

Material Safety Data Sheet

SECTION 1 – IDENTIFICATION

Product Name: Ready-Mixed Concrete, Freshly Mixed Unhardened Concrete
(MSDS covers all Concrete Mix Designs prepared by
Anderson Concrete Limited)

Supplier / Manufacturer: Anderson Concrete Limited
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SECTION 2 – INFORMATION ON INGREDIENTS

<u>ITEM</u>	<u>INGREDIENT</u>	<u>WT/WT% RANGE</u>
01	Aggregate *(Coarse & Fine)	0 – 98%
02	Portland Cement*	2 – 25%
03	Pulverized Fly Ash / Supplementary Cementitious Materials	0 – 10%
04	Admixture	0 – 1%
05	Water	0 – 10%

<u>ITEM</u>	<u>CAS No.</u>		<u>TLV TWA</u>
01	14808-60-7	Respirable dust	0.1mg/m ³
02	65997-15-1	Inhalable dust	10mg/m ³
		Respirable dust	4 mg/m ³

* Cement and aggregate may contain crystalline silica (CAS No. 14808-60-7) depending on the proportion and crystalline silica content of the ingredients. Wet stage poses no risk or hazard.

SECTION 3 – HAZARDOUS IDENTIFICATION

Emergency Overview:

Short term exposure to wet concrete is not likely to cause an immediate hazard. However, exposure of sufficient duration to wet concrete can cause serious, potentially irreversible tissue (skin or eye) damage in the form of chemical (caustic) burns. The same type of tissue damage can occur if wet or moist areas of the body are exposed for sufficient duration to the dry ingredients in unhardened concrete.

Potential Health Effects:

Inhalation (chronic): This product may contain crystalline silica. Prolonged or repeated exposure may cause or aggravate other lung conditions.

Inhalation (acute): Breathing dust may cause nose, throat or lung irritation and choking.

The described effect depends on the degree of exposure.

Eye contact (acute/chronic): Exposure to airborne dust during the handling or mixing of the dry ingredients may cause immediate or delayed irritation or inflammation. Eye contact by splashes of wet concrete may cause effects ranging from moderate eye irritation to chemical burns and blindness. Such exposures require immediate first aid and medical attention to prevent significant damage to eye.

Skin contact (acute/chronic): Exposure during the handling or mixing of the dry ingredients in ready-mixed concrete may cause drying of the skin with consequent mild irritation or more significant effects attributable to aggravation of other conditions. Exposure to wet concrete may cause more severe skin effects including thickening, cracking or fissuring of the skin. Prolonged exposure can cause severe skin damage in the form of (caustic) chemical burns.

Some individual may exhibit an allergic response upon exposure to wet concrete. The response may appear in a variety of forms ranging from a mild rash to severe skin ulcers. Persons already sensitized may react to their first contact with the product. Other persons may first experience this effect after years of contact with wet unhardened concrete products.

Ingestion (acute/chronic): Although inadvertent ingestion of small quantities of wet concrete or its dry ingredients are not known to be harmful, accidental ingestion of larger quantities can be harmful and requires immediate medical attention.

SECTION 4 – FIRST AID MEASURES

Inhalation: Move person to fresh air. Seek medical attention for discomfort.

Eye contact: Rinse thoroughly with water. Seek medical attention for abrasions.

Skin contact: Wash with soap and water. Use moisturizing creams for irritated skin. Seek medical attention for burns.

Ingestion: Do not induce vomiting, but drink plenty of water. Seek medical attention for discomfort.

SECTION 5 – FIRE & EXPLOSION DATA

Flash Point:	None
Flammable Limit:	Not combustible
Lower Explosive Limit:	None
Upper Explosive Limit:	None
Extinguishing Media:	Not combustible
Fire Fighting Instruction:	Treat adjacent materials
Hazardous Combustion Products:	None
Unusual Fire & Explosion Hazards:	None

SECTION 6 – ACCIDENTAL RELEASE MEASURES

Collect dry material using a scoop. Avoid actions that cause dust to become airborne. Avoid inhalation of dust and contact with skin.

Scrape up wet material and place in an appropriate container. Allow the wet concrete to “harden” before disposal. Do not attempt to wash wet concrete down sewers or storm drains.

Wear appropriate personal protective equipment as described in Section 8.

Dispose of waste material according to local regulations.

SECTION 7 – HANDLING & STORAGE

Normal temperatures and pressures do not affect the material.

Promptly remove dusty clothing which is wet with concrete and launder before reuse. Wash thoroughly after exposure to dust or wet concrete.

Ready mixed concrete is premixed at a plant or in a truck mixer drum and delivered to the end user in semi-fluid state ready to be placed to set in final form.

SECTION 8 – EXPOSURE CONTROL & PERSONAL PROTECTION

Engineering Control:

Use exhaust ventilation to maintain dust levels below exposure limits in workplaces with poor ventilation and dusty conditions.

Eye protection:

Wear safety glasses with side shields or protective goggles to prevent contact with eyes. Wearing contact lenses when using this product under dusty conditions is not recommended.

Skin protection:

Prevention is essential to avoid potentially severe skin injury. Avoid contact with wet concrete products or its dry ingredients. Where prolonged exposure to wet concrete products might occur, wear impervious clothing and gloves to eliminate skin contact. Wear boots that are impervious to water to eliminate foot and ankle exposure.

Wet concrete may splash into open boot tops and saturate socks and remain in contact for a lengthy period of time. Prevention is to ensure that boots are fully laced up.

Do not rely on barrier creams; barrier creams should not be used in place of gloves.

Periodically wash areas contacted by wet concrete or its dry ingredients with a pH neutral soap and water. Wash again at the end of the work. If irritation occurs, immediately wash the affected area and seek treatment. If clothing becomes saturated with wet concrete, it should be removed and replaced with clean dry clothing.

Respiratory protection:

Under ordinary conditions no respiratory protection is required. Wear a NIOSH or MSHA approved particulate filter respirators to control exposure when ventilation or other controls are inadequate or discomfort or irritation is experienced.

SECTION 9 – PHYSICAL & CHEMICAL PROPERTIES

Appearance:	Gray Granular Mixture
Odor:	No distinct odor
Physical State:	Liquid
Specific Gravity (H ₂ O = 1):	1.7 to 2.5
pH(in water):	12 to 13
Solubility in Water:	Not applicable
Vapor Pressure:	Not applicable
Vapor Density:	Not applicable
Boiling Point:	>1000°C
Melting Point:	Not applicable
Evaporation Rate:	Not applicable

SECTION 10 – STABILITY & REACTIVITY

Stability: Stable

Incompatibility: Wet concrete is alkaline. As such it is incompatible with acids, ammonium salts and aluminum metal. Aluminum powder and other alkali and alkaline earth elements will react in wet mortar or concrete, liberating hydrogen gas. Concrete dissolves in hydrofluoric acid producing corrosive silicon tetrafluoride gas.

Silicates react with powerful oxidizers such as fluorine, chlorine, trifluorides, and oxygen difluoride.

Hazardous Decomposition: Will not occur

Hazardous Polymerization: Will not occur

SECTION 11 – TOXICOLOGICAL INFORMATION

No Information

SECTION 12 – ECOLOGICAL INFORMATION

No recognized unusual toxicity to plants or animals.

SECTION 13 – DISPOSAL

Disposal of waste material according to local regulations.

SECTION 14 – TRANSPORTATION DATA

Not a hazardous material and no transportation information required.

SECTION 15 – OTHER INFORMATION

A key to using ready mixed concrete product safely requires the user to recognize that portland cement chemically reacts with water, and that some of the intermediate products of this reaction (that is, those present while a concrete product is “setting”) pose a far more severe hazard than does portland cement itself.

While the information provided in this material safety data sheet is believed to provide a useful summary of the hazards of unhardened (wet) ready mixed concrete as it is commonly used, the sheet cannot anticipate and provide all of the information that might be needed in every situation. Inexperienced product users should obtain proper training before using this product.

In particular, the data furnished in this sheet does not address hazards that may be posed by materials other than natural sands and gravels mixed with portland cement and flyash to produce ready mixed concrete products. Users should review other relevant material safety data sheets before working with this product.