MATERIAL SAFETY DATA SHEET

CEMEX Premixed Concrete

SECTION 1: IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product name:	**CEMEX Premixed Concrete**
Applicable In:	Australia
Other Names:	CEMEX Concrete, CEMEX Shotcrete, CEMEX Superspray, CEMEX Readypave®
Recommended use:	Premixed concrete is used for a wide variety of applications in building and civil engineering projects. When sprayed it is used for encapsulating steel work as well as structural applications.
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IMPORTANT NOTICE: This Material Safety Data Sheet (MSDS) is issued by CEMEX Australia Pty Limited, in accordance with the Australian Safety and Compensation Council ASCC (formerly National Occupational Health and Safety Commission -NOHSC) guidelines. As such, the information in it must not be altered, deleted or added to. CEMEX Australia Pty Limited, will issue a new MSDS when there is a change in product specifications and/or ASCC/NOHSC guidelines/regulations. CEMEX Australia Pty Limited, will not accept any responsibility for any changes made to its MSDS by any other person or organisation.

SECTION 2: HAZARDS IDENTIFICATION

STATEMENT OF HAZARDOUS NATURE: classified as **Hazardous** according to the criteria of the Australian Safety and Compensation Council ASCC (formerly National Occupational Health and Safety Commission -NOHSC) Approved Criteria For Classifying Hazardous Substances [NOHSC:1008] 3rd Edition. **Non-Dangerous Goods.**

Risk Phases	Safety Phases
R43: May cause sensitisation by skin contact	**S22**: Do not breathe dust
R21/22: Harmful in contact with skin and if swallowed	**S24/25**: Avoid contact with skin and eyes
R48/20: Danger of serious damage to health by prolonged exposure through inhalation (applies to concrete dust)	**S28**: After contact with skin wash immediately with plenty of water
	S29: Do not empty into drains
	S36/37/39: Wear suitable protective clothing, gloves and eye/face protection

SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Name:	Proportion:	CAS Number:
Portland cement	**10-60%**	**65997-15-1**
Chromium VI (hexavalent chromium)	2-20 ppm	1333-82-0
Aggregate	>85%	14808-60-7
- sand, crushed stone, gravel, or slag containing Crystalline silica (quartz)		
Water	<20%	-
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.

SECTION 4: FIRST AID MEASURES

Swallowed:	Rinse mouth and lips with water. Do not induce vomiting. Give water to drink to dilute stomach contents. If symptoms persist, seek medical attention.
Eyes:	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.
Skin:	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.
Inhaled:	Remove to fresh air, away from dusty area. If symptoms persist, seek medical attention.
First Aid Facilities:	Eye wash station. Wash facilities.
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.

SECTION 5: FIRE FIGHTING MEASURES

Flammability: None. Concrete is a stable substance, compatible with most other building materials, will not decompose into hazardous by-products or polymerise.

Suitable extinguishing media: Not applicable

Hazards from combustion products: None

Special protective precautions and equipment for fire fighters: None

Hazchem Code: None allocated

SECTION 6: ACCIDENTAL RELEASE MEASURES

Spills: 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.

SECTION 7: HANDLING AND STORAGE

Handling Wet concrete is a heavy material, and appropriate control of manual handling risk is required when barrowing, shovelling or carrying quantities of wet concrete.

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.
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.

Incompatibilities: None

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Standards: **Australian Safety and Compensation Council ASCC** (formerly **National Occupational Health & Safety Commission -NOHSC) National Occupational Exposure Standard (NES):**
Exposure to dry concrete dust should be kept as low as practicable and below the following NES.
Crystalline silica (quartz): 0.1 mg/m^3 TWA (time-weighted average) as respirable dust. (≤ 7 microns particle equivalent aerodynamic diameter).
Chromium VI (hexavalent): 0.05 mg/m^3 - sensitiser.

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 use a respirator (filter mask) such as Class P1 or P2 (AS/NZS 1715 and AS/NZS 1716).

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	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.
Odour:	Some added ingredients used in concrete may create a smell of ammonia.
pH, at stated concentration:	> 7.0
Vapour pressure:	Not determined
Vapour Density:	Not applicable
Boiling Point/range:	Not determined
Freezing/Melting Point:	Melting point >1200°C
Solubility in water:	Not soluble or slight, reacts on mixing with water forming an alkaline (caustic) solution (pH >11)
Solubility (Other):	Not applicable
Specific gravity: (H2O = 1)	2.5
Evaporation Rate:	Not applicable
Flammability Limits:	Not applicable
Flash Point:	Not applicable
Explosive Properties:	Not applicable

SECTION 10: STABILITY AND REACTIVITY

Chemical Stability:	Chemically stable
Incompatible Materials:	None
Conditions to avoid:	Keep away from water
Hazardous Decomposition products:	None
Hazardous Polymerisation:	None

SECTION 11: TOXICOLOGICAL INFORMATION

Health Effects

Acute :

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

Long Term (Chronic) Exposure:

Eyes:	In dust form it may cause inflammation of the cornea.
Skin:	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.

Inhaled: 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).

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: A low mobility would be expected in a landfill situation.

SECTION 13: DISPOSAL CONSIDERATIONS

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).

SECTION 14: TRANSPORTATION INFORMATION

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

UN number:	None allocated
Class:	None allocated
Subsidiary Risk 1:	None allocated
Packaging Group:	None allocated
Hazchem code:	None allocated
DG Class:	None allocated
EPG:	None
Incompatibilities:	None
Proper Shipping Name:	None allocated
Marine Pollutant:	No

SECTION 15: REGULATORY INFORMATION

Classification:	Hazardous according to ASCC/NOHSC criteria and not classified as Dangerous Goods.
Hazard Symbol:	None allocated
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).

SECTION 16: OTHER INFORMATION

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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.

National Code of Practice for the Preparation of Material Safety Data Sheets 2nd Edition [NOHSC:2011(2003)], April 2003, National Occupational Health and Safety Commission.

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END of MSDS