SAFETY DATA SHEET

Quicklime

Section 1: Identification of the Material and Supplier

Company Details

Cement Australia Pty Limited

ABN 75 104 053 474

18 Station Avenue
Darra, Queensland 4076

Tel: 1300 CEMENT (1300 236 368)
Fax: 1800 CEMENT (1800 236 368)
Website: www.cementaustralia.com.au

Emergency Contact Number:

Contact Person: Technical Manager
Telephone: 1300 CEMENT (1300 236 368 - Business Hours) or
Poisons Information Centre 13 11 26

Manufacturing Plants

Gladstone: Landing Rd, Fisherman's Landing, Gladstone QLD 4680

Product

Name: **Quicklime**

Other Names: Burnt Lime
Calcium Oxide
Unslaked Lime

Use: Manufacture of calcium hydroxide (hydrated lime), pH control, soil stabilisation, water, and sewerage treatment, flux in steel industry, sugar refining, alumina refining, minerals processing.

Section 2: Hazards Identification

Hazardous Substance. Non-dangerous Goods

Danger: Causes severe skin burns and eye damage

Danger: May cause allergy or asthma symptoms or breathing difficulties if inhaled

CAN CAUSE SKIN BURNS & EYE DAMAGE: Avoid contact with the eyes and skin from both wet and dry powder. Wet powder can be corrosive to the eyes and skin and may cause skin sensitisation (dermatitis). Safety: Wear suitable protective clothing, gloves (AS2161), and eye/face protection (AS/NZS1337.1).

IF ON SKIN: Wash thoroughly after handling. Wash clothes before re-use and separately from other clothing.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do so. Continue rinsing.

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

RESPIRATORY SENSITISERS: Avoid breathing dust. Repeated inhalation of the dust containing crystalline silica may cause bronchitis, silicosis (scarring of the lung) and the risk of scleroderma. Safety: When exposed to dust, wear a suitable respirator (AS/NZS1715, 1716). When cutting or abrading concrete, keep it wet to avoid creating hazardous dust.

IF INHALED: Remove victim to fresh air immediately and keep at rest in a comfortable position for breathing.

SAFETY EQUIPMENT: Recommended protective clothing when handling product includes gloves, boots, long sleeves/pants, eye protection i.e., goggles, face mask.

FIRST AID: If any above symptoms persist, seek medical attention or contact Poisons Information Centre on 13 11 26 (Australia wide).

DISPOSAL: Follow safety instructions and collect in containers for disposal as trade waste in accordance with local authority guidelines. Please dispose of packaging in appropriate general waste collection (not suitable for recycling).

SPILLS/LEAKS: Keep out of sewers and stormwater.

Section 3: Composition/Information on Ingredients

Chemical Entity	Proportion	CAS Number
Calcium Oxide	90-95%	1305-78-8
Magnesium Oxide	0.5-1.5%	1309-48-4
Calcium Carbonate	1.0-5.0%	1317-65-3
Aluminium Oxide	0-1.0%	1344-28-1
Crystalline Silica (Quartz)	<1%	14808-60-7
Silicon Dioxide	1-2.0%	7631-86-9
Hexavalent Chromium Cr (VI)	<1 ppm	1309-48-4
Iron Oxide	<0.5%	1309-37-1

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. 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: Quicklime is non-combustible

Hazchem Code: None allocated

Flammability: Not flammable

Extinguishing Media: Fires in areas surrounding quicklime storage must be extinguished using non-water extinguishers. **DO NOT USE WATER**

Hazards from Combustion Products: None

Special Protective Precautions and equipment for fire fighters: None required. Refer to PPE

Extinguishing Media Violent reactions with maleic anhydride, nitroethane, nitromethane, nitroparaffins, nitropropane and phosphorus. Strong exothermic (heat producing) reaction with water.

Evacuate No

Section 6: Accidental Release Measures

Spills: PPE must be worn to clean up spillages with broom, shovel, or vacuum equipment. Dry clean-up only. Minimise dust generation. **DO NOT USE WATER.** Keep product out of storm water and sewer drains.

Section 7: Handling and Storage

Handling: When supplied in bags these need to be handled in accordance with manual handling Code of Practice.

Storage: Quicklime should be stored in a cool protected place away from moisture, strong oxidants or acids and to minimise dust emissions. Storage in steel or concrete bins and silos, or plastic lined bags, is appropriate.

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: 2mg/m³ TWA (time-weighted average). Crystalline silica (quartz): 0.1 mg/m³ TWA as respirable dust (≤7 microns particle equivalent aerodynamic diameter).

Engineering Controls: All work with Quicklime should be carried out in a manner that minimises dust generation, exposure to dust and repeated skin contact. When handling Quicklime 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 Quicklime or products containing Quicklime, 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 that 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:	A fine powder ranging in colour from grey to off-white
Odour:	No odour
Boiling/Melting Point:	Melting point >2500ºC
Vapour Pressure:	Not applicable
Specific Gravity:	3.2 – 3.4
Bulk Density:	900-1400kg/m³
Flash Point:	Not applicable
Flammability Limits:	Non-combustible
Auto Ignition Temp:	Not Applicable
Solubility In Water:	Reacts vigorously with water generating heat and steam
pH:	Approximately 12
Particle Size:	Reacts violently with water, generating much heat. Quicklime reacts violently with: Boric Oxide (B_2O_3), Calcium Chloride ($CaCl_2$), Boron Fluoride (BF_3), Hydrofluoric Acid (HF), Phosphoric Anhydride (P_2O_5), Fluorine Gas (F_2) and Chlorine Trifluoride (ClF_3)

Section 10: Stability and Reactivity

An alkaline material that reacts vigorously with acids, with the generation of much heat. Reacts vigorously with water producing heat and caustic steam.

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. disorders may be aggravated by exposure to dust or contact with wet cement.

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 for small amounts it may be 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.

Measures should be taken to prevent dust generation during disposal and exposure and personal precautions should be observed (see above).

Section 14: Transport Information

Transport is usually in sealed bulk rail or road tankers. Do not transport with chemicals of class: 1 (Explosives), 4.3 (dangerous when wet) 5.1 (oxidizing agents), 5.2 (organic peroxides), 6 (toxics - where the Toxic is a cyanide and the Corrosive is an acid), 7 (radio actives), 8 (where products are acid/alkali) and foodstuffs.

UN Number:	1910
Proper Shipping Name:	None allocated
Class and Subsidiary Risk:	None allocated
Packing Group:	111
Special precautions for user:	Avoid generating and breathing dust
Hazchem Code:	4W
Dangerous Good class and subsidiary risk:	Class 8 (air transport only)
Emergency procedure guide:	8A2

Section 15: Regulatory Information

Quicklime is classified as non-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: 1300 CEMENT (1300 236 368 - Business Hours)
Facsimile: 1800 CEMENT (1800 236 368)

Next Review Date for this MSDS: 31 December 2020.

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:

Cement Australia believes the information in this document to be accurate as at the date of preparation noted below, but, to the maximum extent permitted by law, Cement Australia accepts no responsibility for any loss or damage caused by any person acting or refraining from action because of this information.

The provision of this information should not be construed by anyone as a recommendation to use this product. In particular, no one should use any product in violation of any patent or other intellectual proprietary rights or in breach of any statute or regulation.

Users should rely on their own knowledge and inquiries and make their own determination as to the applicability 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.