CONUNDRUM HOLDINGS

SAFETY DATA SHEET
Pre-Mixed Concrete

SECTION 1: IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product Name: **Pre-Mixed Concrete**

Other names: Wim-Mix Concrete, Wallan Concrete

Recommended use: Pre-mixed concrete is used in a wide range of building and construction projects.

Company: **Conundrum Holdings Pty Ltd**
ABN 39 007 076 020

Address: PO Box 100, Kilmore, VIC 3764

Telephone: 03 5782 3401 (7:30am to 5:00pm Mon to Fri only).

Emergency Phone: Poisons Information Centre 13 11 26

SECTION 2: HAZARD(S) IDENTIFICATION

HAZARDOUS SUBSTANCE **NON-DANGEROUS GOODS**

This product contains crystalline silica. Crystalline silica dust is classified as **Hazardous** according to Safe Work Australia formerly the Australian Safety and Compensation Council (ASCC) (Approved Criteria for Classifying Hazardous Substances [NOHSC:1008] 3rd Edition).

- Solid product is classified as non-hazardous.
- Dust in/on the supplied product or created when the product is cut, drilled, abraded or crushed may contain crystalline silica some of which may be respirable (small enough to reach deep into the lungs when breathed in).

Warnings using Safe Work Australia Criteria

Risk Phrases:

R20: ..... Harmful by inhalation (applies to dust)

R21/22: ..... Harmful in contact with skin and if swallowed

R43: ..... May cause sensitisation by skin contact

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

R41 ..... Risk of serious eye damage to eyes

Safety Phrases:

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

S36/27/39: ..... Wear suitable protective clothing, gloves and eye/face protection

Emergency Overview Hazard

Globally Harmonised System of Classification and Labelling of Chemicals (GHS) Classification

Eye Irritation Category 2B, Organ Damage Category 2

Warnings using the GHS criteria

H302 Harmful if swallowed
H312 Harmful on contact with skin
H332 Harmful if inhaled
H373 May cause damage to organs via exposure to inhalation

Precautionary Statements

Prevention

P261 Avoid breathing dust/fume/gas/mist/vapour spray
P280 Wear protective gloves
P284 Wear respiratory protection

Response

P302 + P352 If on skin wash off with plenty of water and soap.
P304 + P340 Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P312 Call doctor/physician if you feel unwell.

SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Name:	Proportion (w/w):	CAS Number:
Aggregate	**>60%**	**Not required**
Crystalline Silica (SiO_2)	up to 99%	14808-60-7
Portland Cement	**10 – <30%**	**65997-15-1**
Hexavalent Chromium (water soluble)	<10 ppm	Not available
Water	**<10%**	**Not required**

Admixtures, such as water reducers, set retarders, set accelerators, plasticisers, waterproofing agents and colour oxides, may be added to pre-mixed concrete as declared on the delivery docket. Refer to individual product SDS for safety information in relation to these admixtures.

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. 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 irritation of the skin.

Inhaled: Remove to fresh air, away from dusty area. If respiratory irritation occurs, seek immediate medical attention.

First Aid Facilities: Eye wash station and normal wash-room facilities.

Advice to Doctor: Treat symptomatically.

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

SECTION 6: ACCIDENTAL RELEASE MEASURES

Spills: If spillage is dry, sweep or shovel into containers, it should be wetted down with water to reduce dust generation. If spillage is wet (plastic concrete) shovel or sweep into containers and then wash down area with water but prevent run-off from entering storm water and sewer drains and water courses.

Recommendations on exposure control and personal protection should be followed during spill clean-up.

SECTION 7: HANDLING AND STORAGE

Handling: Prevent all contact with skin. Wet (plastic) concrete is a heavy material, and appropriate control of manual handling risk is required when barrowing, shoveling or carrying quantities of wet concrete. Wet pre-mixed concrete has a limited life after batching and will set hard; the rate of setting depends on the ambient conditions and the amount of agitation.

Respirable dusts may be generated when the hardened product is cut, drilled, abraded or crushed. Use control measures such as ventilation and wetting down material when carrying out such activities.

Storage: No special storage requirements.

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Standards: **Safe Work Australia formally ASCC and National Occupational Exposure Standard (NES).**

Crystalline Silica (Quartz): 0.1 mg/m^3 time weighted average (TWA) as respirable dust.

Total dust (of any type, or particle size): 10 mg/m^3 TWA.

Chromium VI: 0.05 mg/m^3 TWA.

Dust must be kept to a minimum to ensure respirable dust level remains below NES.

Engineering Controls: Avoid generating dust. Any activities which may generate dust must be performed in a well ventilated space. Mechanical ventilation or local exhaust ventilation must be used if levels of respirable dust approach the NES. If dust generation cannot be avoided, personal respiratory protection is required.

Personal Protective Equipment:

Skin: 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.

When handling wet concrete, wear loose comfortable clothing and impervious gloves (compliant to AS/NZS 2161) and boots (compliant to AS/NZS 2210). Never kneel in wet concrete. Remove all contaminated clothing. Wash clothes regularly and separate from other clothes. Do not contaminate the home environment with dusty work clothes and shoes. Do not shake out work clothes before laundering.

Eyes: Safety goggles or splash resistant spectacles (compliant to AS/NZS 1337) or a face shield must be worn.

Respiratory: Where engineering and handling controls are not enough to minimize exposure to total dust and to respirable crystalline silica, personal respiratory protection must be worn. Respiratory protection used must conform to AS/NZS 1716 and be used in accordance with AS/NZS 1715. An approved particulate "dust mask", either class P1 or P2, may provide the required minimum protection factor for the ambient dust level in most cases. Where high levels of dust are encountered, more efficient cartridge-type or powered respirators or supplied-air helmets may be necessary. Use only respirators that bear the Australian Standards mark and are fitted and maintained accordingly.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Pre-mixed concrete is a plastic (mouldable) mixture, usually grey in colour. It will set and harden to become a stable solid.
Odour:	Some added ingredients used in concrete may create a smell of ammonia.
pH:	>7.0 in dry state, >10 in plastic state.
Vapour Pressure:	Not determined
Vapour Pressure:	Not determined
Boiling Point/Range:	Not determined
Freezing/Melting Point:	Melting point >1200 °C
Solubility:	Insoluble. Can react on mixing with water forming an alkaline solution with pH >11
Density:	2.4 t/m^3
Flash Point:	Not applicable
Flammability Limits:	Not applicable
Ignition Temperature:	Not applicable

SECTION 10: STABILITY AND REACTIVITY

Chemical Stability:	Chemically stable
Conditions to Avoid:	Keep away from water and oxidizing agents
Incompatible Materials:	None
Hazardous Decomposition Products:	None
Hazardous Reactions:	None

SECTION 11: TOXICOLOGICAL INFORMATION

Health Effects: **Short Term (Acute) Exposure**

Swallowed: Unlikely to occur under normal conditions of use. Plastic or hardened concrete is abrasive and irritating to the mouth and throat and may cause abdominal discomfort, nausea, stomach cramps or vomiting.

Eyes: Plastic concrete will cause severe irritation and may cause alkaline burns in contact with the eyes, with potential for serious and permanent eye damage. Concrete dust is irritating to the eyes, causing watering and redness. Exposure to plastic concrete or dust may aggravate pre-existing eye conditions.

Skin: Plastic concrete is irritating, abrasive and drying to the skin and may cause alkaline burns if direct contact is made with wet concrete for any length of time.

Concrete dust may be mildly irritating and abrasive to the skin due to its physical properties.

Inhaled: Concrete dust is irritating to the nose, throat and lungs, resulting in coughing and sneezing. Pre-existing upper respiratory and lung diseases including asthma and bronchitis may be aggravated.

Health Effects: **Long Term (Chronic) Exposure**

Eyes: Concrete dust may cause irritation and inflammation of the eyes and aggravate pre-existing eye conditions.

Skin: Repeated contact with plastic concrete or concrete dust may cause drying of the skin and can result alkaline burns. This condition is described as *irritant* contact dermatitis. Some individuals may experience *allergic* contact dermatitis because there are trace amounts of water soluble hexavalent chromium salts (chromium IV) present in Portland Cement. Once a person is sensitised to water soluble chromium salts any further skin exposure will bring back the symptoms.

Inhaled: Repeated exposure to concrete dust may result in increased nasal and respiratory secretions and coughing. High level exposures can increase the risk of bronchitis and pneumonia. Repeated inhalation of dust containing crystalline silica may result in an irreversible pulmonary fibrosis (scarring of the lung) termed silicosis, including acute or accelerated silicosis. Secondary infections such as bronchitis and tuberculosis are often associated with silicosis. It may also increase the risk of scleroderma (a disease affecting the skin, joints, blood vessels and internal organs) and other auto-immune disorders. Tobacco smoking is considered to increase the adverse effects of exposure to dust, including crystalline silica. Expectations require that individuals should be protected against even minor sensory irritations to dust.

Safe Work Australia classifies crystalline silica as a Hazardous Substance. The most current research indicates no excess risk of lung cancer or other cancers from using these products. Crystalline silica is recognised as a carcinogen by the International Agency for Research for Cancer (IARC). Hexavalent chromium is also recognized as a human carcinogen via inhalation.

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity: Product forms an alkaline slurry when mixed with water.

Persistence and Degradability: Product is persistent and would have a low degradability.

Mobility: Low mobility would be expected in a landfill situation.

SECTION 13: DISPOSAL CONSIDERATIONS

Disposal: Pre-mixed concrete can be treated as a common waste for disposal or dumped into a landfill site in accordance with local authority guidelines. Measures should be taken to avoid dust generation during disposal and exposure and personal precautions should be observed (see above). Keep away from any waterways including storm water and sewer drains.

SECTION 14: TRANSPORT INFORMATION

UN Number: None allocated

UN Proper Shipping Name: None allocated

Class and Subsidiary Risk: None allocated

Packing Group: None allocated

Special Precautions for User: See above

HAZCHEM Code: None allocated

SECTION 15: REGULATORY INFORMATION

Crystalline silica dust is classified as **Hazardous** according to Safe Work Australia formerly the ASCC (Approved Criteria for Classifying Hazardous Substances [NOHSC:1008]).

Crystalline silica is also recognised as a carcinogen by the IARC.

Hexavalent chromium is also recognized as a human carcinogen via inhalation.

Persons who have potential for exposure above the NES may be required by Regulations to have periodic health surveillance including chest x-ray (see Occupational Health and Safety Regulations 2007 or other relevant local State Government Regulations).

SECTION 16: OTHER INFORMATION

Smoking and other airborne particles: Inhalation of airborne particles from other sources of work, as well as those from tobacco smoking increases the risk of occupational respiratory diseases. It is recommended that all storage and work areas should be smoke-free zones and that other airborne contaminants are kept to a minimum.

References:

Australian Standards:	AS/NZS 1337: Eye Protectors For Industrial Applications
	AS/NZS 1715: Selection, Use and Maintenance of Respiratory Protective Devices
	AS/NZS 1716: Respiratory Protective Devices
	AS/NZS 2161: Occupational Protective Gloves
	AS/NZS 2210: Occupational Protective Footwear
Other:	Code of Practice for the Preparation of Safety Data Sheets for Hazardous Chemicals
	Approved Criteria for Classifying Hazardous Substances [NOHSC:1008(2004] 3rd Edition
	Adopted National Exposure Standards for Workplace Exposure Standards for Airborne Contaminants December 2011.
	Occupational Health and Safety Regulations (Victoria) 2007

Notice:

At the date of publication the information contained in this Safety Data Sheet is, to the best of our knowledge, accurate and is given in good faith but no warranty expressed or implied is made. The suggested procedures are not necessarily all inclusive nor fully adequate for all circumstances in which the product may be used. Users are advised to make their own determination as to the suitability of the information in relation to their particular purposes and specific circumstances. We accept no responsibility for any resultant loss or damage as a result of any person acting or refraining from action as a result of the information provided in this document as it may be applied under conditions beyond our control. Where the information provided discloses a potential hazard or hazardous ingredient, adequate warning should be provided to employees and users and appropriate precautions taken to ensure safe systems of work are in place.

END OF SAFETY DATA SHEET