







PRODUCT SAFETY DATA SHEET

(Prepared in accordance with Annex II of the REACH Regulation (EC) 1907/2006)

1: Identification of the substance / preparation and of the company / undertaking	
1.1: Identification of the substance or preparation	
Substance Name	Dolomitic hydrated lime
Synonyms <i>(the choice of national synonyms should be filled in by the producer)</i>	Slaked dolime, Air slaked dolime, Building dolime, Autoclaved lime, Type S, Calcium magnesium tetrahydroxide. <i>Please note that this list may not be exhaustive.</i>
Chemical Name and Formula	Calcium magnesium tetrahydroxide – Ca(OH)₂.Mg(OH)₂
Trade Name	To be filled by the Association or Company
CAS N°	39445-23-3
EINECS N°	254-454-1
Molecular Weight	132,42
1.2: Use of the substance	
Building material industry Chemical industry Agriculture Biocidal use 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 Glass industry	
1.3: Company identification	
Name	To be filled by the Association or Company
Address	
Phone	
Fax	
E-mail of competent person responsible for SDS in the MS or in the EU	To be filled by the Company
1.4: Emergency telephone	
European Emergency N°	112
National centre for Prevention and Treatment of Intoxications N°	To be filled by the Association or Company
Emergency telephone at the company Available outside office hours	To be filled by the Company <input type="checkbox"/> yes <input type="checkbox"/> no
2: Hazard identification	
2.1: Indication of hazard	
	<u>Xi Irritant</u> 


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. It is advisable to ensure that eyewash facilities nearby are available when this product is handled.
3: Composition / information on ingredients	
3.1: Composition	
Calcium and magnesium tetrahydroxide, 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.
4.2: Inhalation	
	Move source of dust or move person to fresh air. Obtain 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 dry powder, foam or CO ₂ type of fire extinguishers to fight the surrounding fire.
5.3: Combustion products	
	Calcium magnesium tetrahydroxide decomposes to produce calcium oxide (CaO), above 540°C, magnesium oxide (MgO), above 345°C, 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	
7.1.1: 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	
7.2.1: 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°	39445-23-3 / 254-454-1
8.1.2: Chemical name	Calcium magnesium tetrahydroxide
8.1.3: Occupational exposure standard (OES)	To be filled by the Association or Company National Occupational Standards to be used
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 appropriate respiratory protection against particles according to the risk level.
8.2.1.2: Hand protection	 Use approved nitrile impregnated gloves having CE marks.
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) fine powder.
9.1.2: Odour	Slight earthy odour.
9.2: Important health, safety and environmental information	
pH	12,5 Ca(OH) ₂ saturated solution at 20°C
Solubility in water	1000 mg/l at 20°C

9.3: Other information	
Melting point	Decomposes at 345°C to form CaO.MgO + H ₂ O
Boiling point	Decomposes at 345°C
Specific gravity	2,2 – 2,6 g/cm ³ at 20°C
Bulk density	400 – 650 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	
	<p>Minimise exposure to air and moisture to avoid degradation.</p> <p>When heated above 345°C, calcium magnesium tetrahydroxide decomposes to produce magnesium oxide (MgO) and calcium oxide (CaO) and water (H₂O): $\text{Ca.Mg(OH)}_4 \rightarrow \text{CaO} + \text{MgO} + 2 \text{H}_2\text{O}$</p>
10.2: Materials to avoid	
	<p>Calcium magnesium tetrahydroxide reacts with carbon dioxide to form Calcium magnesium carbonate:</p> $\text{CaMg(OH)}_4 + 2 \text{CO}_2 \rightarrow \text{CaCO}_3.\text{MgCO}_3$ <p>Calcium magnesium tetrahydroxide reacts with acids to form Calcium magnesium salts.</p> <p>Calcium magnesium tetrahydroxide reacts with aluminium and brass in the presence of moisture under formation (or release) of hydrogen gas:.</p>
10.3: Additional remarks	
	Calcium magnesium tetrahydroxide absorbs carbon dioxide from air to form calcium magnesium carbonate, which is a common material in the 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	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	No test data
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 temperature and pH, calcium magnesium tetrahydroxide is used for disinfection of sewage sludges.
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 magnesium tetrahydroxyde 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 magnesium tetrahydroxide reacts with carbon dioxide to form calcium magnesium carbonate, which is sparingly soluble, and so present a low mobility in most ground. Moreover this product is 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 / ICTAO-TI(Air)	Not subject to identification
14.2: Special precaution	
	Avoid any release of dust during transportation, by using tight tanks.
15: Regulatory information	
15.1: Labelling according to EEC-directives	
15.1.1: Symbol and classification of the substance according to Directive 67/548/EEC	Xi Irritant 
15.1.2: Restriction of marketing and employment	None
15.1.3: National regulations	Water endangering class 1 (Germany)
16: Other information	
16.1: Risk phrases	
	R37 Irritating to respiratory system R38 Irritating to skin R41 Risk of serious damage to eyes
16.2: Safety phrases	
	S2 Keep out of 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
16.3: Further information	
	This safety data sheet supplements the technical use instructions without replacing them. The information contained therein is based on the state of our knowledge regarding the product, at the mentioned date. They are provided in good faith. It does not exempt the user from knowing and applying all texts regulating his activity. It will be his sole responsibility to take all necessary precautions when using the product.

16.4: Guidance and references	
	Data sheet prepared in accordance with: Annex II of the REACH Regulation (EC) 1907/2006. <u>References:</u> <ol style="list-style-type: none">1. Council Directive 90/269/EEC2. Booklet L64 - Safety Signs and Signals. The Health and Safety (Safety Signs and Signals) Regulations 1996 - Guidance on Regulations (HSE) - ISBN 0 7176 0870 03. IUCLID Dataset –20004. The Merck Index (Ed. Merck & Co, Rahway, USA)
16.5: Revision	
The additions or modifications are announced in <i>italic</i> .	The present version is a renewed version, in order to be in accordance with the Annex II of the REACH Regulation (EC) 1907/2006. Version October 2007
End of the safety data sheet	