SAFETY DATA SHEET

Low Carbon Cement

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 - Business Hours) or
Poisons Information Centre 13 11 26

Manufacturing Plants

Gladstone:	Landing Rd, Fisherman's Landing, Gladstone QLD 4680
Brisbane:	77 Pamela St, Pinkenba QLD 4008
Auburn:	Highgate Street, Auburn NSW 2144
West Footscray:	2 Currajong St, West Footscray VIC 3012

Product

Name: **Low Carbon Cement**

Use: Low Carbon Cement is used as a binder in concrete, concrete masonry, mortar and grouts. Low Carbon Cement provides a significant reduction in carbon emissions compared to GP Cement, whilst maintaining comparable compressive strengths in concrete.

This SDS reflects the handling of Cement Powder in bulk or bagged form and with additional considerations made for the material in its wet form.

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).

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

Hazard Class and Category

Serious Eye Damage/Eye Irritation: Category 2

Skin Corrosion/ Irritation: Category 2

Specific Target Organ Toxicity (Single Exposure): Category 3

Specific Target Organ Toxicity (Repeated Exposure): Category 2

2.2 GHS Label elements

Pictograms and Signal Words

DANGER

Hazard Statement(s)

H315	Causes skin irritation.
H318	Causes serious eye irritation.
H335	May cause respiratory irritation.
H373	May cause damage to organs through prolonged or repeated exposure.

Prevention Statement(s)

P101	If medical advice is needed, have product container or label at hand.
P102	Keep out of reach of children.
P103	Read label before use.
P261	Avoid breathing dust/ Dry cement can become easily airborne. Wet surface before cutting to reduce dust emissions/
P264	Wash any skin exposed to the product thoroughly after handling. Do not touch eyes until hands are thoroughly washed clean of material.

P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves in accordance with AS2161. Wear dust proof eye protection in accordance with (AS/NZS1337.1).

Response Statement(s)

P305+P351+P338	IF IN EYES: Immediately call POISON CENTRE 131126 or Doctor. Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337 + P313	If eye irritation persists: Get medical advice/attention.
P302 + P352	IF ON SKIN: Wash with plenty of soap and water.
P332 + P313	If skin irritation occurs: Get medical advice/attention.
P304 + P340 + P305	IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.
P310	Immediately call POISON CENTRE 131126 or Doctor if you feel unwell.
P321	Specific treatment is advised - see first aid instructions.
P362	Take off contaminated clothing and wash before re-use.

Storage Statement(s)

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

Disposal Statement(s)

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

2.3 Other hazards

No other physicochemical, human health or environmental hazards.

* Specific Target Organ Systemic Toxicity (Single Exposure): Category 3 relates to the addition of Fly ash in Low Carbon Cement. Some Cement Blends contain no Fly ash; therefore, Crystalline Silica risk is not strictly applicable. However, the use of recommended PPE is still advised.

Section 3: Composition/Information on Ingredients

Low Carbon Cement consists of a crystalline mass manufactured from substances mined from the earth's crust. It contains trace amounts of naturally occurring, metals such as chromium and nickel and crystalline silica.

Chemical Entity	Proportion	CAS Number
Portland Cement Clinker	50 - 70%	65997-15-1
Fly ash (where applicable)	30 - 50%	68131-74-8
Crystalline Silica (Quartz) in ash	<1 - 10%	14808-60-7
Total respirable silica	Below reporting limits	14808-60-7
Gypsum ($CaSO_4$ $2H_2O$)	0-5%	10101-41-4
Calcium Oxide	0-3%	1305-78-8
Limestone ($CaCO_3$)	0-5%	1317-65-3
Hexavalent Chromium Cr (VI)	<10 ppm	18540-29-9

Section 4: First Aid Measures

4.1 Description of necessary first aid measures

Ingestion/Swallowed:	Rinse mouth and lips with water. Do not induce vomiting, get medical attention showing the Safety Data Sheet and the hazard label. If symptoms persist, contact a Poisons Information Centre on 13 11 26 or a doctor.
Eyes:	Flush thoroughly with flowing water for 15 minutes to remove all traces. If symptoms such as irritation or redness persist, seek medical attention. If wet cement is splashed in the eye, always treat as above, and seek urgent medical attention.
Skin:	Remove heavily contaminated clothing immediately. Wash material off the skin thoroughly with water. Use a mild soap if available. Shower if necessary. Seek medical attention for persistent irritation or burning of the skin.
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. Wet cement burns to skin or eye may result in corrosive caustic burns. Ingestion of significant amounts of cement dry or wet is unlikely. Do not induce emesis or perform gastric lavage. Neutralization with acidic agents is not advised because of increased risks of exothermic burns. Water-mineral oil soaks may aid in removing hardened cement from the skin. Ophthalmologist should be sought for burns to eyes.

4.2 Symptoms caused by exposure

Eye Damage
Eye Irritation
Skin Irritation/sensitivity
Obstructed or irregular breathing.

4.3 Medical attention and special treatment

In case of accident (such as eye exposure) or feeling unwell, seek medical advice immediately (show directions for use or safety data sheet if possible).

Treatment:
(See paragraph 4.1)

Section 5: Fire Fighting Measures

Fire/Explosion Hazard:	Low Carbon Cements are stable substances, compatible with most other building materials, will not decompose into hazardous by-products and do not polymerise.	**Special Protective Precautions and equipment for fire fighters**:	None required
Hazchem Code:	None allocated		
Flammability:	Not flammable		
Extinguishing Media:	None required.		
Hazards from Combustion Products:	None		

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).

Remove persons to safety.

6.2 Environmental precautions

Do not allow to enter into soil/subsoil. Do not allow to enter into surface water or drains.
Limit leakages with earth or sand.

6.3 Methods and materials for containment and cleaning up

Spills are best cleaned up by vacuum device to avoid generating airborne dust.
Recommendations on Exposure Control and Personal Protection should be followed during spill clean-up.
Keep product out of storm water and sewer drains.
Wetting during clean-up will cause formation of setting cement.

Section 7: Handling and Storage

7.1 Precautions for safe handling

Avoid contact with skin and eyes, inhalation of vapours and mists.
Don't use empty container for other purposes before they have been thoroughly cleaned.
Before making transfer operations, assure that there aren't any incompatible material residuals in the containers.
Contaminated clothing should be changed before entering eating areas. Do not eat or drink while working.
See also section 8 for recommended protective equipment.

7.2 Conditions for safe storage, including any incompatibilities

Keep away from food, drink and feed.

Incompatible materials: Keep away from water and sources of moisture.

Instructions as regards storage premises: Protect from moisture to prevent hardening. Storage may be in concrete silos, steel bins or plastic lined multi-ply paper bags. Ensure premises are adequately ventilated.

Section 8: Exposure Controls/Personal Protection

8.1 Exposure control parameters

Exposure standards

		TWA		STEL	
Ingredient	**Reference**	**ppm**	**mg/m³**	**ppm**	**mg/m³**
Calcium carbonate (Limestone, Marble, Whiting)	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	--	--
Silica – Crystalline Quartz (respirable dust)	SWA (AUS)	--	0.05	--	--

8.2 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.

8.3 Individual protection measures and PPE

PPE

Eyes / Face: Wear safety glasses or dust-proof goggles when handling material to avoid contact with eyes. Wet material is a greater risk to the eyes than dry powder.

Body/Skin: Use clothing that provides comprehensive protection to the skin, e.g. cotton, rubber, PVC or Viton. Long sleeved shirt and full-length trousers.

Hands: Wear PVC, rubber or cotton gloves when handling material to prevent skin contact.; AS/NZS 2161.10:

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

Appearance: A fine powder ranging in colour from grey to off-white
Odour: No distinctive odour
Boiling/Melting Point: Melting point >1200ºC
Vapour Pressure: Not applicable
Specific Gravity: 2.7 - 3.2
Flash Point: Not applicable
Flammability Limits: Not applicable
Solubility in Water: Slight, reacts on mixing with water forming an alkaline solution (caustic, pH>11).
Particle Size: Up to 50% of the fresh dry material may be respirable (below 10 microns)

Section 10: Stability and Reactivity

Chemical Stability:	Chemically stable
Conditions to Avoid:	Keep free of moisture until use
Incompatible Materials:	None
Hazardous Decomposition Products:	May evolve toxic gases if heated to decomposition.
Hazardous Reactions:	A corrosive substance harmful to exposed skin is the result of water addition to the point of creating a paste or slurry. See SDS for Wet Concrete.

Section 11: Toxicological Information

Acute toxicity	No known toxicity data is available for this product. Based on available data, the classification criteria are not met.
Skin	Irritating to the skin. Contact with powder or wetted form may result in irritation, rash and dermatitis.
Eye	Irritating to the eyes. Contact may result in irritation, lacrimation, pain, redness, corneal burns and possible permanent damage. Risk increases if material is in a wet state.
Sensitisation	This product is not classified as a skin or respiratory sensitiser. However, some individuals may exhibit an allergic response upon exposure to cement, possibly due to trace amounts of chromium.
Mutagenicity	Not classified as a Mutagen.
Carcinogenicity	This product may contain crystalline silica, when the blend contains Fly ash, 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.
Reproductive	Not classified as a reproductive toxicant.
STOT – single exposure	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.
STOT – repeated exposure	Repeated exposure to respirable silica may result in pulmonary fibrosis (silicosis). Silicosis is a fibronodular lung disease caused deposition in the lungs of fine respirable particles of crystalline silica. Principal symptoms of silicosis are coughing and breathlessness. In the wet state, the likelihood of an inhalation hazard is reduced.
Aspiration	This product is a stable solid and aspiration hazards are not expected to occur.

Section 12: Ecological Information

Ecotoxicity:	Product forms an alkaline slurry when mixed with water.
Persistence and Degradeability:	Product is persistent and would have a low degradability.
Bio accumulative potential:	This product is not expected to bio accumulate.
Mobility:	A low mobility would be expected in a landfill situation.

Section 13: Disposal Considerations

Reclaim excess material where possible, with extreme care taken to avoid dust generation. Use a vacuum to collect where possible, and wear PPE as indicated in section 8.3.

Low Carbon Cement can be treated as a common waste for disposal to an approved landfill site, in accordance with local authority guidelines.

This material and its container must be disposed of in a safe way. Care should be taken when handling untreated empty containers.

Keep material out of storm water and sewer drains.

Measures should be taken to prevent dust generation during disposal, and exposure and personal precautions should be observed (see above).

Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Empty containers or liners may retain some product residues. Do not re-use empty containers unless thoroughly cleaned.

Section 14: Transport Information

Not classified as dangerous in the meaning of transport regulations. May be transported by Ship, Rail, Air and Road.

UN Number:	None allocated
Proper Shipping Name:	None allocated
Class and Subsidiary Risk:	None allocated
Packing Group:	None allocated
Special precautions for user:	Avoid generating and breathing dust
Hazchem Code:	None allocated

Section 15: Regulatory Information

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).

This Safety Data Sheet has been prepared according to the Australian Work Health and Safety (WHS) act and the Code of Practice on preparation of safety data sheets for Hazardous Chemicals.

All components are 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) **Fax:** 1800 CEMENT (1800 236 368)

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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]