

Pre-mixed Concrete

Section 1: Identification of the Material and Supplier

Product Name:	Pre-mixed Concrete
Other Names:	Duggans Concrete
Recommended Use:	Pre-mixed concrete is used for a wide variety of applications in building and civil engineering projects. When sprayed it is used for encapsulating steel work as well as structural
Applicable In:	Australia
Supplier:	Duggans Pty Ltd ABN 54 009 565 799
Address:	8420 Channel Highway, Cradoc, TAS 7109, Australia
Telephone:	+61 3 6266 3204 (8.00am to 5.00pm Mon to Fri only)
Facsimile:	+61 3 6266 3593
Website:	www.duggans.com.au
Emergency Phone Number:	000 Fire Brigade and Police
Poisons Information Centre:	13 11 26

This Safety Data Sheet (SDS) is issued by the Supplier in accordance with National standards and guidelines from Safe Work Australia. 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:

Duggans Pre-mixed Concrete is classified as **Hazardous** according to the *Approved Criteria For Classifying Hazardous Substances [HOHSC:1008] 3rd Edition*.

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

Risk Phrases	Safety Phrases
<p>R21/22: Harmful in contact with skin and if swallowed R43: May cause sensitisation by skin contact R48/20: Danger of serious damage to health by prolonged exposure through inhalation (applies to concrete dust)</p>	<p>S22: Do not breathe dust S24/25: Avoid contact with skin and eyes S28: After contact with skin, wash immediately with plenty of water S29: Do not empty into drains S36/37/39: Wear suitable protective clothing, gloves and eye/face protection</p>

Section 3: Composition/Information on Ingredients

Chemical Name:	Synonyms:	Proportion:	CAS Number:
Portland Cement		10-60%	65997-15-1
Aggregate containing crystalline silica (quartz)	Sand, crushed stone, gravel, slag	>85%	14808-60-7
Water		<20%	
<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 (2-10ppm) of Chromium VI (hexavalent chromium). Cementitious additives may contain traces of metals.

Section 4: First Aid Measures

Swallowed:	Rinse mouth and lips 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 traces. If symptoms such as irritation or redness persist, seek 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 medical attention for persistent irritation or burning of the skin
Inhaled:	Remove to fresh air, away from dusty area. If symptoms persist, seek medical attention
First Aid Facilities:	Eye wash station. 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 ocular burns.

Section 5: Fire Fighting Measures

Flammability:	Non-flammable
Suitable extinguishing media:	Use carbon dioxide, foam, dry chemical or water spray as required for fire in surrounding materials
Hazards from combustion products:	None
Special protective precautions and equipment for fire fighters:	None
HAZCHEM Code:	None allocated

Section 6: Accidental Release Measures

Emergency Procedures:	Recommendations on exposure control and personal protection should be followed during spill clean-up.
Methods and materials for containment and clean up:	If spillage is dry, shovel into containers. Avoid generating dust. If spillage is wet, shovel into containers and then wash down area with water, but prevent run-off from entering storm water and sewer drains and watercourses

Section 7: Handling and Storage

Precautions for safe handling:	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 of Practice
Conditions for safe storage:	Wet pre-mixed 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

Section 8: Exposure Controls/Personal Protection

National Exposure Standards:	<i>National Occupational Exposure Standard (NES), Safe Work Australia</i>
-------------------------------------	---

	Crystalline silica (quartz): TWA – 0.1mg/m ³ respirable dust. (≤ 7 microns particle equivalent aerodynamic diameter)
Notes of Exposure Standards:	<p>All occupational exposures to atmospheric contaminants should be kept to as low a level as is workable (practicable) and in all cases to below the National Standard.</p> <p>TWA (Time Weighted Average): the time-weighted average airborne concentration over an eight-hour working day, for a five-day working week over an entire working life. According to current knowledge this concentration should neither impair the health of, nor cause undue discomfort to, nearly all workers</p>
Biological Limit Values:	No biological limit allocated

Engineering Controls:

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
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 NES

Personal Protection:

Personal Hygiene:	Wash hands before eating, drinking, using the toilet or smoking. Wash work clothes regularly
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) and 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>
Eye Protection:	Avoid contact with eyes. Splash resistant safety glasses with side shields, safety goggles (AS/NZS 1336) or a face-shield should be worn
Respiratory Protection:	In dusty environments use a respirator (filter mask) such as Class P1 or P2 (AS/NZS 1715 and AS/NZS 1716)

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
pH, at stated concentration:	>7.0
Vapour Pressure:	Not applicable
Vapour Density (air=1):	Not applicable
Boiling Point/Range (°C):	Not determined
Melting Point (°C):	>1200
Solubility in water:	Not soluble, or slightly soluble. Reacts on mixing with water forming an alkaline (caustic) solution (pH>11)
Specific Gravity (H₂O=1):	2.5
Flash Point:	Not applicable
Flammable (Explosive) Limits:	Not applicable
Auto-ignition Temperature:	Not applicable

Section 10: Stability and Reactivity

Chemical Stability:	Stable under normal conditions
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
Hazardous Reactions:	None

Section 11: Toxicological Information

Health Effects: Acute (short-term)

Swallowed:	Is 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:	Concrete dust is 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:	In dust form it 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: Long term occupational over-exposure or prolonged breathing-in (or inhalation) of crystalline silica dust at levels above the NES 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.

SWA has not classified crystalline silica as a carcinogen

Special Toxic Effects: Inhalation of dust, including crystalline silica dust, is considered by medical authorities to increase the risk of lung disease due to tobacco smoking.

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
Mobility:	A low mobility would be expected in a landfill situation

Section 13: Disposal Considerations

Disposal methods and containers:	Pre-mixed concrete can be treated as a common waste for disposal 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)
Special precautions for landfill or incineration:	Pre-mixed concrete can be dumped into a landfill site in accordance with local authority guidelines

Section 14: Transport Information

UN Number:	None allocated
UN Proper Shipping Name:	None allocated
Class and Subsidiary Risk:	None allocated
Packaging Group:	None allocated
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 (ASCC/NOHSC)	

Section 16: Other Information

Date of last revision of this SDS:	15 May 2013
---	-------------

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:

SWA:2011	National Code of Practice for the Preparation of Safety Data Sheets for Hazardous Chemicals
NOHSC:10005(1999)	List of Designated Hazardous Substances
SWA:2012	National Code of Practice for Managing Risks of Hazardous Chemicals in the Workplace
SWA:2011	National Code of Practice for Labelling of Workplace Hazardous Chemicals
NOHSC:1008(2004)	Approved Criteria for Classifying Hazardous Substances 3 rd Edition
NOHSC:1003(1995)	National Exposure Standards for Atmospheric Contaminants in the Occupational Environment

Whilst the information contained in this document is based on data which, to the best of our knowledge, was accurate and reliable at the time of preparation, no responsibility can be accepted by us for errors and omissions. The provision of this information should not be construed as a recommendation to use any of our products in violation of any patent rights or in breach of any statute or regulation. Users are advised to make their own determination as to the suitability of this information in relation to their particular purposes and specific circumstances. Since the information contained in this document may be applied under conditions beyond our control, no responsibility can be accepted by us for any loss or damage caused by any person acting or refraining from action as a result of this information.

END OF SDS