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Material Safety Data Sheet (MSDS)

MSDS No. CA 007

Hydrated Lime

Section 1: Identification of the Material and Supplier

Company Details

Cement Australia Pty Limited
ABN 75 104 053 474
Level 19
111 Pacific Highway
North Sydney NSW 2060

Tel: 02 9956 8811
Fax: 02 9956 7311
Website: www.cemaust.com.au

Manufacturing Plants

Rockhampton:	Bruce Highway, Parkhurst QLD 4702

Product: Hydrated Lime

Other Names:

Slaked Lime	Calcium Hydroxide
Calcium Hydrate	Builders Lime
Lime Hydrate	Garden Lime

Use: Hydrated lime is used in water and sewage treatment, construction, soil stabilisation, environmental applications, etc.

Section 2: Hazards Identification

Hazardous Substance. Non-dangerous Goods

Risk Phrases	Safety Phrases
R20/21/22: Harmful by inhalation, in contact with skin and if swallowed.	**S22:** Do not breathe dust.
R48/20: Danger of serious damage to health by prolonged exposure through inhalation.	**S24/25:** Avoid contact with skin and eyes.
R36/37/38: Irritating to eyes, respiratory system and skin.	**S29:** Do not empty into drains.
	S36/37/39: Wear suitable protective clothing, gloves and eye/face protection.
	S38: In case of insufficient ventilation, wear suitable respiratory equipment.

Section 3: Composition/Information on Ingredients

Chemical Entity	Proportion	CAS Number
Water	0.1 - 2.5%	7732-18-5
Calcium Hydroxide	90 - 95%	1305-62-0
Magnesium Hydroxide	0.5 -1.0%	1309-42-8
Crystalline Silica (Quartz)	0 - 1%	14808-60-7
Silicon Dioxide	0.5% - 2%	7631-86-9
Aluminium Oxide	0 - 2%	1344-28-1
Iron Oxide	0 - 0.4%	1309-37-1

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Section 4: First Aid Measures

Swallowed:	Wash mouth and lips with copious amounts of water, and give limited amounts of milk or water to drink (150ml). Do not induce vomiting. Seek medical attention.
Eyes:	Hold eyes open and flush with copious amounts of water for at least 10 minutes. Seek medical attention.
Skin:	Immediately remove all contaminated clothing, including footwear. Wash material off skin, using plenty of water preferably under shower. If effects persist, seek medical attention.
Inhaled:	Remove to fresh air away from the dusty area. If symptoms persist, seek medical attention.
First Aid Facilities:	Eye wash station.
Advice to Doctor:	Treat symptomatically as for poisoning with strong alkali. Contact Poisons Information Centre: Tel 13 11 26 (Australia wide)

Section 5: Fire Fighting Measures

Fire/Explosion Hazard:	Hydrated Lime is non-combustible.
Hazchem Code:	None allocated
Flammability:	Not flammable
Extinguishing Media:	Water
Hazards from Combustion Products:	None
Danger of violent reaction or explosion:	Violent reactions with maleic anhydride, nitroethane, nitromethane, nitroparaffins, nitropropane and phosphorus.
Evacuate:	No

Section 6: Accidental Release Measures

Spills:	PPE must be worn to clean up spillages with broom, shovel, or vacuum equipment. Keep out of sewer, storm water drains, and natural waterways.

Section 7: Handling and Storage

Handling:	When supplied in bags these need to be handled in accordance with manual handling regulations and code.
Storage:	Hydrated Lime should be stored in a cool protected place away from moisture, strong oxidants or acids and to minimize dust emissions. Storage in steel or concrete bins and silos, or plastic lined bags, is appropriate.

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Section 8: Exposure Controls/Personal Protection

Exposure Limits:

National Occupational Health & Safety Commission (NOHSC) Australia Occupational Exposure Standard:

Exposure to dust should be kept as low as practicable and below the following OES.
Calcium oxide 2 mg/m^3 TWA (time-weighted average).
Crystalline silica (quartz): 0.1 mg/m^3 TWA as respirable dust (≤7 microns particle equivalent aerodynamic diameter).

Engineering Controls: All work with Hydrated Lime should be carried out in a manner that minimises dust generation, exposure to dust and repeated skin contact. When handling Hydrated Lime use local mechanical ventilation or extraction in areas where dust could escape into the work environment. For bulk deliveries, closed pumping systems are recommended. For handling of individual bags, follow instructions for personal protection. Work areas should be cleaned regularly by wet sweeping or vacuuming.

Personal Protection:

Skin

If handling Hydrated Lime or products containing Hydrated Lime personnel should wear protective clothing and impervious boots, (Australian and New Zealand Standard AS/NZS 4501) and suitable impervious gloves such as PVC (AS 2161).

Remove clothing which has become contaminated with wet or dry product to avoid prolonged contact with the skin. If product gets into boots, remove socks and boots immediately and wash skin thoroughly. Wash work clothes regularly. To avoid contamination of face and lips and ingestion, wash hands before eating, or smoking.

Eyes

Avoid contact with eyes. Splash resistant Safety Glasses with side shields or safety goggles (AS/NZ 1336) should be worn or a face-shield.

Respiratory

In dusty environments use a respirator (filter mask) such as Class P1 or P2 (Australian and New Zealand Standards AS/NZS 1715 and AS/NZS 1716).

Section 9: Physical and Chemical Properties

Appearance:	White to off-white powder
Odour:	None
Boiling/Melting Point:	Decomposes to water and calcium oxide at 580°C
Vapour Pressure:	Not applicable
Specific Gravity:	2.4 – 2.8
Bulk Density:	450 - 800kg/m3
Flash Point:	Not applicable
Flammability Limits:	Not-combustible
Solubility In Water:	Approx. 1.6g/L @20°C
Particle Size:	9% < 100µm
pH:	Approx 12

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Section 10: Stability and Reactivity

An alkaline material that reacts vigorously with acids, generating some heat. May absorb carbon dioxide from the atmosphere, forming calcium carbonate. Soluble in glycerol, aqueous solution of sucrose, and ammonium chloride. Incompatible with maleic anhydride, nitroparaffins, and phosphorus.

Section 11: Toxicological Information

Short Term (Acute) Exposure

Swallowed: Has a caustic reaction and is corrosive to the mouth and throat.

Eyes: Irritation and corrosive to the eyes. May cause chemical conjunctivitis and redness and watering of eyes and damage to cornea.

Skin: Irritating and drying to the skin. May cause alkali burns and irritant or allergic dermatitis.

Inhaled: Irritating to the nose, throat and respiratory system causing coughing and sneezing.

Long Term (Chronic) Exposure

Skin: Prolonged exposure may cause irritant dermatitis.

Inhaled: Repeated exposure may cause severe mucous membrane irritation, bronchitis and pneumonia. Repeated and prolonged exposure to dust levels which exceed the OES for crystalline silica (see above) may occur. This can cause bronchitis, and silicosis (scarring of the lung). Long-term overexposure to respirable crystalline silica dust may increase the risk of other irreversible and serious disorders including scleroderma (a disease affecting the connective tissue of the skin, joints, blood vessels and internal organs). NOHSC has not classified crystalline silica as a carcinogen. There is debate in the medical literature concerning whether there is any risk of lung cancer arising from long term high overexposure to respirable crystalline silica. Risk of lung cancer has not been identified from using this product. The International Agency for Research on Cancer (IARC) has classified Crystalline Silica inhaled in the form of quartz or cristobalite from occupational sources, as carcinogenic to humans (Group 1).

Section 12: Ecological Information

Ecotoxicity: Because of the high pH of this product, it would be expected to produce significant acute ecotoxicity upon exposure to aquatic organisms and aquatic systems.

Persistence and Degradability: Product has no bioaccumulation or food chain toxicity potential.

Mobility: Soluble in water (as hydroxide) to form alkaline solution. Low mobility in most ground conditions.

Section 13: Disposal Considerations

Material should be recycled, or neutralised with dilute hydrochloric acid to a pH of 6-9, before disposal in accordance with local authority guidelines. Keep out of sewer, storm water drains, and natural waterways.

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Section 14: Transport Information

UN Number:	None allocated
Proper Shipping Name:	None allocated
Class and Subsidiary Risk:	None allocated
Packing Group:	None allocated
Special precautions for user:	Avoid generating dust, skin and eye contact and breathing dust
Hazchem Code:	None allocated

Section 15: Regulatory Information

Hydrated Lime is not classified as Dangerous Goods.
Classified as Hazardous according to the criteria of the National Occupational Health and Safety Commission (NOHSC) Approved Criteria For Classifying Hazardous Substances [NOHSC: 1008] 3rd Edition

Section 16: Other Information

For further information on this product contact:	Telephone: 1800 263757 (24 hrs) Facsimile: 07 3335 3225
Emergency Contact Number:	Telephone: 1800 263757 (24 hrs) or Poisons Information Centre 13 11 26

Australian and New Zealand Standards:

AS 2161: Industrial Safety Gloves and Mittens (excluding electrical and medical gloves).
AS/NZ 1336: Recommended Practices for Occupational Eye Protection.
AS/NZS 1715: Selection, use and maintenance of respiratory protective devices.
AS/NZS 1716: Respiratory protective devices.
AS/NZS 4501: Occupational protective clothing.

Advice Note:

The information in this document is believed to be accurate.

The provision of this information should not be construed as a recommendation to use this product in violation of any patent rights or in breach of any statute or regulation. Users are advised to make their own determination as to the suitability of this information in relation to their particular purposes and specific circumstances. Each user should read this MSDS and consider the information in the context of how the product will be handled and used in the workplace and in conjunction with other substances or products.

Since the information in this document may be applied under conditions beyond our control, we can accept no responsibility for any loss or damage caused by any person acting or refraining from action as a result of this information.