SAFETY DATA SHEET

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

1.1 Product identifier

Product name **BLENDED CEMENT**

Synonyms GENERAL PURPOSE BLENDED CEMENT ● LOW HEAT CEMENT ● SHRINKAGE LIMITED (SL) ● SULPHATE RESISTING CEMENT ● LOW CARBON CEMENT ● BACKFILL BINDER ● TYPE GB

1.2 Uses and uses advised against

Uses BINDING AGENT ● CEMENT ● GROUT ● MASONRY ● MORTAR ● PASTE FILL ● RENDER

Blended Cement is used as a binder in concrete, concrete masonry, mortar and grouts. It is also used in the manufacture of fibre cement products, in soil stabilisation in building construction and civil engineering projects.

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

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 2
Serious Eye Damage / Eye Irritation: Category 1
Specific Target Organ Toxicity (Single Exposure): Category 3 (Respiratory Irritation)
Carcinogenicity: Category 1A

Environmental Hazards

Not classified as an Environmental Hazard

2.2 GHS Label elements

Signal word **DANGER**

Pictograms

Hazard statements

H315	Causes skin irritation.
H318	Causes serious eye damage.
H335	May cause respiratory irritation.
H350i	May cause cancer by inhalation.

Prevention statements

P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
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

P302 + P352	IF ON SKIN: Wash with plenty of water.
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.
P308 + P313	IF exposed or concerned: Get medical advice/ attention.
P310	Immediately call a POISON CENTRE or doctor/physician.
P321	Specific treatment is advised - see first aid instructions.
P362 + P364	Take off contaminated clothing and wash it 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.

2.3 Other hazards

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

Prolonged exposure to Portland Cement 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 Portland Cement.

Dust created when the cured product is cut, grinded or machined may contain crystalline silica, some of which may be respirable. Repeated exposure to respirable crystalline silica dust may cause lung fibrosis (silicosis) and lung cancer.

3. COMPOSITION/ INFORMATION ON INGREDIENTS

3.1 Substances / Mixtures

Ingredient	CAS Number	EC Number	Content
PORTLAND CEMENT CLINKER	65997-15-1	266-043-4	<95%
SLAGS, FERROUS METAL, BLAST FURNACE	65996-69-2	266-002-0	<80%
LIMESTONE (CALCIUM CARBONATE)	1317-65-3	215-279-6	<10%
QUARTZ (CRYSTALLINE SILICA) (IE. SAND)	14808-60-7	238-878-4	<10%
HEXAVALENT CHROMIUM	18540-29-9	606-053-1	<0.001%
ASHES (RESIDUES)	68131-74-8	268-627-4	<50%
CALCIUM SULPHATE DIHYDRATE	10101-41-4	600-148-1	<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

Eye 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.

Inhalation If inhaled, remove from contaminated area. Apply artificial respiration if not breathing.

Skin 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.

Ingestion For advice, contact a Poisons Information Centre on 13 11 26 (Australia Wide) or a doctor (at once). If

swallowed, do not induce vomiting.

First aid facilities Eye wash facilities and safety shower should be available.

4.2 Most important symptoms and effects, both acute and delayed

Irritating to the eyes, skin and respiratory system. Chronic over exposure 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 and hexavalent chromium compounds are classified as carcinogenic to humans (IARC Group 1).

4.3 Immediate medical attention and special treatment needed

Treat symptomatically.

5. FIRE FIGHTING MEASURES

5.1 Extinguishing media

Use an extinguishing agent suitable for the surrounding fire.

5.2 Special hazards arising from the substance or mixture

Non flammable. May evolve toxic gases if strongly heated.

5.3 Advice for firefighters

Treat as per requirements for surrounding fires. Evacuate area and contact emergency services. Remain upwind and notify those downwind of hazard. Wear full protective equipment including Self Contained Breathing Apparatus (SCBA) when combating fire. Use waterfog to cool intact containers and nearby storage areas.

5.4 Hazchem code

None allocated.

6. ACCIDENTAL RELEASE MEASURES

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. Spills are best cleaned up by vacuum device to avoid generating airborne dust. Wetting during clean-up will cause formation of setting cement.

6.4 Reference to other sections

See Sections 8 and 13 for exposure controls and disposal.

7. HANDLING AND STORAGE

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. If possible, use wet techniques when processing already cured material.

7.2 Conditions for safe storage, including any incompatibilities

Store in a cool, dry, well ventilated area, removed from moisture, incompatible substances and foodstuffs. Ensure packages are adequately labelled, protected from physical damage and sealed when not in use.

7.3 Specific end uses

This product contains more than 1% crystalline silica and, therefore, is considered a Crystalline Silica Substance in accordance with the Safe Work Australia Model Code of Practice: Managing risks of respirable crystalline silica in the workplace. This product should be used in accordance with this Code of Practice and the requirements of the WHS Regulator.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters

Exposure standards

Ingredient	Reference	TWA		STEL	
		ppm	mg/m³	ppm	mg/m³
Calcium carbonate (Limestone, Marble, Whiting)	SWA [AUS]	--	10	--	--
Calcium sulphate (a)	SWA [AUS]	--	10	--	--
Chromium (VI) compounds (as Cr)	SWA [AUS]	--	0.05	--	--
Portland cement	SWA [AUS]	--	10	--	--
Portland cement (respirable dust)	SWA [Proposed]	--	1	--	--
Quartz (respirable dust)	SWA [AUS]	--	0.05	--	--
Quartz (respirable dust)	SWA [Proposed]	--	0.05	--	--

Biological limits

Ingredient	Reference	Determinant	Sampling Time	BEI
HEXAVALENT CHROMIUM	ACGIH BEI	Total chromium in urine	End of shift at end of workweek	25 µg/L
	ACGIH BEI	Total chromium in urine	Increase during shift	10 µg/L
	WEL [UK]	Total chromium in urine	Post shift	10 µmol chromium/ mol creatinine in urine
	WES [NZ]	Total chromium in urine	End of shift at end of workweek	30 µg/L
	WES [Proposed]	Total chromium in urine	End of shift at end of workweek	25 µg/L

8.2 Exposure controls

Engineering controls Avoid inhalation. Use in well ventilated areas. Where an inhalation risk exists, mechanical extraction ventilation is recommended.

PPE

Eye / Face Wear dust-proof goggles.

Hands Wear cotton or 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 P2 (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

Appearance	GREY TO OFF-WHITE POWDER
Odour	ODOURLESS
Flammability	NON FLAMMABLE
Flash point	NOT RELEVANT
Boiling point	NOT AVAILABLE
Melting point	> 1200°C
Evaporation rate	NOT AVAILABLE
pH	> 11 (Solution)
Vapour density	NOT AVAILABLE
Relative density	2.7 to 3.2

9.1 Information on basic physical and chemical properties

Solubility (water)	SLIGHTLY SOLUBLE
Vapour pressure	NOT AVAILABLE
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

Carefully review all information provided in sections 10.2 to 10.6.

10.2 Chemical stability

Stable under recommended conditions of storage.

10.3 Possibility of hazardous reactions

Polymerization will not occur.

10.4 Conditions to avoid

Avoid heat, sparks, open flames and other ignition sources. Keep free of moisture during storage.

10.5 Incompatible materials

Incompatible with oxidising agents (e.g. hypochlorites), ethanol, acids (e.g. hydrofluoric acid) and interhalogens (e.g. chlorine trifluoride). Water contact may increase product temperature 2°C to 3°C.

10.6 Hazardous decomposition products

May evolve toxic gases if heated to decomposition.

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity Acute oral exposure may result in irritation of the mouth, throat, oesophagus and gastrointestinal tract.

Information available for the ingredients:

Ingredient	Oral LD50	Dermal LD50	Inhalation LC50
LIMESTONE (CALCIUM CARBONATE)	> 5000 mg/kg (rat)	--	--
CALCIUM SULPHATE DIHYDRATE	3000 mg/kg (rat)	--	--

Skin Irritating to the skin. Contact with powder or wetted form may result in irritation, rash and dermatitis.

Eye Contact with moisture in the eyes may result in irritation, lacrimation, pain, redness, conjunctivitis and possible alkaline burns aided by mechanical irritation and abrasion.

Sensitisation Exposure to portland cement may trigger an allergic response, potentially due to trace amounts of chromium. This is more likely in individuals who are frequently exposed or have pre-existing skin sensitivities or allergies.

Mutagenicity Insufficient data available to classify as a mutagen.

Carcinogenicity This product may contain trace amounts of 'respirable' crystalline silica and hexavalent chromium compounds which are classified as carcinogenic to humans (IARC Group 1). However, there is sufficient information to conclude that the relative risk of lung cancer from exposure to crystalline silica is increased in persons with silicosis. Therefore preventing the onset of silicosis will also reduce the cancer risk.

Reproductive Insufficient data available to classify as a reproductive toxin.

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 Not classified as causing organ damage from repeated exposure. Repeated exposure to crystalline silica may cause lung fibrosis (silicosis), however due to the low levels of respirable crystalline silica in this product, adverse health effects are not anticipated with normal use. Adverse health effects, usually associated with long term exposure to high crystalline silica dust levels are not anticipated due to the low

concentration of respirable crystalline quartz (as supplied). However, the product may present a hazard if respirable quartz dust is generated during processing, including after the product has cured. Repeated exposure to respirable silica may result in pulmonary fibrosis (silicosis). Silicosis is a fibronodular lung disease caused by deposition in the lungs of fine respirable particles of crystalline silica. Principal symptoms of silicosis are coughing and breathlessness.

Aspiration This product is a solid and aspiration hazards are not expected to occur.

12. ECOLOGICAL INFORMATION

12.1 Toxicity

Due to the high pH of Portland cement when mixed with water, it can increase the pH of waterways, potentially leading to adverse effects on aquatic life. However, once cured and hardened into solid concrete, Portland cement is considered non-toxic to aquatic organisms.

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 Reuse or recycle where possible. Alternatively, ensure product is covered with moist soil to prevent dust generation and dispose of to an approved landfill site. Contact the manufacturer/supplier for additional information (if required).

Legislation Dispose of in accordance with relevant local legislation.

14. TRANSPORT INFORMATION

NOT CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE, IMDG OR IATA

	LAND TRANSPORT (ADG)	SEA TRANSPORT (IMDG / IMO)	AIR TRANSPORT (IATA / ICAO)
14.1 UN Number	None allocated.	None allocated.	None allocated.
14.2 Proper Shipping Name	None allocated.	None allocated.	None allocated.
14.3 Transport hazard class	None allocated.	None allocated.	None allocated.
14.4 Packing Group	None allocated.	None allocated.	None allocated.

14.5 Environmental hazards

Not a Marine Pollutant.

14.6 Special precautions for user

Hazchem code None allocated.

15. REGULATORY INFORMATION

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

Poison schedule 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).

Classifications Safe Work Australia criteria is based on the Globally Harmonised System (GHS) of Classification and Labelling of Chemicals (GHS Revision 7).

Inventory listings **AUSTRALIA: AIIC (Australian Inventory of Industrial Chemicals)**
Some components are listed on AIIC, or are exempt.

16. OTHER INFORMATION

Additional information

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.

Manufacturing Plants
Gladstone: Landing Rd, Fisherman's Landing, Gladstone QLD 4680
Brisbane: 77 Pamela St, Pinkenba QLD 4008
Railton: Cement Works Rd, Railton TAS 7305
Port Kembla: Off Christy Rd, Port Kembla NSW 2505
Naval Base: 32 Beard St, Naval Base WA 6155

CEMENT CONTACT DERMATITIS: Individuals using wet cement, mortar, grout or concrete could be at risk of developing cement dermatitis. Symptoms of exposure include itchy, tender, swollen, hot, cracked or blistering skin with the potential for sensitisation. The dermatitis is due to the presence of soluble (hexavalent) chromium.

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.

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.

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.

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/m³	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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