



Date issued: 12th October 2017 by: Chris Cox, Operations Manager Concrete, effective until the 1st October 2022.

Product: Concrete, Premixed Concrete

SECTION 1: IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Company Details: Gunlake Concrete NSW Pty Limited

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Emergency

Contact No

1800 882 478

Product: CONCRETE, PREMIXED CONCRETE

Other

Names/Synonyms

Ready-mixed concrete, Grout, Mortar,

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)

R21: Harmful in Contact with Skin

R22: Harmful if Swallowed

R43: May cause sensitisation by skin Contact

R48: Danger of serious damage to health by prolonged exposure through inhalation (Applies to concrete dust)

S22: Do not breathe dust

S24: Toxic in contact with skin

S24: Toxic if swallowed

S28: After contact with skin, wash immediately with plenty of water

S29: Do not empty into drains

S36: Wear suitable protective clothing

S37: Wear suitable gloves

S39: Wear eye/face protection



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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

Chromium VI

65997-15-1

1333-82-0

10-60 %

2-20ppm

Water 7732-18-5 0-20 %

Other ingredients may be added:

Blast Furnace Slag or Fly Ash: 0 - 20%

Pozzolans 0 - 10%

Pigments: (metallic oxide colours) 0 -10%

Silica Fume (amorphous silica) 7699-41-4 0 - 10%

Chemical Admixtures: 2 - 10%

Polystyrene balls: 9003-53-6 0 - 60% by volume

Polypropylene fibres 0 - 10%

Steel Fibres 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.
- Cementitious 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 develops 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



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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 from any other material in contacts, including skin. This



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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 °C

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



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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 from 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 including 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.



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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:

Ecotoxicity 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



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periodic health surveillance including Chest X-ray (see relevant State Government Regulations and ASCC/NOHSC documentation)

SECTION 16: OTHER INFORMATION

Emergency Contact No (All hours)

1800 882 478

New South Wales

Gunlake Concrete NSW Pty Limited

Level 2, 53 Cross Street

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