



## SAFETY DATA SHEET

### Pre-Mixed Concrete

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#### SECTION 1: IDENTIFICATION OF THE MATERIAL AND SUPPLIER

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**Product name:** Pre-Mixed Concrete  
**Applicable In:** Australia  
**Other Names:** Vic Mix, TJM  
**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.

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**Website:** [www.vicmix.com.au](http://www.vicmix.com.au)  
**Emergency Phone Number:** Poisons Information Centre 13 11 26, Triple Zero (Australia) 000

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#### SECTION 2: HAZARDS IDENTIFICATION

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STATEMENT OF HAZARDOUS NATURE: classified as **Hazardous** according to Australian WHS Regulations.

GHS classification(s):	Skin Corrosion / Irritation:	Category 2
	Serious Eye Damage / Eye Irritation:	Category 2A

Signal word:	WARNING
Pictogram(s):	

Hazard statement(s)	Prevention statement(s)	Response statement(s)
<p><b>H315:</b> Causes skin irritation.</p> <p><b>H319:</b> Causes serious eye irritation.</p>	<p><b>P264:</b> Wash thoroughly after handling.</p> <p><b>P280:</b> Wear protective gloves/protective clothing/eye protection/face protection.</p>	<p><b>P302 + P352:</b> IF ON SKIN: Wash with plenty of soap and water.</p> <p><b>P305 + P351 + P338:</b> IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.</p> <p><b>P321:</b> Specific treatment is advised – see first aid instructions.</p> <p><b>P332 + P337 + P313:</b> If skin or eye irritation occurs: Get medical advice/attention.</p> <p><b>P362:</b> Take off contaminated clothing and wash before re-use.</p>

Storage statement(s)	Disposal statement(s)
None allocated.	None allocated.

#### OTHER HAZARDS

Classified as **Non-Dangerous Goods** according to the Australian Code for the Transport of Dangerous Goods by Road and Rail.

Whilst product is handled in plastic (wet-mix) form, over exposure via inhalation is not anticipated with normal use.

However, if product is handled in hardened (dry/set) form, and dust is generated via cutting, grinding, drilling, sawing, sanding, routing, chasing, machining, etc.:

- Acute over exposure by inhalation may result in respiratory irritation.
- Chronic over exposure by inhalation to silica quartz dust may result in silicosis (lung disease). Principal symptoms of silicosis are coughing and breathlessness.

### SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Name:	Proportion:	CAS Number:
<b>Portland cement</b>	<b>10-60%</b>	<b>65997-15-1</b>
Chromium VI (hexavalent chromium)	2-20 ppm	1333-82-0
<b>Aggregate</b>	<b>30-85%</b>	<b>14808-60-7</b>
- sand, crushed stone, gravel, or slag containing Crystalline silica (quartz)		
<b>Water</b>	<b>&lt;20%</b>	<b>7732-18-5</b>
OTHER INGREDIENTS MAY BE ADDED:		
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%	-

Crystalline-silica (quartz) may be a constituent of sand, crushed stone, gravel, blast furnace slag and fly ash used in any particular concrete mix.

Cement in concrete contains traces of Chromium VI (hexavalent). Cementitious additives may contain traces of metals.

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## SECTION 4: FIRST AID MEASURES

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<b>Eyes:</b>	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.
<b>Skin:</b>	Remove heavily contaminated clothing immediately. Wash off skin thoroughly with water. Uses a mild soap if available. Shower if necessary. Seek medical attention for persistent irritation or burning of the skin.
<b>Inhaled:</b>	Remove to fresh air, away from dusty area. If symptoms persist, seek medical attention.
<b>Swallowed:</b>	Rinse mouth and lips with water. Do not induce vomiting. Give water to drink to dilute stomach contents. If symptoms persist, seek medical attention.
<b>First Aid Facilities:</b>	Eye wash station. Wash facilities.
<b>Advice to Doctor:</b>	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.

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## SECTION 5: FIRE FIGHTING MEASURES

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<b>Flammability:</b>	None. Concrete is a stable substance, compatible with most other building materials, will not decompose into hazardous by-products or polymerise.
<b>Suitable extinguishing media:</b>	Not applicable. Use carbon dioxide, foam, dry chemical or water spray as required for fire in surrounding materials.
<b>Hazards from combustion products:</b>	None
<b>Special protective precautions and equipment for fire fighters:</b>	None
<b>Hazchem Code:</b>	None allocated

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## SECTION 6: ACCIDENTAL RELEASE MEASURES

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<b>Spills:</b>	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. Recommendations on exposure control and personal protection should be followed during spill clean-up.
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## SECTION 7: HANDLING AND STORAGE

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<b>Handling</b>	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). The cutting, drilling or use of powered tools (e.g. saw or angle grinder) on dry concrete can cause dust to be generated which
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- contains respirable crystalline silica. Refer Section 8 for further advice.
- 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.
- Transportation:** Classified as **Non-Dangerous Goods** according to the Australian Code for the Transport of Dangerous Goods by Road and Rail.
- 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

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**Exposure Standards:** **Workplace Exposure Standards for Airborne Contaminants, Safe Work Australia**

Exposure to dry concrete dust should be kept as low as practicable and below the following:

Crystalline silica (quartz): 0.1 mg/m<sup>3</sup> TWA (time-weighted average) as respirable dust. (≤ 7 microns particle equivalent aerodynamic diameter).

Portland cement: 10 mg/m<sup>3</sup> TWA as inspirable dust

Total dust (of any type, or particle size): 10 mg/m<sup>3</sup> TWA

**Biological Limit Values:** No biological limit allocated.

**Engineering Controls:**

**Ventilation:**

If placing concrete in enclosed areas or a confined space, ensure adequate forced ventilation. When dry concrete dust is present, ensure exposures to respirable crystalline silica (quartz) are maintained below NES. Local mechanical ventilation may be required in areas where spray droplets from wet concrete or dry dust could escape into the work environment.

**Personal Protection**

**Skin Protection:**

Minimise contact with concrete materials. 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). Never kneel in wet concrete, or allow extended contact of skin with wet concrete.

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. Wash work clothes regularly. To avoid contamination of face and lips and ingestion, wash hands before eating, or smoking.

**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:**

In dusty environments where dust may be generated from cutting or drilling dry concrete, use a wet method of cutting and drilling as the preferred method.

Where this is not possible, use a respirator (filter mask) such as Class P2 particulate respirator (AS/NZS 1715 and AS/NZS 1716).

Dust control measures providing respiratory protection against crystalline silica dust will also minimize and control any exposure to chromium dust.

Where concrete surfaces are being finished by grinding or polishing using power tools to obtain a very smooth or decorative surface, more respiratory protection 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.

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## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

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<b>Appearance:</b>	Pre-mixed Concrete is a plastic mixture of water, cementitious materials, and aggregates. The latter are usually sand and stone or gravel. Its plasticity ranges from near liquid to a friable damp earth-like mixture. The most common plasticity has a cohesive porridge-like appearance. The colour is usually grey. If special concretes with pigments are used the colour may range from near-white to any other colour.
<b>Odour:</b>	Some added ingredients used in concrete may create a smell of ammonia.
<b>pH, at stated concentration:</b>	> 7.0
<b>Vapour pressure:</b>	Not determined
<b>Vapour Density:</b>	Not applicable
<b>Boiling Point/range:</b>	Not determined
<b>Freezing/Melting Point:</b>	Melting point >1200°C
<b>Solubility in water:</b>	Not soluble or slight, reacts on mixing with water forming an alkaline (caustic) solution (pH >11)
<b>Solubility (Other):</b>	Not applicable
<b>Specific gravity: (H<sub>2</sub>O = 1)</b>	2.5
<b>Evaporation Rate:</b>	Not applicable
<b>Flammability Limits:</b>	Not applicable
<b>Flash Point:</b>	Not applicable
<b>Explosive Properties:</b>	Not applicable

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## SECTION 10: STABILITY AND REACTIVITY

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<b>Chemical Stability:</b>	Chemically stable under normal conditions
<b>Incompatible Materials:</b>	Sugar, acids or solutions of either (see Section 7)
<b>Conditions to avoid:</b>	Keep away from water
<b>Hazardous Decomposition products:</b>	None
<b>Hazardous Reactions:</b>	None

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## SECTION 11: TOXICOLOGICAL INFORMATION

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### Health Effects

#### Acute (Short Term) Exposure:

<b>Swallowed:</b>	Unlikely in normal use in the industrial situation. Abrasive and highly irritant (burning) to mouth and throat. May cause nausea, and stomach cramps.
<b>Eye:</b>	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.
<b>Skin:</b>	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 .
<b>Inhaled:</b>	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.

#### Chronic (Long Term) Exposure:

<b>Eyes:</b>	In dust form it may cause inflammation of the cornea.
<b>Skin:</b>	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.
<b>Inhaled:</b>	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). Concrete is not listed as a carcinogen by ASCC. Risk of cancer has not been identified from using concrete. However the International Agency for Research on Cancer (IARC) has classified Chromium VI (hexavalent) and Crystalline Silica inhaled in the form of quartz or cristobalite from occupational sources, as carcinogenic to humans (Group 1).

Additional Notes:

**Long Term Effects:** 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 Group1). This means it may cause lung cancer. Exposure to respirable silica is negligible when handling wet concrete. In the case of dust from activities associated with dry concrete (e.g. cutting, drilling and finishing), the recommended controls outlined in Section 8 should be followed.

**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.

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## SECTION 12: ECOLOGICAL INFORMATION

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**Eco-toxicity:** Product forms an alkaline slurry when mixed with water. 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.

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## SECTION 13: DISPOSAL CONSIDERATIONS

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Pre-Mixed Concrete can be treated as a common waste for disposal or 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).

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## SECTION 14: TRANSPORTATION INFORMATION

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**Transport Requirements:**

Transport equipment should be strong enough to contain a fluid with an effective specific gravity of 2.5.

<b>UN number:</b>	None allocated
<b>UN Proper Shipping Name:</b>	None allocated
<b>Class:</b>	None allocated
<b>Subsidiary Risk:</b>	None allocated
<b>Packaging Group:</b>	None allocated
<b>Hazchem code:</b>	None allocated
<b>DG Class:</b>	None allocated
<b>EPG:</b>	None
<b>Incompatibilities:</b>	None

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## SECTION 15: REGULATORY INFORMATION

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**Classification:** Safework Australia criteria is based on the Globally Harmonised System (GHS) of Classification and Labelling of Chemicals. The classifications and phrases listed below are based on the Approved Criteria for Classifying Hazardous Substances [NOHSC: 1008(2004)].



**Hazard Pictogram:**

**Hazard Codes:** Xi Irritant

**Risk Phrases:** R36/38 Irritating to eyes and skin.

**Safety Phrases:** S24/25 Avoid contact with skin and eyes.

S37/39 Wear suitable gloves and eye/face protection

**Inventory Listing(s):** AICS (Australian Inventory of Chemical Substances)

All components are listed on ASICS, or are exempt.

**Poisons Schedule:** None 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).

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## SECTION 16: OTHER INFORMATION

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**Additional Information concerning health effects from exposure:**

It should be noted that the effects from exposure to this product will depend on several factors including: frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application. It is anticipated that users will assess the risks and apply control methods where appropriate.

**Poisons Information Centre:** 13 11 26

**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.

**Issue Date:** 31/10/2016

**SDS Revision Summary**

Supersedes Issue Date: 31/06/2012

Reasons for Issue: General review and use of GHS Classification.

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This Safety Data Sheet (SDS) applies only to the formulated material as supplied by Vic Mix. It does not apply where the formulation has been altered. In this case, a new SDS may be required to reflect the modified material. Contact Vic Mix for further information.

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END of SDS