



# HYDRATED LIME

## PRODUCT DESCRIPTION

Hydrated Lime is a dry powder obtained by treating Quicklime with enough water to satisfy its chemical affinity for water.

Adelaide Brighton Hydrated Lime is ground and air classified to produce a fine white powder. Typically less than 0.05% is retained on a 250 micron sieve. Air classification also removes contaminants that are normally found in Quicklime.

### What is Lime?

Lime is one of man's oldest and most vital chemicals and is often confused with limestone, from which it is derived.

Quicklime is manufactured by calcining high quality limestone at elevated temperatures, which causes volatilising nearly half of the stone's weight as carbon dioxide.

Hydrated Lime in turn is produced by reacting Quicklime with sufficient water to form a dry white powder. Reactions are as follows:

- Limestone + Heat (800°C) = Calcium Oxide + Carbon Dioxide  

$$\text{CaCO}_3 + \text{Heat} = \text{CaO} + \text{CO}_2$$
- Quicklime + Water = Calcium Hydroxide + Heat  

$$\text{CaO} + \text{H}_2\text{O} = \text{Ca(OH)}_2$$

## SUPPLY

Adelaide Brighton Hydrated Lime is available in the following forms:

- Bulk
- 20kg multi-walled paper bags
- Nominal 800kg capacity bulk bags

## SPECIFICATION

Adelaide Brighton Hydrated Lime is a high Calcium Lime complying with the Australian Standard Specification AS 1672.1-1997 (Limes for Building).

All products are manufactured under a third party certified manufacturing and supply quality assurance system to AS/NZS ISO 9001:2000 (NCS Certification No 6041).

## APPLICATIONS

Hydrated Lime, which is an extremely versatile chemical, is the most widely used and lowest cost alkali in the world. Major applications are listed over the page.

Lime is not toxic to workers and users, nor are air borne dust particles harmful to the public. After steel making, lime's greatest use is for environmental clean up of water, waste water, air and solid wastes. It is also used for water softening and clarification.

In waste water treatment of sewage effluents, lime remove phosphorus and nitrogen. It also kills the bacteria.

Lime absorbs and neutralises sulfur oxides from industrial stack gases, thereby beneficiating air quality.

## TYPICAL PROPERTIES

| Chemical Composition           |                            |                    |
|--------------------------------|----------------------------|--------------------|
| Oxide                          | AS 1672.1-1997 Requirement | Typical Analysis % |
| SiO <sub>2</sub>               | No requirement             | 1.8                |
| Al <sub>2</sub> O <sub>3</sub> | No requirement             | 0.5                |
| Fe <sub>2</sub> O <sub>3</sub> | No requirement             | 0.6                |
| CaO                            | No requirement             | 72.0               |
| MgO                            | No requirement             | 1.0                |
| Loss On Ignition               | No requirement             | 24.0               |
| CO <sub>2</sub>                | <5%                        | 2.5                |

### Physical Properties

|                  |   |
|------------------|---|
| Fineness         | Typical fineness is 0.1% retained on a 75 micron sieve and less than 0.05% on as 250 micron sieve |
| Specific Gravity | 2.2-2.3   |
| Bulk Density     | 400-600 kg/m <sup>3</sup>   |

## HANDLING AND STORAGE

Lime is used in various forms in a large number of diversified industries. Where daily requirements are small, it is preferable to use bagged lime because handling and storage is relatively simple. Storage areas for bagged lime must be covered to prevent ingress of moisture. In suitable (dry) storage, bagged hydrate may be stored for periods of up to one year without serious deterioration.

At large lime consuming plants, bulk lime is more efficient and economic to use. The lime is usually handled by mechanical or pneumatic conveying systems, discharging to weather tight bins or silos.

## SAFETY INFORMATION

Hydrated Lime is an Alkali and should be handled with some caution. Prolonged exposure can cause drying or chapping of the skin. Care should be taken to ensure that lime does not come into contact with the eyes.

If Hydrated Lime is to be handled in a way that workers may encounter dust, it is recommended that they wear snugly fitting safety goggles, filter masks and protective clothing.

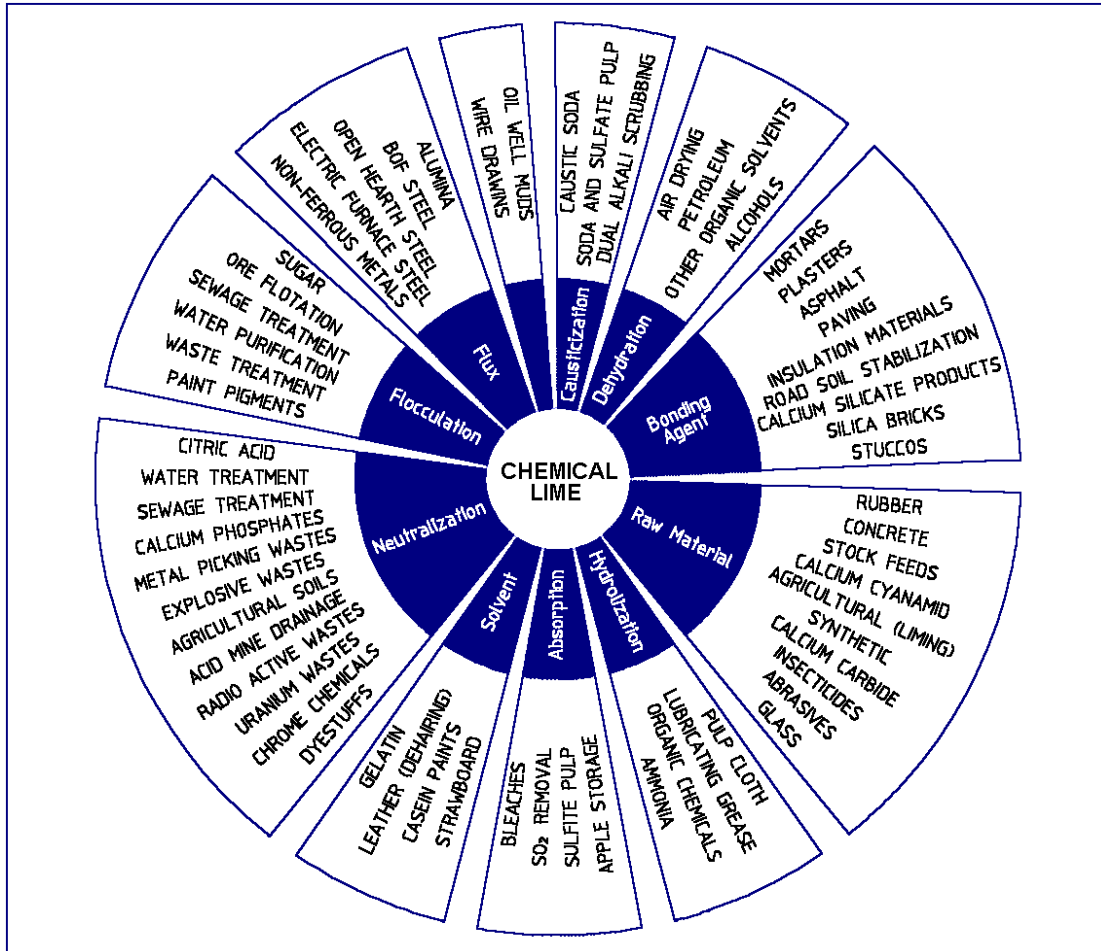
For more information refer to the Material Safety Data Sheet for Hydrated Lime.

## AVAILABLE LIME INDEX

In accordance with the standard specification AS1672.1-1997 Adelaide Brighton Hydrated Lime has an available lime index, expressed in terms of calcium hydroxide [Ca(OH)<sub>2</sub>] of 90% typically.

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## MAJOR APPLICATIONS FOR LIME



### CONTACT POINTS

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