

Material Safety Data Sheet

(Concrete)

1.IDENTIFICATION

Chemical Name: N/A **Chemical Formula:** N/A
Trade Name: Ready Mix, Concrete Mix, Wet Concrete **Molecular Weight:** N/A
DOT Identification No: None
Formula: Mixture of Cement, aggregate/sand, water. Other agents may be used to control setting properties, color, etc.

2.PRODUCT AND COMPONENT DATA

Component(s)Chemical Name	CAS #	%(Approx)	Exposure Limits	
			Total Dust	Resp. Dust
Aggregate		0 to 60	10 mg/m3	5 mg/m3
Sand		1 to 50	10 mg/m3	5 mg/m3
Cement (Portland)	65997-15-1	1 to 25	10 mg/m3	5 mg/m3
Water				
Fly ash		1 to 25	10 mg/m3	5 mg/m3
Crystalline Silica	14808-60-7	0.01 to 5	.2 mg/m3	0.05 mg/m3

Note: Cements, Sand and Gravel may contain 0.1%-60% crystalline silica (CAS No. 14808-60-7) depending on the proportion and crystalline silica content of the ingredients. All ingredients may contain crystalline silica. Wet stage poses no risk or hazard.

3.PHYSICAL DATA

Appearance and odor: grey fluid/ hydraulic mixture. No distinct odor.

Specific Gravity: H2O= 1.0: 3.15

Boiling point (At 1 Atm.): N/A

Vapor Density in Air (Air =1): N/A

Vapor Pressure (mmHg @20 °C): N/A

% Volatile, By Volume (@100 °F): 0%

Evaporation Rate (at 1 Atm.and 25 EC;n-butyl acetate =1): 0

Solubility in Water: 0

PH: 12 to 13- as a solid: N/A

4.FIRE AND EXPLOSION HAZARD DATA

Flashpoint (Method used): Not Flammable

Lower Expl. Limit: N/A

Flammable Limits in Air: Not Flammable

Upper Expl. Limit: N/A

Extinguishing Agents: None Required

Unusual Fire and Explosion Hazards: N/A

5. HAZARDS IDENTIFICATION

Emergency Overview:

Concrete is a light gray fluid mixture that poses an immediate hazard to eye tissue. Exposure of sufficient duration to wet concrete can cause serious, potentially irreversible tissue (skin or eye) destruction in the form of chemical (caustic) burns, including third degree burns.

If footwear or clothing becomes saturated with wet concrete, remove immediately and wash area with water and mild soap. Do not allow prolonged contact.

Potential Health Effects:

Relevant routes of exposure are:

EYE CONTACT and SKIN CONTACT

Effects Resulting From EYE CONTACT:

Exposure to wet concrete 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 the eye.

Effects Resulting From SKIN CONTACT:

Discomfort or pain cannot be relied upon to alert a person to a hazardous skin exposure. Consequently, the only effective means of avoiding skin injury or illness involves minimizing skin contact, particularly contact with wet concrete. Exposed persons may not feel discomfort until hours after the exposure has ended and significant injury has occurred. Exposure to moist or wet concrete may cause more severe skin effects including thickening, cracking, fissuring of the skin. Prolonged exposure can cause severe skin damage in the form of (caustic) chemical burns.

Effects Resulting From INHALATION:

Concrete may contain amounts of crystalline silica. Prolonged exposure to respirable free crystalline silica may aggravate other lung conditions. It may also cause delayed lung injury including silicosis, a disabling and potentially fatal lung disease, and/or other diseases. (Also see "Carcinogenic Potential" below.)

Respirable exposure to silica in concrete may occur only if concrete is drilled, cut, ground or polished. Exposure to concrete dust may cause irritation to the moist mucous membranes of the nose, throat, and upper respiratory system. The dust may also leave unpleasant deposits in the nose.

Effects Resulting From INGESTION: Not Applicable

Chronic Effects

Some individuals may exhibit an allergic response upon exposure to ready-mix 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. Others may first experience this effect after years of contact with ready-mix concrete. Minimizing contact with skin is the basic protection to reduce this exposure.

Carcinogenic Potential

Ready Mix Concrete is not listed as a carcinogen by NTP, OSHA, or IARC. It may, however, contain trace amounts of substances listed as carcinogens by those organizations. Crystalline silica, a potential trace level contaminant in portland cement, is found in the aggregate components in varying percentages and is classified by IRAC as a known human carcinogen (Group 1). NTP has characterized respirable silica as "reasonably anticipated to be [a] carcinogen".

Medical Conditions That May Be Aggravated By Inhalation or Dermal Exposure:

Pre-existing upper respiratory and lung diseases.

Previous exposure to dust from hardened product.

Unusual or (hyper) sensitivity to hexavalent chromium (chromium (+6)) salts.

6. FIRST AID

Eyes

Immediately flush eyes thoroughly with water. Continue flushing for 15 minutes, including under the lids, for at least 15 minutes. Seek medical attention immediately.

Skin

Wash skin with water and pH neutral soap or mild detergent intended for use on skin.

If clothing or footwear is saturated remove immediately and wash area with water and mild soap.

If contact has been severe enough to cause reddening or actual burns to skin, place sterile bandage on area and seek medical attention.

Inhalation

In wet form, concrete cannot be inhaled.

Ingestion

In wet form, concrete is unlikely to be ingested. If concrete enters mouth, wash out with water immediately. Seek medical attention if any burning sensation or actual burns occur.

7. ACCIDENTAL RELEASE MEASURES

For spills, sweep and shovel into a waste disposal container. Flush with water for final clean up of floors, walkways, etc. Dispose of at an approved landfill or waste disposal site in accordance with local regulations.

8. HANDLING

Normal temperatures and pressures do not affect the material.

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

Ready Mix 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.

9. EXPOSURE CONTROL/PERSONAL PROTECTION

Eye Protection:

Safety glasses with side shields, or goggles, should be worn when engaged in activities where cement dust, wet cement, or concrete could contact the eye. In extremely dusty environments and unpredictable environments, wear unvented or indirectly vented goggles to avoid eye irritation or injury. Contact lenses should not be worn when working with ready mix concrete or fresh concrete products.

Skin Protection:

Prevention is essential to avoid potentially severe skin injury. Avoid contact with unhardened (wet) concrete products. If contact occurs, promptly wash affected area with soap and water. Wear impervious clothing and gloves to eliminate skin contact where prolonged exposure to unhardened ready mix concrete products might occur. Wear boots that are impervious to water to eliminate foot and ankle exposure. If standing in wet concrete rubber boots must be worn to prevent injury.

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 in contact with dry portland cement, wet cement, or concrete fluids with a pH-neutral soap. Wash again at the end of workday. If irritation occurs, immediately wash the affected area and seek treatment. Clothing saturated with wet concrete should be removed

immediately and replaced with clean, dry clothing. Do not allow clothing saturated with wet concrete to remain in contact with skin for any period of time.

Respiratory Protection:

Avoid actions that cause dust to become airborne. Use local or general ventilation to control exposures to below applicable exposure limits.

Use NIOSH/MSHA-approved (under 30 CFR 11) or NIOSH-approved (under 42 CFR 84 after July 10, 1998) respirators in poorly ventilated areas, if an applicable exposure limit is exceeded, or when dust causes discomfort or irritation.

Ventilation:

Use local exhaust or general dilution ventilation to control exposure within applicable limits.

10. TOXICOLOGICAL INFORMATION

Effects Of Acute Exposure:

Wet concrete mixtures can dry the skin, cause alkali burns, and irritate the eyes and upper respiratory tract. Ingestion can cause irritation of the throat.

Effects Of Chronic Exposure:

Dust from concrete can cause inflammation/irritation of the tissue lining the interior of the nose and the cornea (white) of the eye.

11. ECOLOGICAL INFORMATION

Ecotoxicity: No recognized unusual toxicity to plants or animals.

12. DISPOSAL CONSIDERATIONS

Dispose of waste material according to local, provincial, state, and federal regulations. (Since set concrete is stable, allow material to harden).

Dispose in an approved landfill.

Other Important Information:

Concrete should only be used by knowledgeable persons. Vital to using the product safely requires the user to recognize that portland cement chemically reacts with water and that some of the intermediate products of this reaction, during the setting stage, are the cause of the hazards when handling this product.

While the information provided in this material safety data sheet is believed to provide a useful summary of the hazards of concrete, as it is commonly used, one 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.

The data furnished in this sheet does not address hazards that may be posed by other materials mixed with concrete. Users should review other relevant material safety data sheets before working with concrete or working with products containing cement.

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13. TRANSPORTATION

DOT Hazard Classification: None

Placard Required: None

Label Required: Label as required by the OSHA Hazard Communication Standard [29 CFR 1910.1200 (f)] and applicable state and local laws and regulations.

For Further Information Contact: Place here the name, address, and telephone number of the operator or responsible party who can provide more info about the hazardous chemical.

For Further Information Contact:	4 Winds Concrete Inc.
Emergency Information	Quality Control Supervisor
	P.O. Box 152
	Hellertown, Pa. 18055-0152
	610-865-1788

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