



# Material Safety Data Sheet

Product Name

**QUICKLIME**

## 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

<b>Product Name</b>	QUICKLIME
<b>Supplier Name</b>	Cockburn Cement Limited A.B.N. 50.008.673.470
<b>Address</b>	PO Box 38, Hamilton Hill, WA 6963
<b>Manufacturing Plant(s)</b>	Munster Works, Lot 242 Russell Road East, Munster, WA 6166 Dongara Works, Kailis Drive, Dongara, WA 6525
<b>Telephone</b>	08 9411 1000
<b>Fax</b>	08 9411 1150
<b>Emergency</b>	Bus Hrs 08 9411 1000 A/Hrs 08 9411 1000
<b>Email</b>	orders@cockburncement.com.au
<b>Web Site</b>	<a href="http://www.cockburncement.com.au">http://www.cockburncement.com.au</a> & <a href="http://www.swacement.com.au">www.swacement.com.au</a>
<b>Synonym(s)</b>	Calcium Oxide, Calcium monoxide, Rock Lime, Fluxing Lime, Burnt Lime, Unslaked Lime
<b>Use(s)</b>	Quicklime is used to produce Hydrated Lime. Quicklime used in alumina and steel production, neutralising water, sewerage treatment, and sugar refining. Quicklime is also used in gold production to keep cyanide solutions alkaline.

## 2. HAZARDS IDENTIFICATION

### CLASSIFIED AS HAZARDOUS ACCORDING TO CRITERIA OF NOHSC

#### RISK PHRASES

R14	Reacts violently with water
R20/21/22	Harmful by inhalation, in contact with skin and if swallowed.
R36/37/38	Irritating to eyes, respiratory system and skin.
R40	Limited evidence of a carcinogenic effect.
R43	May cause sensitisation by skin contact.
R48/20	Harmful : danger of serious damage to health by prolonged exposure through inhalation.

#### SAFETY PHRASES

S20/21	When using do not eat, drink or smoke.
S22	Do not breathe dust.
S24/25	Avoid contact with skin and eyes.
S26	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
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.
S39	Wear eye/face protection

### ONLY CLASSIFIED AS DANGEROUS GOODS BY THE CRITERIA OF THE ADG CODE WHEN TRANSPORTED BY AIR

<b>UN No</b>	1910	<b>Hazchem Code</b>	4W	<b>Pkg Group</b>	III
<b>DG Class</b>	8	<b>Subsidiary Risk(s)</b>	None Allocated	<b>EPG</b>	None Allocated

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredient	Formula	Conc.	CAS No.
Calcium Oxide	CaO	75 – 95%	1305-78-8
Magnesium Oxide	MgO	3 – 6%	1309-48-4
Silicon Dioxide	SiO <sub>2</sub>	0 – 15%	14808-60-7
Calcium Carbonate	CaCO <sub>3</sub>	0 – 6%	1317-65-3
Aluminium Oxide	Al <sub>2</sub> O <sub>3</sub>	0 – 2%	1344-28-1
Iron (III) Oxide	Fe <sub>2</sub> O <sub>3</sub>	0 – 1%	1309-37-1



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## 4. FIRST AID MEASURES

<b>Eye</b>	Flush thoroughly with flowing water for at least 15 minutes. Seek medical attention if symptoms persist.
<b>Inhalation</b>	Remove from dusty area to fresh air. If symptoms persist, seek medical attention.
<b>Skin</b>	Quickly but gently, wipe material off skin. Immediately remove all contaminated clothing and footwear. Wash skin thoroughly with copious amounts of water.
<b>Ingestion</b>	Rinse mouth and lips with water. Do not induce vomiting. Give water to drink to dilute stomach contents. If symptoms persist, seek medical attention.
<b>Advice to Doctor</b>	Treat symptomatically. Contact Poisons Information Centre (131126 Australia Wide).
<b>First Aid Facilities</b>	Eye wash facilities should be provided.

### Additional Information - Aggravated Medical Conditions

<b>Inhalation</b>	Inhalation of dust through prolonged, repeated exposure can cause membrane irritation, bronchitis, pneumonia, silicosis (scarring of the lung). It may also increase the risk of scleroderma (a disease affecting the connective tissue of the skin, joints, blood vessels and internal organs) and lung cancer. Epidemiological studies have shown that smoking increases the risk of bronchitis, silicosis (scarring of the lung) and lung cancer.
<b>Skin</b>	Irritating to the skin. Prolonged and repeated skin contact with Quicklime can cause irritant dermatitis.

## 5. FIRE FIGHTING

<b>Flammability</b>	Non flammable. Does not support combustion of other materials, but on contact with water or acids may generate sufficient heat to ignite surrounding materials. DO NOT USE WATER for fire fighting. USE DRY CHEMICAL OR CO <sub>2</sub> TYPE EXTINGUISHERS.
<b>Fire and Explosion Extinguishing</b>	Non flammable. No fire or explosion hazard exists.
<b>Hazchem Code</b>	None Allocated

## 6. ACCIDENTAL RELEASE MEASURES

<b>Spillage</b>	If spilt (bulk), contact emergency services if appropriate. Wear dust-proof goggles, PVC/rubber gloves, a Class P2 respirator (where an inhalation risk exists), coveralls and rubber boots. Clear area of all unprotected personnel. Prevent spill entering drains or waterways. Collect and place in sealable containers for disposal or reuse. Avoid generating dust. Quicklime should be slowly hydrated by SLOW addition to water then neutralised with diluted Hydrochloric Acid (eg 6M) before disposal.
<b>Emergency Procedures</b>	Follow safety requirements for personal protection under Section 8 Exposure Controls/Personal Protection.



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## 7. HANDLING AND STORAGE

<b>Storage</b>	Steel silos and airtight rail or road tankers are the usual forms of storage and transport. Common storage and handling equipment must NOT be used for Quicklime. Enclosed conveyors with extraction equipment and dust collection are required for safe handling. Quicklime must NOT come into contact with materials containing water or water of crystallisation, eg copper, alum, ferric sulphates. Quicklime must be kept away from moisture, steam, acid or acid fumes to prevent violent reactions.
<b>Handling</b>	Before use carefully read the product label. Use of safe work practices are recommended to avoid eye or skin contact and inhalation. Observe good personal hygiene, including washing hands before eating. Prohibit eating, drinking and smoking in contaminated areas.
<b>Property/ Environmental</b>	Refer to Section 13.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

<b>Ventilation</b>	Avoid generating dust. All work with Quicklime should be carried out in such a way as to minimise exposure to dust and repeated skin contact. Where dust could be generated whilst 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.
<b>Exposure Standards</b>	STEL 10 mg/m <sup>3</sup> per 30 minutes as inspirable dust. CALCIUM OXIDE (1305-78-8) ES-TWA: 2 mg/m <sup>3</sup> (Peak Level) WES-TWA: 2 mg/m <sup>3</sup> MAGNESIUM OXIDE (1309-48-4) ES-TWA: 10 mg/m <sup>3</sup> (FUME) ES-TWA: 10 mg/m <sup>3</sup> Inspirable dust WES-TWA: 10 mg/m <sup>3</sup> ALUMINIUM OXIDE (1344-28-1) ES-TWA: 10 mg/m <sup>3</sup> (Total Dust) WES-TWA: 10 mg/m <sup>3</sup> CALCIUM CARBONATE (1317-85-3) ES-TWA: 10 mg/m <sup>3</sup> WES-TWA: 10 mg/m <sup>3</sup> SILICA, CRYSTALLINE – QUARTZ (14808-60-7) ES-TWA: 0.1 mg/m <sup>3</sup> (Silica Quartz, respirable, NOHSC) ES-TWA: 0.1 mg/m <sup>3</sup> (QLD): 0.15 mg/m <sup>3</sup> (NSW) WES-TWA: 0.1 mg/m <sup>3</sup> IRON (III) OXIDE (1309-37-1) WES-TWA: 5 mg/m <sup>3</sup>
<b>PPE</b>	Wear dust-proof goggles and rubber or PVC gloves. Where an inhalation risk exists, wear a Class P2 respirator. If there is potential for prolonged and/or excessive skin contact, wear coveralls. At high dust levels, wear a Class P3 respirator or a Powered Air Purifying Respirator (PAPR) with Class P3 Filter.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance</b>	Granular off-white amorphous powder	<b>Solubility (water)</b>	Sparsely soluble, reacts vigorously with water
<b>Odour</b>	Slight Odour	<b>Specific Gravity</b>	3.2 to 3.4
<b>pH</b>	Approximately 12	<b>% Volatiles</b>	Not Available
<b>Vapour Pressure</b>	Not Available	<b>Flammability</b>	Non Flammable
<b>Vapour Density</b>	Not Available	<b>Flash Point</b>	Not Relevant
<b>Boiling Point</b>	2850°C	<b>Upper Explosion Limit</b>	Not Relevant
<b>Melting Point</b>	2570°C	<b>Lower Explosion Limit</b>	Not Relevant
<b>Evaporation Rate</b>	Not Available	<b>Autoignition</b>	Not Available
<b>Bulk Density</b>	750 – 1000 kg/m <sup>3</sup>		
<b>Particle Size</b>	95% < 600 microns		



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## 10. STABILITY AND REACTIVITY

**Reactivity** Incompatible with hydrofluoric acid (violently) and phosphorus pentoxide. Reacts (potentially vigorously) with water generating heat and producing a calcium hydroxide solution. Reacts with aluminium and brass metals in the presence of water to produce hydrogen gas.

**Decomposition Products** May evolve toxic gases if heated to decomposition.

## 11. TOXICOLOGICAL INFORMATION

**Health Hazard Summary** Corrosive. Use safe work practices to avoid eye – skin contact and dust generation – inhalation. Once water is added, an inhalation hazard is not anticipated. Chronic respiratory effects are not anticipated with over exposure at high levels due to the immediate irritant and/or corrosive effects.

**Eye** Corrosive. Severe irritant upon contact with powder/dust. Over exposure may result in pain, redness, corneal burns and ulceration with possible permanent damage.

**Inhalation** Corrosive. Over exposure to powder – dust (when mixing) may result in severe mucous membrane irritation of nose and throat, coughing and bronchitis at high levels.

**Skin Ingestion** Irritating and drying to skin. May cause alkaline burns and irritant or allergic dermatitis. Corrosive. Ingestion may result in ulceration and burns to the mouth and throat, nausea, vomiting, abdominal pain and diarrhoea.

**Toxicity Data** SILICA, CRYSTALLINE - QUARTZ (14808-60-7)  
1Carcinogenicity: Classified as a human carcinogen (IARC Group 1)  
CALCIUM HYDROXIDE (1305-62-0)  
LD50 (Ingestion): 7300 mg/kg (mouse)  
MAGNESIUM HYDROXIDE (1309-42-8)  
LD50 (Ingestion): 8500 mg/kg (rat, mouse)

## 12. ECOLOGICAL INFORMATION

**Environment** Limited ecotoxicity data was available for this product at the time this report was prepared. Ensure appropriate measures are taken to prevent this product from entering the environment.

## 13. DISPOSAL CONSIDERATIONS

**Waste Disposal** For small amounts; VERY SLOWLY, hydrate (add water) and then neutralise with diluted hydrochloric acid (eg 6M HCl) to pH of 7-8. Dilute and flush to sewer or landfill. For large amounts, material can be recycled. Contact manufacturer for additional information.

**Legislation** Dispose of in accordance with relevant local legislation.

## 14. TRANSPORT INFORMATION

Not classified as dangerous goods by the criteria of the ADG Code.

<b>Shipping Name</b>	None Allocated	<b>Hazchem Code</b>	None Allocated	<b>Pkg Group</b>	None Allocated
<b>UN No</b>	None Allocated	<b>Subsidiary Risk(s)</b>	None Allocated	<b>EPG</b>	None Allocated

### IATA (INTERNATIONAL AIR TRANSPORT DANGEROUS GOODS)

<b>Shipping Name</b>	Calcium Oxide	<b>Hazchem Code</b>	4W	<b>Pkg Group</b>	III
<b>UN No</b>	1910	<b>Subsidiary Risk</b>	None Allocated	<b>EPG</b>	None Allocated

### IMDG (INTERNATIONAL MARITIME DANGEROUS GOODS)

<b>Shipping Name</b>	None Allocated	<b>Hazchem Code</b>	None Allocated	<b>Pkg Group</b>	None Allocated
<b>UN No</b>	None Allocated	<b>Subsidiary Risk (s)</b>	None Allocated	<b>EPG</b>	None Allocated



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## 15. REGULATORY INFORMATION

**Poison Schedule AICS** A poison schedule number has not been allocated to this product using the criteria in the Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP). All chemicals listed on the Australian Inventory of Chemical Substances (AICS).

## 16. OTHER INFORMATION

### Additional Information

IARC – GROUP 1 – PROVEN HUMAN CARCINOGEN. This product contains an ingredient for which there is sufficient evidence to have been classified by the International Agency for Research into Cancer as a human carcinogen. The use of products known to be human carcinogens should be strictly monitored and controlled.

**RESPIRATORS:** In general the use of respirators should be limited and engineering controls employed to avoid exposure. If respiratory equipment must be worn ensure correct respirator selection and training is undertaken. Remember that some respirators may be extremely uncomfortable when used for long periods. The use of air powered or air supplied respirators should be considered where prolonged or repeated use is necessary.

**PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:** The Recommendation for protective equipment contained within this MSDS report is provided as a guide only. Factors such as method of application, working environment, quantity used, product concentration and the availability of engineering controls should be considered before final selection of personal protective equipment is made.

**HEALTH EFFECTS FROM EXPOSURE:** It should be noted that the effects from exposure to this product will depend on several factors including: frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application. Given that it is impractical to prepare an MSDS report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

### ABBREVIATIONS:

mg/m<sup>3</sup> - Milligrams per cubic metre

ppm - Parts Per Million

ES-TWA - Exposure Standard - Time Weighted Average

pH - relates to hydrogen ion concentration - this value will relate to a scale of 0 - 14, where 0 is highly acidic and 14 is highly alkaline.

CAS# - Chemical Abstract Service Number - used to uniquely identify chemical compounds.

IARC - International Agency for Research on Cancer.

WES-TWA - Workplace Exposure Standard - Time Weighted Average

M – Moles per litre, a unit of concentration.

### Report Status

This document has been compiled by Cockburn Cement Limited the manufacturer of the product and serves as the manufacturer's Material Safety Data Sheet ("MSDS").

While Cockburn Cement Limited has taken all due care to include accurate and up-to-date information in this MSDS, it does not provide any warranty as to accuracy or completeness. As far as lawfully possible, Cockburn Cement Limited accepts no liability for any loss, injury or damage (including consequential loss) which may be suffered or incurred by any person as a consequence of their reliance on the information contained in this MSDS.



# Material Safety Data Sheet

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**Contact Point**

For further information on this product contact:

Telephone:      Office hours      08 9411 1000  
                         After hours      08 9411 1000  
Facsimile:      08 9411 1150  
Web site:      <http://www.cockburncement.com.au>

**Advice Note**

The information in this document is believed to be accurate. Please check the currency of this MSDS by contacting:

08 9411 1000  
or  
<http://www.cockburncement.com.au> or [www.swancement.com.au](http://www.swancement.com.au)

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. Users 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.