevant exposure scenario, given in the Appendix/available via your supplier.

8.2.2.4. Thermal hazards

The substance does not represent a thermal hazard, thus special consideration is not required.

8.2.3. Environmental exposure controls

All ventilation systems should be filtered before discharge to atmosphere.

Avoid releasing to the environment.

Contain the spillage. Any large spillage into watercourses must be alerted to the regulatory authority responsible for environmental protection or other regulatory body.

For detailed explanations of the risk management measures that adequately control exposure of the environment to the substance please check the relevant exposure scenario, available via your supplier.

For further detailed information, please check the Appendix of this SDS.

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9 SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

| | |
|----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Appearance: | White or off white (beige) to grey for refractory solid material of varying sizes: Lump, granular or fine powder |
| Odour: | odourless |
| Odour threshold: | not applicable |
| pH: | 12.4 (saturated solution at 20 °C) |
| Melting point: | > 450 °C (study result, EU A.1 method) |
| Boiling point: | not applicable (solid with a melting point > 450 °C) |
| Flash point: | not applicable (solid with a melting point > 450 °C) |
| Evaporation rate: | not applicable (solid with a melting point > 450 °C) |
| Flammability: | non flammable (study result, EU A.10 method) |
| Explosive limits: | non explosive (void of any chemical structures commonly associated with explosive properties) |
| Vapour pressure: | not applicable (solid with a melting point > 450 °C) |
| Vapour density: | not applicable |
| Relative density: | 3.41 (study result, EU A.3 method) |
| Solubility in water: | 1385.2 mg/L (study results, EU A.6 method) |
| Partition coefficient: | not applicable (inorganic substance) |
| Auto ignition temperature: | no relative self-ignition temperature below 400 °C (study result, EU A.16 method) |
| Decomposition temperature: | not applicable for calcium magnesium dioxide Calcium magnesium tetrahydroxide decomposes to produce calcium oxide (CaO), magnesium oxide (MgO) and water (H ₂ O) when heated above 580°C |
| Viscosity: | not applicable (solid with a melting point > 450 °C) |
| Oxidising properties: | no oxidising properties (Based on the chemical structure, the substance does not contain a surplus of oxygen or any structural groups known to be correlated with a tendency to react exothermally with combustible material) |

9.2. Other information

Not available

10 SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity

Calcium magnesium dioxide reacts exothermically with water to form Calcium dihydroxide.

In aqueous media calcium magnesium tetraoxide dissociates resulting in the formation of calcium cations, magnesium cations and hydroxyl anions (when below the limit of water solubility).

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10.2. Chemical stability

Under normal conditions of use and storage (dry conditions), calcium magnesium dioxide and calcium magnesium tetrahydroxide are stable.

10.3. Possibility of hazardous reactions

Calcium magnesium oxide reacts exothermically with acids.

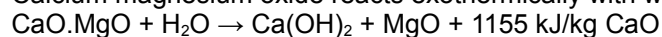
Calcium magnesium tetrahydroxide reacts exothermically with acids. Calcium magnesium tetrahydroxide decomposes to produce calcium oxide (CaO), magnesium oxide (MgO) and water (H₂O) when heated above 580°C

10.4. Conditions to avoid

Minimise exposure to air and moisture to avoid degradation.

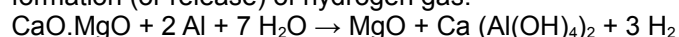
10.5. Incompatible materials

Calcium magnesium oxide reacts exothermically with water to form calcium dihydroxide:

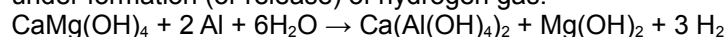


Calcium magnesium oxide reacts exothermically with acids to form calcium and magnesium salts.

Calcium magnesium oxide reacts with aluminium and brass in the presence of moisture under formation (or release) of hydrogen gas:



Calcium magnesium tetrahydroxide reacts with aluminium and brass in the presence of moisture under formation (or release) of hydrogen gas:



10.6. Hazardous decomposition products

None.

Further information: Calcium magnesium tetrahydroxide absorbs moisture and carbon dioxide from air to form calcium magnesium carbonate (dolomite), which is a common material in nature.

Calcium dihydroxide reacts with carbon dioxide to form calcium carbonate and magnesium carbonate, which are common materials in nature.

11 SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

a. Acute toxicity

Oral LD₅₀ > 2000 mg/kg bw (OECD 425, rat)

Dermal no data available

Inhalation no data available

Calcium magnesium dioxide and Calcium magnesium tetrahydroxide are not acutely toxic.

Classification for acute toxicity is not warranted.

b. Skin corrosion/irritation

Calcium dihydroxide is irritating to skin (OECD 404, *in vivo*, rabbit). By read across these results are also applicable to calcium magnesium dioxide and calcium magnesium tetrahydroxide.

Based on experimental results on similar substances utilized by read-across, calcium magnesium dioxide and calcium magnesium tetrahydroxide requires classification as irritating to skin [R38, irritating to skin; Skin Irrit 2 (H315 – Causes skin irritation)].

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c. Serious eye damage/irritation

CaO and MgO also like Ca(OH)₂ and Mg(OH)₂ causes irreversible lesions in the eye (OECD 405, in vivo, rabbit). By read across these results are also applicable to calcium magnesium tetrahydroxide. Based on experimental results on a similar substance utilized by read-across, calcium magnesium oxide requires classification as severely irritating to the eye [R41, Risk of serious damage to eye; Eye Damage 1 (H318 - Causes serious eye damage)].

d. Respiratory or skin sensitisation

No data available. Calcium magnesium dioxide and calcium magnesium tetrahydroxide are considered not to be skin sensitiser, based on the nature of the effect (pH shift) and the essential requirement of calcium and magnesium for human nutrition. Classification for sensitisation is not warranted.

e. Germ cell mutagenicity

There is no indication for genotoxic/mutagenic effects of Ca(OH)₂ or other calcium or magnesium salts in *in vitro* studies (gene mutation in bacteria).

In view of the omnipresence and essentiality of Ca and Mg and of the physiological non-relevance of any pH shift induced in aqueous media, calcium magnesium dioxide and calcium magnesium tetrahydroxide are obviously void of any genotoxic potential including germ cell mutagenicity.

Classification for genotoxicity is not warranted.

f. Carcinogenicity

Both calcium (administered as Ca-lactate) and magnesium (administered as Mg-chloride) are not carcinogenic (experimental results, rat/mouse).

The pH effect of calcium magnesium dioxide and calcium magnesium tetrahydroxide do not give rise to carcinogenic risks. (Human epidemiological data)

Classification for carcinogenicity is not warranted.

g. Reproductive toxicity

Both calcium (administered as Ca-carbonate) and magnesium (administered as Mg-sulphate) are not toxic to reproduction (experimental results, mouse/rat).

The pH effect does not give rise to a reproductive risk.

Human epidemiological data support lack of any potential for reproductive toxicity of calcium magnesium oxide.

Both in animal studies and human clinical studies on various calcium salts no reproductive or developmental effects were detected. Also see the Scientific Committee on Food (Section 16.6). Thus, calcium magnesium dioxide and calcium magnesium tetrahydroxide are not toxic for reproduction and/or development.

Classification for reproductive toxicity according to regulation (EC) 1272/2008 is not required.

h. STOT-single exposure

From human data it is concluded that CaO and Ca(OH)₂ are irritating to the respiratory tract. This is applicable to calcium magnesium tetrahydroxide by read-across.

As summarised and evaluated in the SCOEL recommendation (Anonymous, 2008), based on human data calcium magnesium tetrahydroxide is classified as irritating to the respiratory system by read-across from CaO and Ca(OH)₂ [R37, Irritating to respiratory system; STOT SE 3 (H335 – May cause respiratory irritation)].

i. STOT-repeated exposure

Toxicity of calcium and magnesium via the oral route is addressed by upper intake levels (UL) for adults determined by the Scientific Committee on Food (SCF), being

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UL = 2500 mg/d, corresponding to 36 mg/kg bw/d (70 kg person) for calcium, and UL = 250 mg/d, corresponding to 3.6 mg/kg bw/d (70 kg person) for magnesium.

Toxicity of calcium magnesium dioxide and calcium magnesium tetrahydroxide via the dermal route are not considered as relevant in view of the anticipated insignificant absorption through skin and due to local irritation as the primary health effect (pH shift).

Toxicity of calcium magnesium dioxide and calcium magnesium tetrahydroxide via inhalation (local effect, irritation of mucous membranes) are addressed by an 8-h TWA determined by the Scientific Committee on Occupational Exposure Limits (SCOEL) of 1 mg/m³ respirable dust (read-across from calcium oxide and calcium dihydroxide; see Section 8.1).

Therefore, classification of calcium magnesium dioxide and calcium magnesium tetrahydroxide for toxicity upon prolonged exposure are not required.

j. Aspiration hazard

Calcium magnesium dioxide or Calcium magnesium tetrahydroxide are not known to present an aspiration hazard.

12 SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity

12.1.1. Acute/Prolonged toxicity to fish

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

LC₅₀ (96h) for marine water fish: 457 mg/l (calcium dihydroxide)

12.1.2. Acute/Prolonged toxicity to aquatic invertebrates

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

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

12.1.3. Acute/Prolonged toxicity to aquatic plants

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

NOEC (72h) for freshwater algae: 48 mg/l (calcium dihydroxide)

12.1.4. Toxicity to micro-organisms e.g. bacteria

At high concentration, through the rise of temperature and/or pH, calcium magnesium dioxide and calcium magnesium tetrahydroxide are used for disinfection of sewage sludges.

12.1.5. Chronic toxicity to aquatic organisms

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

12.1.6. Toxicity to soil dwelling organisms

EC₁₀/LC₁₀ or NOEC for soil macroorganisms: 2000 mg/kg soil dw (calcium dihydroxide)

EC₁₀/LC₁₀ or NOEC for soil microorganisms: 12000 mg/kg soil dw (calcium dihydroxide)

12.1.7. Toxicity to terrestrial plants

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

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

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12.1.9. Further information

The results by read across are also applicable to Calcium magnesium oxide, since in contact with moisture calcium hydroxide is formed.

12.2. Persistence and degradability

Not relevant for inorganic substances

12.3. Bioaccumulative potential

Not relevant for inorganic substances

12.4. Mobility in soil

Calcium magnesium oxide reacts with water and/or carbon dioxide to form respectively calcium dihydroxide and/or calcium carbonate and magnesium dihydroxide and/or magnesium carbonate, which are sparingly soluble, and present a low mobility in most soils.

12.5. Results of PBT and vPvB assessment

Not relevant for inorganic substances

12.6. Other adverse effects

No other adverse effects are identified

13 SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Disposal of calcium magnesium dioxide and calcium magnesium tetrahydroxide should be in accordance with local and national legislation. Processing, use or contamination of this product may change the waste management options. Dispose of container and unused contents in accordance with applicable member state and local requirements.

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

14 SECTION 14: TRANSPORT INFORMATION

Calcium magnesium dioxide and Calcium magnesium tetrahydroxide are not classified as hazardous for transport [ADR (road), RID (rail), ICAO/ IATA (air), ADN (inland waterways) and IMDG (sea)].

14.1. UN-Number

Not regulated

14.2. UN proper shipping name

Not regulated

14.3. Transport hazard class(es)

Not regulated

14.4. Packing group

Not regulated

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14.5. Environmental hazards

None

14.6. Special precautions for user

Avoid any release of dust during transportation, by using air-tight tanks for powders and covered trucks for pebbles.

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

Not regulated

15 SECTION 15: REGULATORY INFORMATION

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

Authorisations: Not required

Restrictions on use: None

Other EU regulations: calcium magnesium dioxide and calcium magnesium tetrahydroxide are no SEVESO substances, no ozone depleting substances and no persistent organic pollutant.

National regulations:

15.2. Chemical safety assessment

A chemical safety assessment has been carried out for this substance.

16 SECTION 16: OTHER INFORMATION

Data are based on our latest knowledge but do not constitute a guarantee for any specific product features and do not establish a legally valid contractual relationship.

16.1. Hazard Statements

H315: Causes skin irritation

H318: Causes serious eye damage

H335: May cause respiratory irritation

16.2. Precautionary Statements

P102: Keep out of reach of children

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

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

P302+P352: IF ON SKIN: Wash with plenty of water

P310: Immediately call a poison center or doctor/physician.

P261: Avoid breathing dust/spray

P304+P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing

P501: Dispose of contents/container in accordance with local/regional/national/international regulation

16.3. Risk Phrases

R37: Irritating to respiratory system

R38: Irritating to skin

R41: Risk of serious damage to eyes

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16.4. Safety Phrases

S2: Keep out of the reach of children
S25: Avoid contact with eyes
S26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice
S37: Wear suitable gloves
S39: Wear eye/face protection

16.5. Abbreviations

EC₅₀: median effective concentration
LC₅₀: median lethal concentration
LD₅₀: median lethal dose
NOEC: no observable effect concentration
OEL: occupational exposure limit
PBT: [persistent, bioaccumulative, toxic chemical](#)
PNEC: predicted no-effect concentration
STEL: short-term exposure limit
TWA: time weighted average
vPvB: very persistent, very bioaccumulative chemical

16.6. Key literature references

Anonymous, 2006: Tolerable upper intake levels for vitamins and minerals Scientific Committee on Food, European Food Safety Authority, ISBN: 92-9199-014-0 [SCF document]
Anonymous, 2008: Recommendation from the Scientific Committee on Occupational Exposure Limits (SCOEL) for calcium oxide (CaO) and calcium dihydroxide (Ca(OH)₂), European Commission, DG Employment, Social Affairs and Equal Opportunities, SCOEL/SUM/137 February 2008

16.7. Revision

The following sections have been revised:
Relevant identified uses of the substance and uses advised against
2.1 Classification of the substance
2.2 Label elements (2.2.1 and 2.2.2)
3.1 Substance
8.1 Control parameters
16.2 Precautionary statements

Disclaimer

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.

APPENDIX including Exposure Scenarios 9.1, 9.2, 9.3, 9.4, 9.5, 9.6, 9.7, 9.8, 9.9, 9.10, 9.11, 9.12, 9.13, 9.14, 9.15 and 9.16

End of the Safety Data Sheet

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