Hanson
HEIDELBERGCEMENT Group

Premixed Concrete

Safety Data Sheet

Section 1: Identification of the Material and Supplier

Company Details	Hanson Construction Materials Pty Ltd ABN 90 009 679 734
Address	Level 10, 35 Clarence Street Sydney 2000
Tel/Fax	Tel: +61 2 9323 4000 Fax: +61 2 9323 4500
Emergency Contact No	1800 882 478

Product	CONCRETE, PREMIXED CONCRETE
Other Names/ Synonyms	Ready-mixed concrete, Grout, Mortar , Sure-Set®, Easycrete®, Coremasta®, Liquifill®, Imagecrete®
Use	Premixed concrete is used for a wide variety of building and construction applications
Other Information	Plastic concrete begins to harden about one hour after delivery and is quite hard within eight hours. The rate of setting depends on ambient conditions (temperature, wind and humidity) and the concentration of cementitious ingredients

Section 2: Hazards Identification

HAZARDOUS SUBSTANCE NON-DANGEROUS GOODS

- ☐ Classified as **hazardous** according to the criteria of the Australian Safety and Compensation Commission ASCC (formerly NOHSC) (Approved Criteria for Classifying Hazardous Substances [NOHSC:1008] 3rd Edition).
- ☐ This product may contain crystalline silica. Crystalline silica dust is classified as Hazardous.
- ☐ The product, when it solidifies as supplied, is classified as non-hazardous.
- ☐ Dust created when the product is cut, abraded, or crushed may contain crystalline silica some of which may be respirable (particles small enough to go into the deep parts of the lung when breathed in).
- ☐ A proportion of the fine dust in/on the supplied product may be respirable crystalline silica.

The following Risk and Safety phrases apply to this product:

Risk Phrases:	Safety Phrases:
R20: Harmful by Inhalation (applies to concrete dust)	**S22:** Do not breathe dust
R21: Harmful in Contact with Skin	**S24:** Toxic in contact with skin
R22: Harmful if Swallowed	**S24:** Toxic if swallowed
R43: May cause sensitisation by skin Contact	**S28:** After contact with skin, wash immediately with plenty of water
R48: Danger of serious damage to health by prolonged exposure through inhalation (Applies to concrete dust)	**S29:** Do not empty into drains
	S36: Wear suitable protective clothing
	S37: Wear suitable gloves
	S39: Wear eye/face protection

Section 3: Composition / Information On Ingredients

All significant constituents are listed below:

Major Ingredients:

Name	CAS	Proportion
Sand Containing Crystalline Silica (Quartz)	14808-60-7	20 - 85 %
Crushed Stone, Gravel or Blast Furnace Slag.	Not required	20 - 85 %
Portland cement	65997-15-1	10 - 60 %
Chromium VI	1333-82-0	2 - 20ppm
Water	7732-18-5	0 - 20 %

Other ingredients may be added:

Blast Furnace Slag or Fly Ash Pozzolans		0 - 20%
Pigments: (metallic oxide colours)		0 - 10%
Silica Fume (amorphous silica)	7699-41-4	0 - 10%
Chemical Admixtures		0 - 10%
Polystyrene balls	9003-53-6	2 - 10%
Polypropylene fibres		0 - 60% by volume
Steel Fibres		0 - 10%
		0 - 10%

Note:

- ☐ Chromium VI is a trace impurity in Portland Cement.
- ☐ Portland Cement, Sand, Crushed stone, Gravel, Blast Furnace Slag and Fly Ash may contain crystalline silica (quartz). Depending on the source of the material for the above ingredients, the crystalline silica content of the final product can vary from product to product.
- ☐ Cementitous additives may contain traces of metals

Section 4: First Aid Measures

Swallowed	Rinse mouth and lips with water. Do not induce vomiting. If symptoms persist, seek medical attention
Eye	Flush thoroughly with flowing water, while holding eyelids open, for 15 minutes to remove all traces. If symptoms such as irritation or redness persist, seek medical attention
Skin	Remove heavily contaminated clothing. Wash off skin thoroughly with water. Use a mild soap if available. Shower if necessary. Seek medical attention for persistent redness, irritation or burning of the skin
Inhaled	Remove the source of contamination or move the victim to fresh air. Ensure airways are clear and have a qualified person give oxygen through a face mask if breathing is difficult. If irritation persists seek medical attention
First Aid Facilities	Eye wash and normal washroom facilities

Advice to Doctor: Treat symptomatically or consult a Poisons Information Centre

SECTION 5: FIRE FIGHTING MEASURES

Flammability	Not flammable or combustible
Hazards from combustion products	None
Suitable extinguishing media	Not applicable
Special protective precautions and equipment for fire fighters	None
Hazchem code	None allocated

SECTION 6: Accidental Release Measures

Spills:

- ☐ Dust is best cleaned up by vacuum device to avoid making dust airborne. Wetting down before sweeping up dust may be a useful control measure
- ☐ Recommendations on Exposure Controls / Personal Protection (see Section 8 below) should be followed during spill clean-up if conditions are dusty
- ☐ Plastic concrete;
  - Recover spilled material by shovelling into containers and using mechanical sweepers, but avoid generating dust. Prevent spillage or wash down water from entering sewers drains, stormwater and watercourses
  - If contamination of drains or watercourses has occurred, advise the relevant state environment protection agency and the company

Disposal:

- ☐ May be disposed of as inert landfill in accordance with local authority regulations

SECTION 7: Handling And Storage

Storage Precautions	No special storage requirements
Transport	Not classified as a Dangerous Goods, according to the Australian Code for the Transport of Dangerous Goods by Road and Rail (6th Edition)
Handling	Prevent all contact with skin. Ensure a high level of personal hygiene is maintained when using this product. That is; always wash hands before eating, drinking, smoking or using the toilet
Proper Shipping Name	None Allocated

SECTION 8: Exposure Controls / Personal Protection

The following applies to dust from this product:

Exposure Limits:

- ☐ National Occupational Exposure Standard (NES) Australian Safety and Compensation Commission ASCC (formerly NOHSC)
- ☐ Exposure to dust should be kept as low as practicable, and below the following NES:-
- ☐ Crystalline silica (quartz): 0.1 mg/m3 TWA (time-weighted average) as respirable dust
- ☐ Total dust (of any type, or particle size): 10 mg/m3 TWA
- ☐ Chromium VI: 0.05 mg/m3 -sensitiser

Engineering Controls:

- ☐ All work should be carried out in such a way as to minimise dust generation, and exposure to dust
- ☐ Mechanical ventilation: Dust extraction and collection may be used, if necessary, to control airborne dust levels.
- ☐ Work areas should be cleaned regularly.

Personal Protection:

Skin

Prevent all contact with skin

When handling wet concrete personnel should wear loose comfortable clothing and impervious boots, suitable protective/impervious gloves

Contact with plastic concrete will cause severe irritation and possible chemical burns, cement dermatitis and dry skin

- Portland cement is alkaline in nature so plastic concrete and mortars are strongly alkaline (pH of 12 -13). Strong alkalines, like strong acids, are harmful or caustic to the skin. This may produce alkali burns
- Portland cement is hygroscopic - it absorbs water. Plastic concrete needs water to harden. It will draw water away form any other material in contacts, including skin. This will irritate and dry the skin

Ensure a high level of personal hygiene is maintained when using this product. That is; always wash hands before eating, drinking, smoking or using the toilet

Remove all contaminated clothing. Wash gently and thoroughly with tepid water and non-abrasive soap. If irritation develops and persists seek medical attention. Wash hands before eating, or smoking

Eyes	Safety glasses with side shields or safety goggles (AS/NZ 1336) or a face shield should be worn Plastic concrete will cause severe irritation in contact with the eyes, which will result in redness, stinging and lachrymation. Alkaline properties may produce severe alkali burns or serious eye damage Dry concrete dust may cause mechanical irritation resulting in redness and lachrymation
Respiratory	Where engineering and handling controls are not enough to minimise exposure to total dust and to respirable crystalline silica, personal respiratory protection may be required. The type of respiratory protection required depends primarily on the concentration of the respirable crystalline silica dust in the air, and the frequency and length of exposure time. Amount of exertion required during the work, and personal comfort are other considerations in choice of respirator. A suitable P1 or P2 particulate respirator chosen and used in accordance with AS/NZS 1715 and AS/NZS 1716 may be sufficient for many situations, but where high levels of dust are encountered, more efficient cartridge type or powered respirators or supplied-air helmets or suits may be necessary. Use only respirators that bear the Australian Standards mark and are fitted and maintained correctly For dust levels approaching or exceeding the NES (see above) a more effective particulate respirator providing a greater protection factor should be worn. Procedures for effective use of respirators should be applied and supervised Do not contaminate the home environment with dusty work clothes and shoes. Do not shake out work clothes before laundering

SECTION 9: Physical And Chemical Properties

Appearance	A mouldable generally grey mixture which will set and harden to become a stable solid. Colour may vary from near white to any other colour
Odour	Some added ingredients used in concrete may create a smell of ammonia
Ph	>7.0 dry state. >10 in wet plastic state
Vapour Pressure	Not determined
Vapour Density	Not determined
Boiling Point/range	Not determined
Freezing/melting point	Melting point >1200 0C
Solubility	Not soluble. Can react on mixing with water forming an alkaline solution with Ph >11
Specific gravity	2.5
Flash Point	Not applicable
Upper and lower flammability limits	Not applicable
Ignition Temp	Not applicable
Particle Size	A proportion of the dust may be respirable (below 10 microns) and if it becomes airborne constitutes an exposure if inhaled.

SECTION 10: Stability And Reactivity

Chemical Stability	Chemically Stable
Condition to avoid	Keep away from water. Dust generation.
Incompatible materials	None
Hazardous Decomposition Products	None
Hazardous Reactions	None

Crystalline silica is stable, compatible with other materials, does not polymerise, and will not decompose into hazardous by-products.

SECTION 11: Toxicological Information

Health Effects

Acute -

Swallowed

Unlikely in normal use in industrial situation .Concrete is abrasive and mildly corrosive. Swallowing either plastic or hardened concrete will result in abdominal discomfort. Symptoms can include nausea, stomach cramps and vomiting

Eye

Plastic concrete will cause severe irritation in contact with the eyes, which will result in redness, stinging and lachrymation. Alkaline properties may produce severe alkali burns or serious eye damage.

Dry concrete dust may cause mechanical irritation resulting in redness and lachrymation

Skin

Contact with plastic concrete will cause severe irritation and possible chemical burns, cement dermatitis and dry skin

- Portland cement is alkaline in nature so plastic concrete and mortars are strongly alkaline (pH of 12 -13). Strong alkalines, like strong acids, are harmful or caustic to the skin. This may produce alkali burns
- Portland cement is hygroscopic - it absorbs water. Plastic concrete needs water to harden. It will draw water away form any other material in contacts, including skin. This will irritate and dry the skin

Inhaled

Sprayed plastic concrete droplets and dry concrete dust may irritate the nose, throat and respiratory tract causing coughing, sneezing and breathing difficulties. Pre-existing upper respiratory and lung diseases included asthma and bronchitis may be aggravated

Chronic-

Eyes	In dust form may cause inflammation of the cornea
Skin	Repeated or prolonged skin contact with plastic concrete can dry the skin and cause alkali burns due to the caustic nature of the product. This condition is described as irritant contact dermatitis. Some individuals may experience allergic dermatitis because there are trace amounts of water soluble hexavalent chromium salts (Chromium VI) present in Portland Cement (0 - 20ppm). Once a person is sensitised to water soluble chromates any further skin exposure to chromates will bring back the symptoms
Inhaled	Plastic concrete is not considered a chronic inhalation hazard Repeated exposure to the dust may result in increased nasal and respiratory secretions and coughing. Inflammation of lining tissue of the respiratory system may follow repeated exposure to high levels of dust with increased risk of bronchitis and pneumonia 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), including acute and/or accelerated silicosis. 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 Inhalation of dust, including crystalline silica dust, is considered by medical authorities to increase the risk of lung disease due to tobacco smoking The product contains a proportion of respirable free crystalline silica in the quartz component. Crystalline silica (inhaled in the form of quartz or cristobalite from occupational sources) has been classified by The International Agency for Research on Cancer (IARC) as carcinogenic to humans (Group 1). However (in the view of CC&AA) the research on this is inconclusive and ASCC/NOHSC has not classified crystalline silica as a carcinogen The most current research indicates no excess risk of lung cancer or other cancers from using these products
Other Information	Inhalation of airborne particles from other sources in the work environment, including those from cigarette smoke, may increase the risk of respiratory diseases. It is recommended that all storage and work areas should be smoke-free zones and that other airborne contaminants should be kept to a minimum

SECTION 12: ECOLOGICAL INFORMATION

Concrete

Ecotoxity	Product forms an alkaline slurry when mixed with water
Persistence and Degradability	Product is persistent and would have a low degradability
Mobility	A low mobility would be expected in a landfill situation
Dust	Crystalline silica is non-toxic to aquatic and terrestrial organisms; is not biodegradable; is insoluble and is expected to have low mobility in landfill

SECTION 13: Disposal Considerations

Spills & Leaks	Plastic concrete; Recover spilled material by shovelling into containers and using mechanical sweepers, but avoid generating dust. Prevent spillage or wash down water from entering sewers drains, stormwater and watercourses If contamination of drains or watercourses has occurred, advise the relevant state environment protection agency and the company
Disposal	May be disposed of as inert landfill in accordance with local authority regulations. 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
Packing Group	None Allocated
Hazchem Code	None Allocated
Special precautions for user	See Above
DG class	None Allocated

SECTION 15: Regulatory Information

Classification	Hazardous according to ASCC/NOHSC criteria and not classified as Dangerous Goods
Hazard Symbol	None allocated
Poisons Schedule	None allocated

- ☐ Exposures by inhalation to high levels of dust may be regulated under the Hazardous Substances Regulations (State and Territory) as they are applicable to Respirable Crystalline Silica, requiring exposure assessment, and control of inhalation exposure below the NES
- ☐ Persons who have potential for exposure above the NES may be required by Regulations to have periodic health surveillance including Chest X-ray (see relevant State Government Regulations and ASCC/NOHSC documentation)

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Section 16: Other Information

Emergency Contact No (All hours)

1800 882 478

Emergency Contact No (Office Hours)

Contact For further information contact the Risk Manager at your nearest Hanson office;

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