



## MATERIAL SAFETY DATA SHEET

### Pre-mixed Concrete

#### IDENTIFICATION OF THE MATERIAL AND SUPPLIER

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<b>Product Name:</b>	PF Concrete Pre-mixed concrete
<b>Other Names:</b>	Ready-mixed concrete, grout, mortar
<b>Manufacturer's Product Code:</b>	Not Applicable
<b>UN Number:</b>	None Allocated
<b>Dangerous Goods Class &amp; Subsidiary Risk:</b>	Non-Dangerous goods
<b>Hazchem Code:</b>	N/A
<b>Poisons Schedule Number:</b>	Not Scheduled
<b>Use:</b>	A wide variety of building and construction applications

**IMPORTANT NOTICE:** This Material Data Sheet (MSDS) is issued by PF Formation, in accordance with National Occupational Health & Safety Commission (NOHSC) guidelines. As such, the information in it must not be altered, deleted or added to. PF Formation will issue a new MSDS when there is a change in product specifications and/or NOHSC guidelines/regulations. PF Formation will not accept any responsibility for any changes made to its MSDS by any other person or organisation.

#### HAZARDS IDENTIFICATION

This product is classified as hazardous according to the criteria of the National Occupational Health and Safety Commission (NOHSC).

##### **Risk Phases:**

<b>R48/20</b>	Harmful: danger of serious damage to health by prolonged exposure through inhalation
<b>R43</b>	May cause sensitisation by skin contact.
<b>R21/22</b>	Harmful in contact with skin and if swallowed.
<b>R36/38</b>	Irritating to eyes and skin.

##### **Safety Phases:**

<b>S22</b>	Do not breathe dust.
<b>S24/25</b>	Avoid contact with skin and eyes.
<b>S27/28</b>	After contact with skin, take off immediately all contaminated clothing, and wash immediately with plenty of water.
<b>S29</b>	Do not empty into drains.
<b>S36/37/39</b>	Wear suitable protective clothing, gloves and eye/face protection.

PROGRAM No.	VERSION	APPROVED	PROGRAM NAME	PAGE No	REVIEW DATE
1	V2	Joshua Graham	MSDS for Pre-Mix Concrete	1	30/10/14

**COMPOSITION / INFORMATION ON INGREDIENTS**

<b>Main Ingredients:</b>	<b>Name</b>	<b>Cas</b>	<b>Proportion</b>
	Sand	14808-60-7	20-85%
	Crushed stone, Gravel or slag	14808-60-7	20-85%
	Portland Cement	65997-15-1	10-60%
	Water	7732-18-5	0-20%

<b>Other Ingredients:</b> (may be added)	<b>Name</b>	<b>Cas</b>	<b>Proportion</b>
	Admixtures (water reducers, set retarder or Accelerators, plasticisers)	-	1-10%
	Polystyrene balls (reduced density)	9003-53-6	<10%
	Silica fume (amorphous silica)	7699-41-4	1-10%
	Metallic oxide pigments (colouring)	-	1-10%
	Pozzolans	-	1-10%
	Blast Furnace Slag or Fly Ash	-	0-20%

**NOTE:**

\*Cement in concrete contains traces of Chromium VI (hexavalent) which is a trace impurity in Portland Cement.

\*Cementitious additives may contain traces of metals.

\*Crystalline-silica (quartz) may be a constituent of sand, crushed stone, gravel, blast furnace slag and fly ash used in any particular concrete mix. The crystalline silica content of the final product can vary from product to product.

**FIRST AID MEASURES**

<b>Swallowed:</b>	Rinse mouth and lips with water. DO NOT induce vomiting. The patient should be given water to drink to dilute stomach contents and consult a doctor.
<b>Eye:</b>	Flush eyes thoroughly with running water for at least 15 (fifteen) minutes leaving eyelids open and remove all traces. Seek urgent medical attention.
<b>Skin:</b>	Remove contaminated clothing immediately. Wash affected area thoroughly with mild soap and running water. Seek medical attention if irritation persists.
<b>Inhaled:</b>	Remove patient to fresh air. Ensure all airways are clear and have a qualified person give oxygen through a face mask if breathing is difficult. If respiratory irritation, dizziness or nausea occurs, seek immediate medical assistance.

**FIRST AID FACILITIES**

Eye wash station and suitable facilities available to carry out the first aid procedures outlined above.

**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.

**FIRE FIGHTING MEASURES****FLAMMABILITY**

Pre-mix concrete products are not flammable, do not support combustion of other materials, and do not cause dust explosions.

PROGRAM No.	VERSION	APPROVED	PROGRAM NAME	PAGE No	REVIEW DATE
1	V2	Joshua Graham	MSDS for Pre-Mix Concrete	2	30/10/14

## **ACCIDENTAL RELEASE MEASURES**

### **SPILLAGE**

If a wet spillage occurs shovel into containers, then wash areas with water ensuring no run-off enters storm water, sewer drains and watercourses. Contact any relevant authorities if this does occur. Ensure all personal protection is followed during clean up.

## **HANDLING AND STORAGE**

### **STORAGE**

Wet pre-mixed concrete will set hard and must be placed as soon as possible. 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 degrees to the horizontal.

### **HANDLING**

Wet concrete is a heavy material and appropriate control of handling is required when barrowing, shoveling or carrying quantities of wet concrete

## **EXPOSURE CONTROLS/PERSONAL PROTECTION**

### **EXPOSURE LIMITS**

**ASCC** – Exposure to dry concrete dust should be kept as low as practicable and below the following NES (National Occupational Exposure Standard)

Crystalline Silica: 0.2mg/m<sup>3</sup> TWA (time weighted average) as respirable dust.

Dust Not Otherwise specified: 10mg/m<sup>3</sup> TWA as inspirable dust.

### **ENGINEERING CONTROLS**

Avoid generating and inhaling dusts. All work that creates concrete dust should be carried out in such a way that minimizes exposure to dust. Provide adequate ventilation and/or local dust extraction or water spray to remove dust from breathing zones.

### **PERSONAL PROTECTION**

Minimise contact with concrete materials. Always wash hands before eating, drinking, smoking or using the toilet when any sign of contact has been made and wash work clothes regularly. Never kneel in wet concrete or allow extended contact of skin with wet concrete. When handling pre-mixed concrete ensure protective clothing is worn as follows:

**Eye Protection:** must use safety glasses with side shield protection or safety goggles in accordance with AS/NZ 1337, or a face shield worn.

**Glove Type;** *Pre-mix*, wear waterproof gloves such as PVC that comply with AS 2161. It is recommended that a cotton glove be worn underneath to avoid sweating.  
*Dry Product*, wear leather palm, cotton-back work gloves that comply with AS 2161

**Clothing:** The use of sleeves, overalls and clean clothing should be worn daily.

**Footwear:** Waterproof safety boots high enough to prevent concrete from contacting skin

**Respirator Type:** When dust is generated use a respirator (filter mask) with a Class P1,P2 or P3 filter complying with AS/NZS 1715 and AS/NZS 1716

PROGRAM No.	VERSION	APPROVED	PROGRAM NAME	PAGE No	REVIEW DATE
1	V2	Joshua Graham	MSDS for Pre-Mix Concrete	3	30/10/14

## **PHYSICAL AND CHEMICAL PROPERTIES**

### **APPEARANCE**

Pre-mix concrete is a plastic mixture of water, Cementitious materials and aggregates. The latter are usually sand and stone or gravel. It is 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

<b>Boiling Point:</b>	N/A
<b>Melting Point:</b>	>1200 degrees Celsius
<b>Vapor Pressure:</b>	Not determined
<b>Assumed Specific Gravity:</b>	2.5 (water=1)
<b>Flashpoint:</b>	N/A
<b>Flammability Limits:</b>	N/A
<b>Solubility in Water:</b>	Not soluble or slight, react on mixing with water forming an alkaline (caustic) solution (pH>1)
<b>pH:</b>	7 to 13
<b>Bulk Density:</b>	when wet 2.5 (t/m <sup>3</sup> )
<b>Odour:</b>	Some added ingredients used in concrete may create a smell of ammonia

## **STABILITY AND REACTIVITY**

Pre-mixed concrete is chemically stable and there are no Incompatible materials. It is recommended that you keep away from water and don't leave standing too long or the mix may set.

## **TOXICOLOGICAL INFORMATION**

### **ACUTE HEALTH EFFECTS**

<b>Swallowed:</b>	Ingestion is unlikely under normal conditions of use, however swallowing of pre-mixed concrete may result in nausea, vomiting and abdominal discomfort and possibly increase the risk of gastro-intestinal infections. It is abrasive and highly irritant (burning) to mouth and throat.
<b>Eye:</b>	If contact is made to the eyes it will result in redness, stinging and lachrymation. Alkaline properties may produce sever alkali burns or serious eye damage.
<b>Skin:</b>	Contact with skin is 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>	Sprayed pre-mixed wet concrete droplets and dry concrete dust may irritant the nose, throat and respiratory tract causing coughing, sneezing and breathing difficulties.

### **CHRONIC HEALTH EFFECTS**

Repeated contact causes irritation and drying of the skin (alkali burns) and can result in skin reddening and skin rash (dermatitis) which may become persistent. Persons who are allergic to water soluble chromates may develop an allergic dermatitis because Chromium VI is present in Portland Cement).

Pre-mix concrete is not considered a chronic inhalation hazard. 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.

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 BI(hexavalent ) and Crystalline Silica inhaled in the form of quartz or cristobalite from occupational sources, as carcinogenic to humans (Group 1)

PROGRAM No.	VERSION	APPROVED	PROGRAM NAME	PAGE No	REVIEW DATE
1	V2	Joshua Graham	MSDS for Pre-Mix Concrete	4	30/10/14

**ECOLOGICAL INFORMATION**

Pre-mixed concrete forms an alkaline slurry when mixed with water. It is persistent and would have a low degradability. In a landfill situation a low mobility would be expected.

**DISPOSAL CONSIDERATIONS**

Pre-mixed concrete can be treated as common waste for disposal or dumped into a landfill site in accordance with local authority guidelines. Keep away from any waterways including storm water and sewer drains

**TRANSPORT INFORMATION****TRANSPORT**

Not classified as a dangerous good, according to the Australian Code for the Transport of Dangerous Goods by Road and Rail (6<sup>th</sup> Edition). Not regulated for transport purposes.

If placing concrete straight from a truck, pour vertically and never let the concrete fall more than one and a half metres to avoid excessive splashing.

**REGULATORY INFORMATION****CLASSIFICATION**

Hazardous according to ASCC (formerly NOHSC) criteria and not classified as Dangerous Goods

**HAZARD SYMBOL:**

None Allocated.

**POISONS SCHEDULE:**

None scheduled

**OTHER INFORMATION****POISONS INFORMATION CENTRE**

13 11 26

**REFERENCES:**

National Code of Practice for the Preparation of Material Safety Data Sheets 2<sup>nd</sup> Edition. (NOHSC)

National Institute for Occupational Safety and Health

International Chemical Safety Cards

Worksafe Australia

**REVISED DATE:**

30<sup>th</sup> October 2014

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PROGRAM No.	VERSION	APPROVED	PROGRAM NAME	PAGE No	REVIEW DATE
1	V2	Joshua Graham	MSDS for Pre-Mix Concrete	5	30/10/14