

SAFETY DATA SHEET

Cement Kiln Dust

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 during Business Hours) or
Poisons Information Centre 13 11 26

Manufacturing Plants

Gladstone:

Landing Rd, Fisherman's Landing, Gladstone QLD 4680

Railton:

Cement Works Rd, Railton, TAS 7305

Product

Name: Cement Kiln Dust

Other Names: Clinker Kiln Dust (CKD), Kiln Dust, Cement Lime, Raw Mix, Kiln Feed, Baghouse Dust, Bypass Dust

Use: Kiln dust used in the manufacture of bricks, mortar, cement, concrete, plasters, paving materials, and other construction applications.

Section 2: Hazards Identification

2.1 Classification



DANGER

GHS CLASSIFICATION

Classified as Hazardous according to the Safe Work Australia guidelines for Globally Harmonised System of Classification and Labelling of Chemicals (GHS).

For more information, call **1300 CEMENT** (1300 236 368)
or visit www.cementaustralia.com.au

Mix it with the best.

**CEMENT
AUSTRALIA®**

Not classified as Dangerous Goods according to the Australian Code for the Transport of Dangerous Goods by Road and Rail. (7th edition)

GHS CLASSIFICATION

Hazard Class and Category

Skin corrosion/irritation: **Category 1A, 1B, 1C**

Serious eye damage/irritation: **Category 1**

Serious eye damage/irritation: **Category 2B**

Specific target organ toxicity, single exposure; Respiratory tract irritation: **Category 3**

Specific target organ toxicity, single exposure: **Category 1**

Specific target organ toxicity, repeated exposure: **Category 1**

2.2 GHS Label elements

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Pictograms and Signal Words



DANGER

Hazard Statement(s)

H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H320	Causes serious irritation
H335	May cause respiratory irritation.
H370	Causes damage to lungs through inhalation/
H372	Causes damage to lungs through prolonged or repeated exposure if inhaled

Prevention Statement(s)

P260	Do not breathe dust
P264	Wash any skin exposed to the product thoroughly after handling
P270	Do not eat drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.
P272	Contaminated work clothing should not be allowed out of the workplace
P280	Wear protective gloves in accordance with AS2161. Nitrile gloves of 8mm thickness. Wear eye protection in accordance with (AS/NZS1337.1).

Response Statement(s)

P310 + P332	Immediately call POISON CENTRE 131126 or Doctor if exposed to substance or feeling unwell.
P321	Specific treatment (see first aid requirements)
P302+P352 + P61	IF ON SKIN: Wash with plenty of soap and water. Remove all contaminated clothing immediately.

P304+P340	IF INHALED: Remove affected person to fresh air and keep at rest in a position comfortable for breathing
P332 + P337 + P313	If skin or eye irritation occurs: Get medical advice
P362 +P364	Take off contaminated clothing and wash separately before reuse
P301+P330+P331	IF SWALLOWED: Rinse mouth, Do NOT induce vomiting.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Storage Statement(s)

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

Disposal Statement(s)

P501	Dispose of unused contents or container as normal general waste or in accordance with jurisdictional regulations.
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2.3 Other hazards

Some susceptible individuals may exhibit an allergic skin response upon exposure, possibly due to trace amounts of chromium.

Prolonged exposure in the wet form can cause serious, potentially irreversible skin or eye damage in the form of chemical burns. The same serious injury can occur if wet or moist skin or eyes have prolonged contact exposure to dry form.

Section 3: Composition/Information on Ingredients

Chemical Entity	CAS Number	Percent Present (Range)
Limestone (Calcium carbonate)	1317-65-3	0 - 80
Calcium oxide	305-78-8	5 - 65
Silica dioxide (Amorphous)	7631-86-9	0 - 20
Gypsum (Calcium sulfate)	13397-24-5	0 - 20
Sulfur trioxide	7446-11-9	1 - 12
Aluminium oxide	1344-28-1	0 - 5
Iron oxide	1309-37-1	0 - 5
Magnesium oxide	1309-48-4	0 - 5
Nuisance dusts (particulate not otherwise regulated/PNOR)	none	0 - 5
Crystalline silica (Quartz)	14808-60-7	0.1 - < 1

Other Components

Clinker kiln dust (CKD) and bypass dust (BPD) have variable compositions depending upon the cementitious products produced in the cement kiln. Cement is made from materials mined from the earth and processed using energy provided by various fuels. Additional materials such as fly ash and metallic slag may also be introduced into the cement manufacturing process. A chemical analysis of CKD/BPD may reveal trace amounts of naturally occurring, but potentially harmful chemical compounds such as crystalline silica, organic compounds, potassium and sodium compounds, heavy metals including cadmium, chromium (including hexavalent chromium), nickel and lead depending on the source of the raw materials and fuels.

Section 4: First Aid Measures

4.1 Description of necessary first aid measures

First Aid

Ingestion:	Rinse mouth and lips with water. Do not induce vomiting. Give water to drink to dilute stomach contents. If symptoms persist, seek medical attention. For advice, contact a Poisons Information Centre on 13 11 26 or a doctor (immediately).
Eyes:	drink (150ml). Do not induce vomiting. Seek medical attention. Hold eyelids apart and flush thoroughly with flowing water. Continue flushing until advised to stop by a Poisons Information Centre, a doctor, or for at least 15 minutes. If symptoms such as irritation or redness persist, seek medical attention.
Skin:	If skin or hair contact occurs, remove contaminated clothing and brush off loose particles before washing off skin thoroughly with soap and water. Shower if necessary. Seek medical attention for persistent irritation or burning of the skin. Continue flushing with water until advised to stop by a Poisons Information Centre or a doctor, or for at least 15 minutes.plenty of water preferably under shower. If effects persist, seek medical attention.
Inhalation:	Remove to fresh air, away from dusty area. If symptoms persist, seek medical attention.
First Aid Facilities:	Eye wash station. Washing facilities with running water/shower.
Advice to Doctor:	Treat symptomatically. Skin contact with wet cement, mortars and slurries may result in irritant dermatitis. Prolonged skin contact with wet cement may result in skin burns 12 to 48 hours after exposure. There may be no pain at the time of exposure. If wet cement is splashed into the eye, alkali burns can cause permanent damage.

4.2 Symptoms caused by exposure

Irritating to the eyes, skin and respiratory system. Chronic overexposure to silica quartz dust may result in silicosis (lung disease). Principal symptoms of silicosis are coughing and breathlessness. Some individuals may exhibit an allergic response upon exposure to this product, possibly due to the trace amounts of chromium present. Crystalline silica is classified as carcinogenic to humans (IARC Group 1), if respirable material is inhaled. Hexavalent chromium compounds are also classified as carcinogenic to humans (IARC Group 1).

4.3 Medical attention and special treatment

Treat symptomatically as a moderate to strong alkali.

Section 5: Fire Fighting Measures

Fire/Explosion Hazard:	Cement Kiln Dust is non-combustible
Hazchem Code:	None allocated
Flammability:	Not flammable
Extinguishing Media:	Fires in areas surrounding Cement Kiln Dust 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

6.1 Personal precautions, protective equipment and emergency procedure

Recommended protective clothing when handling product includes gloves (AS2161), boots, long sleeves/pants, eye protection i.e., goggles (AS/NZS1337.1), suitable respirator (AS/NZS1715, 1716).

6.2 Environmental precautions

Prevent product from entering stormwater and sewer drains.

6.3 Methods and materials for containment and cleaning up

Contain spillage, then collect and place in suitable containers for reuse or disposal. Spills are best cleaned up by a vacuum device to avoid generating airborne dust. Recommendations on Exposure Control and Personal Protection should be followed during spill clean-up.

DO NOT USE WATER: Wetting during clean-up will cause the formation of setting cement.

Section 7: Handling and Storage

7.1 Precautions for safe handling

When supplied in bags these need to be handled in accordance with the Hazardous Manual Tasks Code of Practice. Use of safe work practices is 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 moisture (to prevent hardening), incompatible substances, strong oxidants or acids, foodstuffs and to minimise dust emissions. Ensure packages are adequately labelled, protected from physical damage and sealed when not in use. Storage in steel or concrete bins and silos, or plastic-lined bags, is appropriate.

Store locked up with containers tightly closed

Section 8: Exposure Controls/Personal Protection

8.1 Exposure control measures

Exposure standards

Ingredient	Reference	TWA		STEL	
		ppm	mg/m ³	ppm	mg/m ³
Calcium carbonate (Limestone)	SWA (AUS)	--	10	--	--
Calcium oxide	SWA (AUS)	--	2	--	--
Chromium (VI) compounds (as Cr)	SWA (AUS)	--	0.05	--	--
Gypsum (Calcium sulphate)	SWA (AUS)	--	10	--	--

Magnesium oxide (fume)	SWA (AUS)	--	10	--	--
Portland Cement	SWA (AUS)	--	10	--	--
Quartz (respirable silica)	SWA (AUS)	--	0.05	--	--

Biological limits

No biological limit values have been entered for this product

8.2 Engineering controls

Use outdoors or in well-ventilated areas. Employ natural or mechanical ventilation to maintain exposure within applicable limits. Where an inhalation risk exists, mechanical extraction ventilation is recommended.

8.3 Individual protection measures

PPE

- Eyes / Face:** Wear safety glasses with side shields or dust-proof goggles when handling material to avoid contact with eyes. For extremely dusty conditions, non-vented goggles or goggles with indirect venting are recommended. Avoid contact lens wear when using this product.
- Body/Skin:** Long sleeved shirts and trousers should be worn while using this material. Avoid direct contact with skin. If working in dusty conditions, impervious over garments are recommended.
- Hands:** Protective gloves with wrist/arm cuffs should be worn to avoid direct contact with skin. Wear PVC, rubber or cotton gloves when handling material to prevent skin contact.
- Respiratory:** Where an inhalation risk exists wear a Class P1 (Particulate) respirator, dependent on a site-specific risk assessment.

Section 9: Physical and Chemical Properties

Physical State	Solid, powder, powder	Specific Gravity	2.6 – 2.8
Appearance & Colour	Tan/grey/off-white powder	Flash Point/Method	None. Not flammable.
Odour	None	Auto Ignition Temperature	Not determined
pH	>11 (in water)	Lower Flammability Limit	Not applicable
Boiling Point	>1000°C	Upper Flammability Limit	Not applicable
Solubility (Water)	2 – 20%	Octanol/H2O Coefficient	Not determined
Evaporation Rate	Not applicable	Viscosity	Not applicable
Melting Point	Not determined	Freezing Point	Solid at room temperature
Vapor Density	Not applicable	Explosion Risk: Static	Not considered a hazard
Vapor Pressure	Not applicable	Explosion Risk: Shock	Not considered a hazard

Section 10: Stability and Reactivity

Reactivity	Reacts with water to form calcium hydroxide which can irritate/damage skin and eyes.
Chemical Stability	Stable at standard temperature and pressures.
Hazardous Reactions	None. Hazardous polymerization will not occur.
Conditions to Avoid	Moisture or wetting may cause exothermic heating as product cures.
Incompatible Materials	Avoid contact with strong acids, aluminium metal and oxidizers.

Section 11: Toxicological Information

General Purpose Cements are stable substances, compatible with most other building materials, will not decompose into hazardous by-products and do not polymerise.

Ingestion	Mildly abrasive and corrosive to mouth and throat if swallowed. May cause nausea, stomach cramps and constipation.
Inhalation	<p>Irritating to the respiratory system. Over-exposure may result in irritation of the nose and throat, with coughing. High level exposure may result in breathing difficulties. Pre-existing upper respiratory and lung diseases including asthma and bronchitis may be aggravated.</p> <p>Repeated exposure to the dust may result in increased nasal and respiratory secretions and coughing. Inflammation of lining tissue of the respiratory system may follow repeated exposure to high levels of dust, with increased risk of bronchitis and pneumonia.</p>
Eye	Causes serious eye damage. Irritating and corrosive to the eyes and may cause alkaline burns. Cement dust is irritating to the eyes. Exposure to dust may aggravate existing eye irritations. Contact with moisture in the eyes may result in irritation, flow of tears, pain, redness, conjunctivitis and possible alkaline burns aided by mechanical irritation and abrasion. Exposure to wet cement can cause serious, potentially irreversible eye damage in the form of chemical burns.
Skin	<p>Irritating to the skin, particularly when wet. Direct contact with powder or wetted form may result in irritation, rash and dermatitis. Prolonged exposure to wet cement can cause serious, potentially irreversible skin damage in the form of chemical burns. Within 12 to 48 hours (after one- to six-hour exposures) possible first, second or third degree burns may occur. There may be no obvious pain at the time of the exposure. Chronic skin disorders may be aggravated by exposure to dust or contact with product.</p> <p>Repeated contact causes irritation, drying of the skin, and can result in skin reddening and skin rash (dermatitis). This may become chronic and/or infected. Persons who are allergic to chromium may develop allergic dermatitis which aggravates irritant effects, and this combination can lead to chronic cement dermatitis and serious disability particularly affecting the hands.</p>
Carcinogenicity	<p>This product contains crystalline silica which is classified as carcinogenic to humans (IARC Group 1). However, there is sufficient information to conclude that the relative risk of lung cancer is increased in persons with silicosis. Therefore, preventing the onset of silicosis will also reduce the cancer risk. Epidemiological studies have shown that smoking increases the risk of bronchitis, silicosis (scarring of the lung) and lung cancer in persons exposed to respirable crystalline silica.</p> <p>Hexavalent chromium compounds are also classified as carcinogenic to humans (IARC Group 1). However due to the trace amounts present, no adverse effects are expected due to this component. In the wet state, the likelihood of an inhalation hazard is reduced.</p>

Section 12: Ecological Information

12.1 Ecotoxicity

Product forms an alkaline slurry when mixed with water. Based on available data, classification criteria is not met, and there is a high probability that the product is not acutely harmful to aquatic organisms. However, due to the high pH of Portland Cement, the pH of waterways may be increased with adverse effects on aquatic life. This product is non-toxic to aquatic organisms when present as a cured solid

12.2 Bio accumulative potential

This product is not expected to bioaccumulate.

12.3 Persistence and Degradability

Product is persistent and would have a low degradability.

12.4 Mobility

A low mobility would be expected in a landfill situation.

Section 13: Disposal Considerations

Reuse or recycle where possible. General Purpose Cement can be treated as a common waste for disposal to an approved landfill site, in accordance with local authority guidelines. Alternatively, ensure product is covered with moist soil to prevent dust generation.

Keep material out of storm water and sewer drains.

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

Cement Kiln Dust is classified as non-Dangerous Goods.

All chemicals listed on the Australian Inventory of Chemical Substances (AICS)

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)

Previous Edition: 2014 – GHS Compliance edits made and supplementary compliance edits added.

Previous Edition and edits made:

2020 – Format updates

2022 – Format updates

Next Review Date for this SDS: 31 December 2026.

Additional information regarding crystalline silica:

The major concern is silicosis, caused by the inhalation and retention of respirable (extremely small) crystalline silica dust particles. Silicosis can exist in several forms. Chronic or ordinary silicosis (often referred to as simple silicosis) is the most common form of silicosis and can occur after many years of exposure to relatively low concentrations of airborne respirable crystalline silica dust. Complicated silicosis or progressive massive fibrosis (PMF) may be associated with decreased lung function and may be disabling. Advanced complicated silicosis or PMF may lead to death. Advanced complicated silicosis or PMF can result in heart disease secondary to the lung disease. Acute silicosis can occur with exposures to very high concentrations of respirable crystalline silica over a very short time period, sometimes as short as a few months. The symptoms of acute silicosis include progressive shortness of breath, fever, cough and weight loss. Acute silicosis can be fatal.

IARC: The overall IARC evaluation was that "crystalline silica inhaled in the form of quartz or cristobalite from occupational sources is carcinogenic to humans (Group 1)." The IARC evaluation noted that "carcinogenicity was not detected in all industrial circumstances studied. Carcinogenicity may be dependent on inherent characteristics of the crystalline silica or on external factors affecting its biological activity or distribution of its polymorphs."

NTP: The National Toxicology Program (NTP), in its Thirteenth Annual Report on Carcinogens, classified "silica, crystalline (respirable)" as a known human carcinogen.

OSHA: Crystalline silica (quartz) is not regulated as a human carcinogen by the Occupational Safety and Health Administration.

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, 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 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.

[SDS Ends]