




PRODUCT SAFETY DATA SHEET




(Prepared in accordance with Directive 91/155/EEC modified by Directive 2001/58/EC)

Date of Issue : 22nd June 2006

1: Identification of the substance / preparation and of the company / undertaking	
1.1: Identification of the substance or preparation	
Substance Name	Hydrated lime
Synonyms	Slaked lime, Air slaked lime, Building lime, Fat Lime, Chemical Lime, Finishing Lime, Mason's Lime, Calcium dihydroxide, Bulk Hydrate, Hydrated Lime, Calcium Hydroxide, Calcium Hydrate, Calciumhydroxid, Lime water, Milk of Lime, Thick Lime Milk, Lime Putty, Bagged Hydrate, Hydrapure, White Rhino, White Rhino Hydrated Lime
Chemical Name and Formula	Calcium dihydroxide – Ca(OH)₂
Trade Name	Hydrapure, White Rhino Hydrated Lime
CAS N°	1305-62-0
EINECS N°	215-137-3
Molecular Weight	74,09
1.2: Material use	
Building material industry: mortar, rendering, silica brick, aerated concrete, refractories Chemical industry: catalyst, neutralisation, pH-adjustment Steel industry: fluxes, refining Agriculture: fertiliser Biocidal use Environmental protection: flue gas treatment, waste water treatment, sludge treatment Drinking water treatment: pH-value, decarbonisation, softening, hardening Feed, food and pharmaceutical industries: nutrition, sugar refining Civil engineering: soil stabilisation Paper and paint industry Glass industry	
1.3: Company identification	
Name	Clogrennane Lime Ltd.
Address	Clogrennane, Carlow
Phone	059 9131811
Fax	059 9131607
Web	www.irishlime.ie
1.4: Emergency telephone	
European Emergency N°	112


2: Composition / information on ingredients	
2.1: Composition	
Calcium dihydroxide, small quantities of calcium carbonate, calcium oxide, magnesium oxide, silicon oxide, aluminium oxide, iron oxide and trace elements.	
2.2: Chemical characterization	
2.2.1: CAS N°	1305-62-0
2.2.2: Chemical name	Calcium dihydroxide
2.2.3: Symbol	See Section 3.1
2.2.4: Risk phrases	See details under Sections 3 and 15
2.2.5: EINECS N°	215-137-3
3: Hazard identification	
3.1: Indication of hazard	
	<u>Xi Irritant</u> 
3.2: 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.
4: First-aid measures	
4.1: Eyes	
	Immediately flush eyes with water (saline solution is preferred) for at least 15 to 20 minutes. Seek medical attention.
4.2: Inhalation	
	Move source of dust or move affected 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 for at least 15 to 20 minutes. Remove contaminated clothing.
4.5: General advice	
	No known delayed effects. Consult a physician for all exposures except for minor instances. Diphoterine may be used as a pocket eyewash. Follow manufacturers instructions

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 a dry powder, foam or CO ₂ type of fire extinguishers to fight the surrounding fire.
5.3: Combustion products	
	When heated above 580°C, calcium hydroxide decomposes to produce calcium oxide (CaO) 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 Manual Handling Operations Regulations.

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.
7.3: Ventilation requirements	
	Ventilation equipment may be used in buildings to ensure appropriate dust levels when required.
8: Exposure controls / personal protection	
8.1: Exposure limit values	
8.1.1: CAS N°/ EINECS N°	1305-62-0 / 215-137-3
8.1.2: Chemical name	Calcium dihydroxide
8.1.3: Occupational exposure standard (OES)	(OEL) 5 mg/m³, (8hr TWA)
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 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	Use 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	12,4 Ca(OH) ₂ saturated solution at 25°C
Solubility in water	1850 mg/l at 0°C 1650 mg/l at 20°C 710 mg/l at 100°C
Solubility	Soluble in ammonium salts, acids and glycerine. Insoluble in alcohol.
9.3: Other information	
Melting point	Decomposition at 580°C, to form CaO and H ₂ O
Boiling point	Not applicable
Specific gravity	2,24 g/cm ³ at 20°C
Bulk density	200 – 800 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	
	Minimise exposure to air and moisture to avoid degradation. When heated above 580°C, calcium hydroxide decomposes to produce calcium oxide (CaO) and water (H ₂ O): Ca(OH) ₂ → CaO + H ₂ O
10.2: Materials to avoid	
	Calcium hydroxide reacts with carbon dioxide to form Calcium carbonate: Ca(OH) ₂ + CO ₂ → CaCO ₃ + H ₂ O Calcium hydroxide reacts with acids to form Calcium salts. Calcium hydroxide reacts with aluminium and brass in the presence of moisture, leading to the production of hydrogen gas: Ca(OH) ₂ + 2 Al + 6 H ₂ O → Ca(Al (OH) ₄) ₂ + 3 H ₂
10.3: Additional remarks	
	Calcium dihydroxide absorbs carbon dioxide from air to form calcium carbonate, which is a common material 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 dihydroxide 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>Gambusia affinis</i> LC ₅₀ = 160 mg/l for 96 hours, the substance is non-toxic because LC ₅₀ -value is > 100mg/l.
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 pH, calcium dihydroxide is used for the 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 dihydroxide is used as a fertiliser.
12.1.7: 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 dihydroxide reacts with carbon dioxide to form calcium carbonate, which is sparingly soluble, and so presents a low mobility in most ground. Moreover this product is used as fertilisers.
12.3: Persistence and degradability	
	Calcium dihydroxide reacts with carbon dioxide to form calcium carbonate, which is a common material in the nature.
12.4: Bioaccumulative potential	
	No bioaccumulation detectable. Degradation products, soluble calcium compounds and calcium carbonate are naturally found in the ecosystem.
13: Disposal considerations	
Waste identification code according list of waste	Waste resulting of this product is not considered as dangerous according to the European Council decision of January 16, 2001, modifying the 2000/532/EC decision about the list of wastes (101304).

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 – Not a marine pollutant
14.1.5: IATA-DGR / ICTAO-TI (Air)	UN Code 3266 – Class 8 – Packaging Group PG III
14.2: Special precaution	
	Avoid any release of dust during transportation, by using tanks for bulk powders.
15: Regulatory information	
15.1: Labelling according to EEC-directives	
15.1.1: Symbol and classification of the substance	<u>Xi Irritant</u> 
15.1.2: Restriction of marketing and employment	None
15.1.3: National regulations	
16: Other information	
16.1: Risk phrases	
	R37 Irritating to respiratory system R38 Irritating to skin R41 Risk of serious damage to eyes
	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.
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. The users' attention is however drawn to eventual risks when the product is used for other purposes than those it is designed for. 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 Directive 91/155/EEC modified by Directives 93/112/EEC, 99/45/EC and 2001/58/EC. References: IUCLID Dataset –2000 The Merck Index (Ed. Merck & Co, Rahway, USA) R. Boynton, Chemistry and Technology of Lime and Limestone (John Wiley 1980)
16.4: Revision	
	This is the first EuLA (www.eula.be) harmonised Safety Data Sheet for Ca(OH) ₂ .
End of the safety data sheet	