

# SAFETY DATA SHEET



## 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

### 1.1 Product identifier

**Product name** CEMENT KILN DUST

**Synonyms** BAGHOUSE DUST • BYPASS DUST • CEMENT LIME • CLINKER KILN DUST (CKD) • KILN DUST • KILN FEED • RAW MIX

### 1.2 Uses and uses advised against

**Uses** CEMENT INDUSTRY • CEMENT KILN FUEL - ADDITIVE • KILN LINING

### 1.3 Details of the supplier of the product

**Supplier name** CEMENT AUSTRALIA PTY LIMITED

**Address** 18 Station Ave, Darra, QLD, 4076, AUSTRALIA

**Telephone** (07) 3335 3000; 1300 236 368

**Fax** (07) 3335 3000; 1800 236 368

**Email** [ca.compliance@cemaust.com.au](mailto:ca.compliance@cemaust.com.au)

**Website** <http://www.cementaustralia.com.au>

### 1.4 Emergency telephone numbers

**Emergency** (07) 3335 3000; 1300 236 368 (Business Hours)

**Emergency** 13 11 26 (After Hours)

## 2. HAZARDS IDENTIFICATION

### 2.1 Classification of the substance or mixture

CLASSIFIED AS HAZARDOUS ACCORDING TO SAFE WORK AUSTRALIA CRITERIA

#### Physical Hazards

Not classified as a Physical Hazard

#### Health Hazards

Skin Corrosion / Irritation: Category 1B

Serious Eye Damage / Eye Irritation: Category 1

Specific Target Organ Toxicity (Single Exposure): Category 3 (Respiratory Irritation)

Specific Target Organ Toxicity (Repeated Exposure): Category 2

#### Environmental Hazards

Not classified as an Environmental Hazard

### 2.2 GHS Label elements

**Signal word** DANGER

#### Pictograms



#### Hazard statements

H314 Causes severe skin burns and eye damage.

H318 Causes serious eye damage.

H335 May cause respiratory irritation.

H373 May cause damage to organs through prolonged or repeated exposure.

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### Prevention statements

P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P264	Wash thoroughly after handling.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.

### Response statements

P301 + P330 + P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304 + P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310	Immediately call a POISON CENTRE or doctor/physician.
P314	Get medical advice/attention if you feel unwell.
P321	Specific treatment is advised - see first aid instructions.
P363	Wash contaminated clothing before reuse.

### Storage statements

P403 + P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.

### Disposal statements

P501	Dispose of contents/container in accordance with relevant regulations.
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### 2.3 Other hazards

A proportion of the fine dust in the supplied dry product will be respirable crystalline silica. Once wetted, in the wet or final set form, risk of any airborne respirable dust will be low, but dry residues, or dust from cutting, grinding, abrading or finishing the set product may contain respirable crystalline silica.

## 3. COMPOSITION/ INFORMATION ON INGREDIENTS

### 3.1 Substances / Mixtures

Ingredient	CAS Number	EC Number	Content
LIMESTONE (CALCIUM CARBONATE)	1317-65-3	215-279-6	<80%
CALCIUM OXIDE	1305-78-8	695-027-3	<65%
SILICON DIOXIDE (SILICA, AMORPHOUS)	7631-86-9	807-338-5	<20%
SULPHUR TRIOXIDE	7446-11-9	231-197-3	<12%
ALUMINIUM OXIDE	1344-28-1	215-691-6	<5%
IRON OXIDE (FE2O3)	1309-37-1	215-168-2	<5%
NUISANCE DUST(S)	-	-	<5%
QUARTZ (CRYSTALLINE SILICA)	14808-60-7	238-878-4	<1%
GYPSUM	13397-24-5	603-783-2	<20%
MAGNESIUM OXIDE	1309-48-4	215-171-9	<5%

**Ingredient Notes** Depending upon the source material, may contain varying amounts of respirable quartz (crystalline silica).

## 4. FIRST AID MEASURES

### 4.1 Description of first aid measures

<b>Eye</b>	If in eyes, hold eyelids apart and flush continuously with running water. Continue flushing until advised to stop by a Poisons Information Centre, a doctor, or for at least 15 minutes.
<b>Inhalation</b>	If inhaled, remove from contaminated area. Apply artificial respiration if not breathing.
<b>Skin</b>	If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water. Continue flushing with water until advised to stop by a Poisons Information Centre or a doctor.
<b>Ingestion</b>	For advice, contact a Poisons Information Centre on 13 11 26 (Australia Wide) or a doctor (at once). If swallowed, do not induce vomiting. Rinse mouth out with water and give plenty of water to drink.
<b>First aid facilities</b>	Eye wash facilities and safety shower should be available.

**4.2 Most important symptoms and effects, both acute and delayed**

Calcium oxide is not considered acutely toxic via the oral, dermal, or inhalation route. The substance is classified as irritating to skin and the respiratory tract, with a potential risk of serious damage to the eye. Adverse systemic effects are not anticipated with local effects (due to alkaline pH) the major health hazard.

**4.3 Immediate medical attention and special treatment needed**

Treat symptomatically.

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**5. FIRE FIGHTING MEASURES**

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**5.1 Extinguishing media**

Do not use water for fire fighting as contact will increase heat generation. Use dry agent or carbon dioxide extinguishers only.

**5.2 Special hazards arising from the substance or mixture**

Non flammable. May generate heat in contact with water.

**5.3 Advice for firefighters**

Evacuate area and contact emergency services. Do NOT use water. May generate heat upon contact with water; sufficient heat may be generated to ignite surrounding combustible materials.

**5.4 Hazchem code**

- 2X
- 2 Fine Water Spray.
- X Wear liquid-tight chemical protective clothing and breathing apparatus. Contain spill and run-off.

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**6. ACCIDENTAL RELEASE MEASURES**

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**6.1 Personal precautions, protective equipment and emergency procedures**

Wear Personal Protective Equipment (PPE) as detailed in section 8 of the SDS. Clear area of all unprotected personnel. Contact emergency services where appropriate.

**6.2 Environmental precautions**

Prevent product from entering drains and waterways.

**6.3 Methods of cleaning up**

Contain spillage, then collect and place in suitable containers for reuse or disposal. Avoid generating dust.

**6.4 Reference to other sections**

See Sections 8 and 13 for exposure controls and disposal.

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**7. HANDLING AND STORAGE**

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**7.1 Precautions for safe handling**

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.

**7.2 Conditions for safe storage, including any incompatibilities**

Store in a cool, dry, well ventilated area, removed from water or moisture, incompatible substances and foodstuffs. Ensure packages or storage tanks are adequately labelled, protected from physical damage and sealed when not in use. Caution: Swells when moist and may burst containers.

**7.3 Specific end uses**

No information provided.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### 8.1 Control parameters

#### Exposure standards

Ingredient	Reference	TWA		STEL	
		ppm	mg/m <sup>3</sup>	ppm	mg/m <sup>3</sup>
Aluminium oxide (a)	SWA [AUS]	--	10	--	--
Aluminium oxide (including alpha-alumina)	SWA [Proposed]	--	10	--	--
Calcium carbonate (Limestone, Marble, Whiting)	SWA [AUS]	--	10	--	--
Calcium oxide	SWA [AUS]	--	2	--	--
Calcium oxide	SWA [Proposed]	--	1	--	--
Fumed Silica (respirable dust)	SWA [Proposed]	--	2	--	--
Fumed silica (respirable dust)	SWA [AUS]	--	2	--	--
Gypsum (Calcium sulphate)	SWA [AUS]	--	10	--	--
Inhalable dust	SWA [AUS]	--	10	--	--
Iron oxide fume (Fe <sub>2</sub> O <sub>3</sub> ) (as Fe)	SWA [AUS]	--	5	--	--
Iron oxide fume (Fe <sub>2</sub> O <sub>3</sub> ) (as Fe)	SWA [Proposed]	--	5	--	--
Magnesium oxide (fume)	SWA [AUS]	--	10	--	--
Magnesium oxide (fume)	SWA [Proposed]	--	10	--	--
Quartz (respirable dust)	SWA [AUS]	--	0.05	--	--
Quartz (respirable dust)	SWA [Proposed]	--	0.05	--	--
Quartz (respirable dust) (Precautionary advice)	WorkSafe VIC	--	0.02	--	--
Silica Fume (thermally generated) (respirable dust)	SWA [Proposed]	--	2	--	--

#### Biological limits

No biological limit values have been entered for this product.

### 8.2 Exposure controls

**Engineering controls** Avoid inhalation. Use in well ventilated areas. Where an inhalation risk exists, mechanical extraction ventilation is recommended. Maintain dust levels below the recommended exposure standard.

#### PPE

- Eye / Face** Wear dust-proof goggles.
- Hands** Wear PVC or rubber gloves.
- Body** When using large quantities or where heavy contamination is likely, wear coveralls.
- Respiratory** Where an inhalation risk exists, wear a Class P1 (particulate) / N95 respirator. At high dust levels, wear a Powered Air Purifying Respirator (PAPR) with Class P3 (particulate) / N100 filter or a Class P3 (particulate) / N100 respirator.



## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

<b>Appearance</b>	TAN, GREY OR OFF-WHITE POWDER
<b>Odour</b>	ODOURLESS
<b>Flammability</b>	NON FLAMMABLE
<b>Flash point</b>	NOT RELEVANT
<b>Boiling point</b>	> 1000°C
<b>Melting point</b>	NOT AVAILABLE
<b>Evaporation rate</b>	NOT AVAILABLE
<b>pH</b>	> 11 (Slurry)
<b>Vapour density</b>	NOT AVAILABLE
<b>Relative density</b>	2.6 to 2.8
<b>Solubility (water)</b>	SLIGHTLY SOLUBLE
<b>Vapour pressure</b>	NOT AVAILABLE

**9.1 Information on basic physical and chemical properties**

Upper explosion limit	NOT RELEVANT
Lower explosion limit	NOT RELEVANT
Partition coefficient	NOT AVAILABLE
Autoignition temperature	NOT AVAILABLE
Decomposition temperature	NOT AVAILABLE
Viscosity	NOT AVAILABLE
Explosive properties	NOT AVAILABLE
Oxidising properties	NOT AVAILABLE
Odour threshold	NOT AVAILABLE

**10. STABILITY AND REACTIVITY**

**10.1 Reactivity**

Calcium oxide reacts exothermically with water to form Calcium dihydroxide.

**10.2 Chemical stability**

Stable under recommended conditions of storage. Moisture sensitive.

**10.3 Possibility of hazardous reactions**

Hazardous polymerisation is not expected to occur.

**10.4 Conditions to avoid**

Avoid heat, sparks, open flames and other ignition sources. Avoid exposure to moisture.

**10.5 Incompatible materials**

Incompatible with hydrofluoric acid (violently) and phosphorus pentoxide. Reacts (potentially vigorously) with water generating heat and evolving calcium hydroxide. Also incompatible with acids (e.g. nitric acid), oxidising agents (e.g. hypochlorites), and aluminium.

**10.6 Hazardous decomposition products**

May evolve toxic gases if heated to decomposition.

**11. TOXICOLOGICAL INFORMATION**

**11.1 Information on toxicological effects**

**Acute toxicity** Ingestion may result in severe burns of the mouth and throat, as well as a danger of perforation of the oesophagus and the stomach.

**Information available for the ingredients:**

Ingredient	Oral LD50	Dermal LD50	Inhalation LC50
LIMESTONE (CALCIUM CARBONATE)	> 5000 mg/kg (rat)	--	--
CALCIUM OXIDE	> 2,000 mg/kg (rat)	--	> 6.04 mg/L/4hrs (rat) (dust/mist)
SILICON DIOXIDE (SILICA, AMORPHOUS)	> 5,000 mg/kg (rat) (ECHA)	--	--
ALUMINIUM OXIDE	> 5000 mg/kg (rat)	--	--
IRON OXIDE (FE2O3)	> 5000 mg/kg (rat)	--	> 210 mg/m <sup>3</sup> /2wks (rat)

**Skin** Contact with powder or wetted form may result in irritation and skin dryness. May cause alkaline burns and allergic dermatitis.

**Eye** Contact may result in severe irritation, lacrimation, pain and redness. May cause alkaline burns.

**Sensitisation** Not classified as causing skin or respiratory sensitisation.

**Mutagenicity** Not classified as a mutagen.

**Carcinogenicity** Not classified as a carcinogen. Crystalline silica is classified as carcinogenic to humans (IARC Group 1). However, there is a body of evidence supporting the fact that increased cancer risk would be limited to people already suffering from silicosis.

**Reproductive** Not classified as a reproductive toxin.

**STOT - single exposure** Causes damage to organs. Over exposure to dust may result in severe mucous membrane irritation of nose and throat, coughing and bronchitis.

**STOT - repeated exposure** Repeated exposure may result in bronchitis and shortness of breath. Repeated exposure to respirable silica may result in pulmonary fibrosis (silicosis). Silicosis is a fibronodular lung disease caused by deposition in

**PRODUCT NAME CEMENT KILN DUST**

the lungs of fine respirable particles of crystalline silica. Principal symptoms of silicosis are coughing and breathlessness.

**Aspiration** Not classified as causing aspiration.

**12. ECOLOGICAL INFORMATION****12.1 Toxicity**

Product forms an alkaline slurry when mixed with water. Harmful effect due to pH shift.

**12.2 Persistence and degradability**

Product is persistent and would have a low degradability.

**12.3 Bioaccumulative potential**

This product is not expected to bioaccumulate.

**12.4 Mobility in soil**

A low mobility would be expected in a landfill situation.

**12.5 Other adverse effects**

Avoid contamination of drains and waterways.

**13. DISPOSAL CONSIDERATIONS****13.1 Waste treatment methods**

**Waste disposal** For small amounts; VERY SLOWLY, hydrate (add water) and then neutralise with dilute hydrochloric acid (e.g. 6N HCl) to pH of 7-8. Dilute and flush to sewer or landfill. For large amounts material can be readily recycled. Contact the manufacturer/supplier for additional information (if required).

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

**14. TRANSPORT INFORMATION**

CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE



	LAND TRANSPORT (ADG)	SEA TRANSPORT (IMDG / IMO)	AIR TRANSPORT (IATA / ICAO)
<b>14.1 UN Number</b>	1910	1910	1910
<b>14.2 Proper Shipping Name</b>	CALCIUM OXIDE	CALCIUM OXIDE	CALCIUM OXIDE
<b>14.3 Transport hazard class</b>	8	8	8
<b>14.4 Packing Group</b>	III	III	III

**14.5 Environmental hazards**

Not a Marine Pollutant.

**14.6 Special precautions for user**

**Hazchem code** 2X

**EmS** -

**Other information** UN 1910 falls under special provision 106: Not subject to this Code. Dangerous Goods only when transported by air.

**15. REGULATORY INFORMATION**

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

<b>Poison schedule</b>	A poison schedule number has not been allocated to this product using the criteria in the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).
<b>Classifications</b>	Safe Work Australia criteria is based on the Globally Harmonised System (GHS) of Classification and Labelling of Chemicals (GHS Revision 7).
<b>Inventory listings</b>	<b>AUSTRALIA: AIIC (Australian Inventory of Industrial Chemicals)</b> All components are listed on AIIC, or are exempt. <b>UNITED STATES: TSCA (US Toxic Substances Control Act)</b> All components are listed on the TSCA inventory, or are exempt.

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**16. OTHER INFORMATION**

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<b>Additional information</b>	<p>Advice Note:</p> <p>Cement Australia believes the information in this document to be accurate as at the date of preparation, 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. 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 SDS 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.</p> <p>Manufacturing Plants Gladstone: Landing Rd, Fisherman's Landing, Gladstone QLD 4680 Railton: Cement Works Rd, Railton, TAS 7305</p> <p>EXPOSURE STANDARDS - TIME WEIGHTED AVERAGES: Exposure standards are established on the premise of an 8 hour work period of normal intensity, under normal climatic conditions and where a 16 hour break between shifts exists to enable the body to eliminate absorbed contaminants. In the following circumstances, exposure standards must be reduced: Strenuous work conditions; hot, humid climates; high altitude conditions; extended shifts (which increase the exposure period and shorten the period of recuperation).</p> <p>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.</p> <p>PERSONAL PROTECTIVE EQUIPMENT GUIDELINES: The recommendation for protective equipment contained within this report is provided as a guide only. Factors such as form of product, 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.</p> <p>HEALTH EFFECTS FROM EXPOSURE: It should be noted that the effects from exposure to this product will depend on several factors including: form of product; 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 a report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.</p>
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**PRODUCT NAME CEMENT KILN DUST****Abbreviations**

ACGIH	American Conference of Governmental Industrial Hygienists
CAS #	Chemical Abstract Service number - used to uniquely identify chemical compounds
CNS	Central Nervous System
EC No.	EC No - European Community Number
EMS	Emergency Schedules (Emergency Procedures for Ships Carrying Dangerous Goods)
GHS	Globally Harmonized System
GTEPG	Group Text Emergency Procedure Guide
IARC	International Agency for Research on Cancer
LC50	Lethal Concentration, 50% / Median Lethal Concentration
LD50	Lethal Dose, 50% / Median Lethal Dose
mg/m <sup>3</sup>	Milligrams per Cubic Metre
OEL	Occupational Exposure Limit
pH	relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline).
ppm	Parts Per Million
STEL	Short-Term Exposure Limit
STOT-RE	Specific target organ toxicity (repeated exposure)
STOT-SE	Specific target organ toxicity (single exposure)
SUSMP	Standard for the Uniform Scheduling of Medicines and Poisons
SWA	Safe Work Australia
TLV	Threshold Limit Value
TWA	Time Weighted Average

**Report status**

This document has been compiled by RMT on behalf of the manufacturer, importer or supplier of the product and serves as their Safety Data Sheet ('SDS').

It is based on information concerning the product which has been provided to RMT by the manufacturer, importer or supplier or obtained from third party sources and is believed to represent the current state of knowledge as to the appropriate safety and handling precautions for the product at the time of issue. Further clarification regarding any aspect of the product should be obtained directly from the manufacturer, importer or supplier.

While RMT has taken all due care to include accurate and up-to-date information in this SDS, it does not provide any warranty as to accuracy or completeness. As far as lawfully possible, RMT 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 SDS.

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