



SAFETY DATA SHEET

Pre-Mixed Concrete

SECTION 1: IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product Name:	Pre-Mixed Concrete
Other Names:	Broadway and Frame Concrete, Broadway and Frame Shotcrete
Recommended Use:	Premixed concrete is used for a wide variety of applications in building and civil engineering projects. It is delivered to a location and discharged into the possession of the purchaser or agent for subsequent handling and placement in its intended position. When sprayed it is used for encapsulating steel work as well as structural applications.
Applicable In:	Australia
Supplier:	Broadway and Frame Pty Ltd ABN 76 106 469 363
Address:	26-28 Greenaway Street, Bulleen Vic 3105, Australia
Telephone:	+61 3 9850 9999 (8-00 am to 4-00 pm Mon to Fri only)
Facsimile:	+61 3 9852 0771
Emergency Phone Number:	000 Fire Brigade and Police (available in Australia only)
Poisons Information Centre:	13 11 26 (available in Australia only)

This Safety Data Sheet (SDS) is issued by the Supplier in accordance with National standards and guidelines from Safe Work Australia (SWA – formerly ASCC/NOHSC). The information in it must not be altered, deleted or added to. The Supplier will not accept any responsibility for any changes made to its SDS by any other person or organization. The Supplier will issue a new SDS when there is a change in product specifications and/or Standards, Codes, Guidelines, or Regulations.

SECTION 2: HAZARD IDENTIFICATION

STATEMENT OF HAZARDOUS NATURE: Classified as a Hazardous Chemical in accordance with the GHS.

Pre-Mixed Concrete is classified as Non-Dangerous Goods according to the Australian Code for the Transport of Dangerous Goods by Road and Rail.

GHS Classification	GHS Signal Word	GHS Pictogram/s
Serious Eye Damage / Eye Irritation: Category 1 Skin Corrosion Category 1 Skin Sensitisation Category 1 Specific Target Organ Toxicity (Repeated Exposure) Category 2	DANGER	
GHS Hazard statements		GHS Precautionary statements
H302 – Harmful if swallowed		P280 – Wear protective gloves/clothing/eye protection.

<p>H314 – Causes severe skin burns and eye damage</p> <p>H317 – May cause an allergic skin reaction</p> <p>H318 – Causes serious eye damage</p> <p>H373 – May cause damage to lungs by inhalation (<i>dust from dried product</i>)</p>	<p>P301 + P330 + P331 – If swallowed, rinse mouth. Do NOT induce vomiting.</p> <p>P303 + P361 + P353 – If on skin, immediately remove all contaminated clothing. Rinse skin with water.</p> <p>P305 + P351 + P338 – If in eyes, rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.</p> <p>P260 – Do not breathe dust.</p> <p>P312 – Call a Poison Centre or doctor if you feel unwell.</p> <p>P270 – Do not eat, drink or smoke when using this product.</p> <p>P264 – Wash thoroughly after handling.</p> <p>P333 + P313 – If skin irritation or rash occurs, get medical advice/attention.</p> <p>P272 – Contaminated work clothing should not be allowed out of the workplace.</p> <p>P363 – Wash contaminated clothing before reuse.</p> <p>P501 – Dispose of contents/container in accordance with local regulations.</p>
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SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name:	Synonyms:	Proportion:	CAS Number:
Aggregate may contain crystalline silica (quartz)	crushed stone, gravel, slag	20 - 85%	Not applicable
Sand containing crystalline silica (quartz)	Sand	20 – 85%	14808-60-7
Portland cement		10-60%	65997-15-1
Water		<20%	7732-18-5
<i>OTHER INGREDIENTS MAY BE ADDED:</i>			
Polypropylene or steel		<10%	---
Polystyrene beads (reduced density)		<10%	9003-53-6
Metallic oxide pigments (colouring)		<4%	---
Silica fume (amorphous silica)		<4%	7699-41-4
Admixtures, such as water reducers, set retarders, set accelerators, plasticisers, and waterproofing agents (refer AS 1478)		<1%	---

Notes: Crystalline-silica (quartz) may be a constituent of other additives, e.g. fly ash, used in any particular concrete mix. Cement in concrete contains traces (2-10 ppm) of Chromium VI (hexavalent chromium). Cementitious additives may contain traces of metals. None of these trace materials are present to any significant extent.

SECTION 4: FIRST AID MEASURES

Ingestion:	Rinse lips mouth and with water. Do not induce vomiting. Give water to drink to dilute stomach contents. If symptoms persist, seek medical attention.
Eyes:	Flush thoroughly with flowing water for 15 minutes to remove all concrete traces. If symptoms such as irritation or redness persist, seek immediate medical attention. If wet concrete is splashed in the eye, always treat as above, and get urgent medical attention.
Skin:	Remove heavily contaminated clothing immediately. Wash off skin thoroughly with water. Use a mild soap if available. Shower if necessary. Seek immediate medical attention for persistent irritation or burning of the skin.

Inhaled:	Due to the product being wet an inhalation hazard is not anticipated to occur. Remove to fresh air, away from dusty area. If symptoms persist, seek medical attention. If exposed to dust from dry concrete remove from dusty area.
First Aid Facilities:	Eye wash station and safety shower. Wash facilities.
Advice to Doctor:	Treat symptomatically. Wet concrete burns to skin or eye may result in corrosive caustic burns. Ingestion of significant amounts of concrete 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 concrete from the skin. Ophthalmological opinion should be sought for eye burns.

SECTION 5: FIRE FIGHTING MEASURES

Suitable extinguishing media:	Use carbon dioxide, foam, dry chemical or water spray as required for fire in surrounding materials.
Specific hazards:	None
Special protective equipment and precautions for firefighters:	None
HAZCHEM Code:	None allocated

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures:	Recommendations on exposure control and personal protection in section 8 should be followed during spill clean-up.
Environmental precautions:	Prevent run-off from entering storm water, sewer drains and watercourses.
Methods and materials for containment and clean up:	For wet concrete spill collect spilled concrete and shovel into containers for disposal. In the unlikely event of a dry spill, shovel into containers. Avoid generating dust

SECTION 7: HANDLING AND STORAGE

Precautions for safe handling:	Avoid eye and skin contact with wet concrete, wash hands before eating. Do not eat drink or smoke in contaminated areas. Wet concrete is a heavy material, and appropriate control of manual handling risk is required when barrowing, shovelling or carrying quantities of wet concrete. Manual handling should be in accordance with Manual Handling Regulations and Codes. Exposure to wet concrete via the skin can cause both immediate effects (e.g. alkali burns) and long term effects (e.g. dermatitis). Specific methods to prevent these occurring are referred to in Section 8.
Precautions for safe handling: Dry Concrete	The cutting, drilling or use of powered tools (e.g. saw or angle grinder) on dry concrete can cause dust to be generated which contains respirable crystalline silica. Control methods to prevent inhalation of these dusts and fibres are contained in Section 8.
Conditions for safe storage:	Wet premixed concrete has a limited life after batching and will set hard. The rate of setting depends on the ambient conditions and amount of agitation. May be stored for very short periods of time (less than twenty minutes) in self-cleansing hoppers with sides at an angle of at least 45° to the horizontal.
Incompatibilities:	Contact with sugars, acids or solutions of either will cause a serious degradation of the quality of the material. A safety hazard is created by such contact due to the potential failure of the structure being constructed. Similarly, handling and transporting the material at temperatures less than 0°C or greater than 30°C may

	cause a degradation of the quality of the material with a consequent safety hazard arising from the potential failure of the structure being constructed.
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SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Standards:	<p>Workplace Exposure Standards (WESs) for Airborne Contaminants, Safe Work Australia</p> <p>Crystalline silica (quartz): TWA – 0.05 mg/m³ respirable dust. (≤ 7 microns particle equivalent aerodynamic diameter)</p> <p>Portland cement: TWA – 10 mg/m³ as-inhalable dust</p> <p>Total dust (of any type, or particle size): TWA – 10 mg/m³ as inhalable dust</p>
Notes on Exposure Standards:	<p>All occupational exposures to atmospheric contaminants should be kept as low as reasonably practicable and in all cases should be below the Workplace Exposure Standard (WES).</p> <p>Exposure standards do not identify a dividing line between a healthy or unhealthy working environment. Natural biological variation and the range of individual susceptibilities mean some people might experience adverse health effects below the exposure standard. Therefore, exposure standards should not be considered as representing an acceptable level of exposure to workers. They establish a statutory maximum upper limit.</p>
Biological Limit Values:	No biological limit allocated.
ENGINEERING CONTROLS	
<input type="checkbox"/> Ventilation:	If placing concrete in enclosed areas or a confined space, ensure adequate forced ventilation. Local mechanical ventilation may be required in areas where spray droplets from wet concrete or dry dust could escape into the work environment.
<input type="checkbox"/> Special Consideration for Repair &/or Maintenance of Contaminated Equipment:	Recommendations on Exposure Control and Personal Protection should be followed. When dry concrete dust is present, ensure exposures to respirable crystalline silica (quartz) are maintained below the WES.
PERSONAL PROTECTION	
<input type="checkbox"/> Personal Hygiene:	Wash hands before eating, drinking, using the toilet, or smoking. Wash work clothes regularly.
<input type="checkbox"/> Skin Protection:	<p>Minimise contact with concrete materials. Never kneel in wet concrete, or allow extended contact of skin with wet concrete.</p> <p>When handling wet concrete, mortar or grout, personnel should wear loose comfortable protective clothing and impervious boots, (AS/NZS 4501), suitable impervious gloves such as PVC (AS 2161).</p> <p>Remove clothing which has become contaminated with wet or dry concrete to avoid prolonged contact with the skin. If concrete gets into boots, remove socks and boots immediately and wash skin thoroughly.</p>
<input type="checkbox"/> Eye Protection:	Avoid contact with eyes. Splash resistant safety glasses with side shields, safety goggles (AS/NZ 1336), or a face-shield should be worn.

☐ Respiratory Protection:	<p>In dusty environments use a respirator (filter mask) such as Class P1 or P2 (AS/NZS 1715 and AS/NZS 1716). For respiratory protection to be effective there needs to be a good facial seal of the respirator. The worker should be clean shaven and the respirator fit tested. Fit Checks should be carried out each time a respirator is worn.</p> <p>Dust control measures including s respiratory protection against crystalline silica dust will also minimise and control any exposure to traces of chromium dust that could be present within pre-mixed concrete.</p> <p>Where concrete surfaces are being finished by grinding or polishing using power tools to obtain a very smooth or decorative surface, respiratory protection with an increased protection factor and local exhaust ventilation is needed. The risk of dust levels exceeding exposure standards during these special operations on concrete surfaces should be assessed, and a higher level of dust control should be applied.</p>
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SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Pre-mixed Concrete is a plastic mixture of water, cementitious materials, and aggregates (sand, stone or gravel). Plasticity ranges from near liquid to pourable slurry to a friable soft solid. The colour is usually grey. If pigments are used, the colour may range from near-white to any other colour.
Odour:	Some added ingredients used in concrete may create a smell of ammonia.
Odour threshold:	Not determined
pH:	> 7.0 (12 – 13)
Melting point:	>1200°C
Initial boiling point and range:	Not determined
Flash point:	Not applicable
Evaporation rate:	Not determined
Flammability:	Non-flammable
Upper/lower flammability or explosive limits:	Not applicable
Vapour pressure:	Not applicable
Vapour density:	Not applicable
Specific gravity (Relative density):	2.5
Solubility:	Not soluble, or slightly soluble. Reacts on mixing with water forming an alkaline (caustic) solution (pH >11).
Partition coefficient (n-octanol/water):	Not determined
Viscosity:	Not determined
Auto-ignition temperature:	Not applicable
Decomposition temperature:	Not determined
% Volatiles:	0%
Volatile Organic Compounds (VOC) Content: (as specified by the Green Building	0%

Council of Australia)	
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SECTION 10: STABILITY AND REACTIVITY

Chemical Stability:	Stable under normal conditions
Hazardous Reactions:	None
Conditions to avoid:	Keep away from water – must be kept dry
Incompatible Materials:	Sugars, acids or solutions of either (see Section 7)
Hazardous Decomposition Products:	None

SECTION 11: TOXICOLOGICAL INFORMATION

Health effects information is based on reported effects in use from overseas and Australian reports.

Health Effects: Acute (short term)

Swallowed:	Unlikely in normal use in the industrial situation. Abrasive and highly irritant (burning) to mouth and throat. May cause nausea, and stomach cramps.
Eyes:	Irritating and may cause alkaline (caustic) burns to the eyes. Splash of wet concrete into the eye can cause serious and rapid corrosive burning, with potential for permanent loss of vision.
Skin:	Irritating, abrasive and drying to the skin. May cause alkaline (caustic) burns if direct contact is made with wet concrete for any length of time, leading to second or even third degree burns.
Inhaled:	As the material form is wet concrete, exposure via inhalation is not expected during normal use. However, if concrete dust is generated it will be irritating to the nose, throat and respiratory tract causing coughing and sneezing. Pre-existing upper respiratory and lung diseases including asthma and bronchitis may be aggravated.

Health Effects: Chronic (long term)

Eyes:	In dust form it may cause inflammation of the cornea.
Skin:	Repeated contact causes irritation and drying of the skin and can result in skin reddening and skin rash (dermatitis) which may become persistent. Persons who are allergic to chromium may develop an allergic dermatitis.
Inhaled:	If concrete dust is generated during dry cutting drilling or polishing the respirable concrete dust may cause inflammation of lining tissue of the respiratory system. Repeated inhalation of dust containing crystalline silica can cause bronchitis, silicosis (scarring of the lung), and may increase the risk of other serious disorders including scleroderma (a disease affecting the connective tissue of the skin, joints, blood vessels and internal organs).

Additional Notes

Long Term Effects:	For concrete dust long term occupational over-exposure or prolonged breathing-in (or inhalation) of crystalline silica dust at levels above the WES carries the risk of causing serious and irreversible lung disease, including bronchitis and silicosis (scarring of the lung). It may also increase the risk of other irreversible and serious disorders including scleroderma (a disease affecting the skin, joints, blood vessels and internal organs) and other auto-immune disorders. IARC have recently classified respirable crystalline silica dust as carcinogenic to humans (IARC Group 1). This means it may can cause lung cancer. In the case of generated dust, the recommended controls outlined in Section 8 should be followed.
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Special Effects:	Toxic	Inhalation of dust, including crystalline silica dust, is considered by medical authorities to increase the risk of lung disease due to tobacco smoking.
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SECTION 12: ECOLOGICAL INFORMATION

Eco-toxicity:	Product forms an alkaline slurry when mixed with water, and heavy contamination of water courses and ecologically sensitive land must be avoided.
Persistence and Degradability:	Product is persistent and would have a low degradability.
Bioaccumulative potential:	There is no evidence to suggest bioaccumulation will occur.
Mobility:	A low mobility would be expected in a landfill situation.

SECTION 13: DISPOSAL CONSIDERATIONS

Pre-Mixed Concrete can be treated as a common waste for disposal and can be dumped into a landfill site in accordance with local authority guidelines. Keep 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).

SECTION 14: TRANSPORT INFORMATION

UN number:	None allocated
UN Proper Shipping Name:	None allocated
Class and Subsidiary Risk :	None allocated
Packaging Group:	None allocated
Marine Pollutant:	No
Special Precautions for User:	Transport equipment should be strong enough to contain a fluid with an effective specific gravity of 2.5.
HAZCHEM code:	None allocated

SECTION 15: REGULATORY INFORMATION

Poisons Schedule:	Not scheduled
Exposures by inhalation to high levels of dust may be regulated under the Hazardous Substances Regulations (State) as they are applicable to Respirable Crystalline Silica, requiring exposure assessment, controls and health surveillance.	

SECTION 16: OTHER INFORMATION

Date of revision of this SDS:	January 2020
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Australian Standards References:

AS/NZS 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 2161	Industrial Safety Gloves and Mittens (excluding electrical and medical gloves)

Other References:

GHS	Including Schedule 6 WHS Regulations Classification of mixtures
Model Code of Practice	Preparation of Safety Data Sheets for Hazardous Chemicals, May 2018, Safe Work Australia.
Model Code of Practice	Labelling of Workplace Hazardous Chemicals, Oct 2018, Safe Work Australia.
Model Code of Practice	Managing Risks Of Hazardous Chemicals In The Workplace, May 2018, Safe Work Australia.
WHS	Classifying hazardous chemicals National Guide , Safe Work Australia. August 2018
ADG Code	Australian Code for the Transport of Dangerous Goods by Road and Rail, 7 th edition, National Transport Commission.
WES	Workplace Exposure Standards For Airborne Contaminants, April 2013, Safe Work Australia.
WES	Guidance On The Interpretation Of Workplace Exposure Standards For Airborne Contaminants, April 2013, Safe Work Australia.
GHS	Globally Harmonized System of Classification and Labelling of Chemicals (GHS), 3 rd revised edition, United Nations, New York and Geneva, 2009.
GHS	Understanding the Globally Harmonized System of Classification and Labelling of Chemicals (GHS), United Nations, New York and Geneva, 2010.
HCIS	Hazardous Chemical Information System (HSIS), internet advisory service, Safe Work Australia.
HCIL	GHS Hazardous Chemical Information List (HCIL), internet advisory service, Safe Work Australia.

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END OF SDS