

# QUICKLIME – MUNSTER

## PRODUCT DESCRIPTION

Cockburn's Quicklime - Munster is a calcium oxide produced by the calcination of selectively dredged shell sand in a rotary kiln at Munster, Western Australia. It is a flash calcined lime with a high degree of reactivity making it suitable for use in chemical processes.

It is manufactured as a granular product and is off-white in colour.

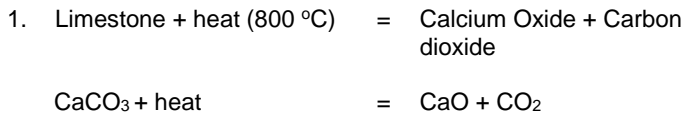
Quicklime - Munster is highly reactive with water, generating considerable heat in the hydration process.

### What is lime?

Lime is one of humanities oldest and most vital minerals and is often confused with limestone, from which it is derived.

Quicklime (Calcium Oxide) is manufactured by calcining high quality limestone at elevated temperatures, which results in volatilising nearly half of the stone's weight as carbon dioxide.

Reactions are as follows:



## SUPPLY

Quicklime - Munster is available in sealed bulk tankers from Munster, Western Australia.

## SPECIFICATION

Quicklime - Munster is a high calcium Lime complying with the Australian Standard Specification AS 1672.1 (Limes for Building).

All products are manufactured under a third party certified manufacturing and supply quality assurance system to AS/NZS ISO 9001 (NCS Certification No 6041).

## APPLICATIONS

Quicklime is one of the most cost effective industrial minerals available. Some uses include:

### Alumina Refining:

Quicklime plays a critical role in promoting causticisation reactions within the Bayer process.

### Mining and Construction industries:

Quicklime is often used to cost effectively neutralise acidic mine tailings. It is also often used in soil stabilisation for roads and dams.

### Steel and Non-Ferrous metallurgical industries:

Quicklime is a flux and removes impurities (silica, phosphorus, sulfur) in refining steel.

It is also used to beneficiate copper ore, make alumina and magnesia for use in aluminium and magnesium manufacture, extract uranium and recover gold, silver and other minerals.

### Chemical industry:

Quicklime is used to make such chemicals as sodium alkalis, calcium carbide, calcium hypochlorite, citric acid and petrochemicals.

The paper industry uses lime as a causticising agent and for bleaching.

### Water Treatment:

Quicklime is often used within water treatment processes as a cost effective pH moderating agent.

## TYPICAL PROPERTIES

Chemical Properties		
	AS 1672.1 Requirement	Typical Analysis (%)
SiO <sub>2</sub>	No requirement	8.8
Al <sub>2</sub> O <sub>3</sub>	No requirement	0.6
Fe <sub>2</sub> O <sub>3</sub>	No requirement	0.3
CaO	No requirement	82.3
MgO	No requirement	5.0
Loss on Ignition	No requirement	1.0
Available Lime	≥ 60	80
CO <sub>2</sub> (Thermogravimetric)	Max 5	0.5
Physical Properties		
Slaking Rate	When tested using AS4489.3.1-1997 Maximum Temperature Rise is 47°C in 9 minutes	
Residue on Slaking (AS 1672.1: Max 20% on 600 μm)	<5%	
Bulk Density	700 - 900 kg/m <sup>3</sup>	



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## AVAILABLE LIME INDEX

In accordance with the standard specifications AS 1672.1 Quicklime - Munster has a typical available lime index, expressed in terms of calcium oxide (CaO), 80%.

## HANDLING AND STORAGE

Quicklime - Munster is classified as a granular material and lends itself to pneumatic and mechanical conveying systems.

Due to Quicklime's affinity with water, material should be stored in a dry waterproof enclosure. Quicklime can be stored in conventional steel or concrete bins.

## SAFETY INFORMATION

Quicklime is caustic. Workers handling Quicklime must be adequately protected to avoid burns. The problem of protection from Quicklime burns is serious, particularly in hot weather when workers perspire freely. Therefore protective clothing must be used.

Quicklime heat of hydration: Care should be taken to avoid accidental contact with moisture or with chemicals possessing water of crystallisation, in order to avoid excessive heat generation which might lead to the combustion of flammable products in close proximity.

For more information, refer to the Safety Data Sheet for Quicklime.

## CONTACT POINTS

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