

SAFETY DATA SHEET (SDS)
READY MIX CONCRETE/WET FRESHLY MIXED CONCRETE

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TRANSIT MIX CONCRETE CO.

444 E. Costilla Street | Colorado Springs, CO 80903

Phone: 719-475-0700 | Fax: 719-475-0266

transitmix.com

Section 1: Identification

TRADE NAMES: Cell Flow, Color Concrete, Concrete, Fiber Reinforced Concrete, Flowable Fill, Heavyweight Concrete, Lightweight Concrete, Pervious Concrete, Portland Cement Concrete, Ready Mix Grout, Self-Consolidating Concrete, Shotcrete

MANUFACTURER: Transit Mix Concrete Company
444 E. Costilla St.
Colorado Springs, CO 80903
Phone: 719-475-0700
Fax: 719-475-0226
Emergency Response: CHEMTREC (800) 424-9300

INTENDED USE: As a structural component in construction applications

Section 2: Hazard Identification

Irritant



Signal Word

Danger

Hazard Statement

- Causes severe skin burns (wet concrete). Within 12 to 48 hours after skin contact first, second, or third degree burns may occur. There may be no obvious pain at the time of exposure.
- Causes eye irritation, inflammation or serious alkali burns.
- May cause an allergic skin reaction.
- Harmful if swallowed.
- Dusts from cutting dry concrete or from dry mix may contain respirable crystalline silica. Long term exposure may cause respiratory system damage and disease including cancer.

Precautionary Statements

- Wear protective, water proof gloves, eye protection, and protective clothing including knee pads if kneeling.
- Wash thoroughly after handling.
- Do not handle until all safety precautions have been read and understood.
- Avoid eating, drinking and smoking when physically handling this product.
- Do not breathe the dust of hardened concrete.

Section 3: Composition/Information on Ingredients

COMPONENT(S) CHEMICAL NAME	% BY WEIGHT (Approx.):	CAS REGISTRY NO
Portland Cement	10 - 30%	65997-15-1
Limestone (CaCO ₃) (Calcium carbonate present if Limestone aggregates are used.)	0 – 65%	1317-65-3
Crystalline Silica (Quartz) (Concrete aggregate may contain silica)	0.5 - 80%	14808-60-7
Fly Ash which contains:	0 – 100%	68131-74-8
Calcium Oxide (CaO)	0 – 1%	1305-78-8
Silicon Dioxide SiO ₂	55 - 65%	7631-86-9
Aluminum Trioxide (Al ₂ O ₃)	22 - 28%	1344-28-1
Ferric Oxide Fe ₂ O ₃	3 – 7%	1309-37-1

The percent by weight crystalline silica represents the total weight and not the respirable fraction.

Section 4: First Aid Measures

- Skin:** In case of skin contact with wet concrete, including contact through saturated clothing, wash area immediately with pH neutral soap and water. If caustic burns occur or if irritation persists, seek medical attention.
- Eyes:** If contact occurs, flush with water for at least 15 minutes. Remove contact lenses. Seek medical attention.
- Inhalation:** If concrete dust is inhaled, remove to fresh air. If breathing difficulties or inflammation are experienced, seek medical attention.
- Ingestion:** Do not induce vomiting. If conscious, have the victim drink water. Seek medical attention.

Section 5: Fire Fighting Measures

- FLAMMABLE CHARACTERISTICS: Not flammable or combustible.
- FIRE AND EXPLOSION HAZARD: None.
- EXTINGUISHING AGENT: Water, or extinguishing agent appropriate to surrounding fire.
- HAZARDOUS COMBUSTION PRODUCTS: None.
- FIRE FIGHTING PROTECTION: Standard firefighter protective equipment and safety measures.

Section 6: Accidental Release Measures

Recovery and Neutralization

- Stop the flow of material, if this is without risk.

Materials and Methods for Clean-Up

- 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 material to harden before disposal.

Personal Precautions and Protective Equipment

- Wear appropriate personal protective equipment as described in Section 8.

Environmental Precautions

- Do not attempt to wash wet concrete down sewers, storm drains or into water bodies such as creeks, gullies, ditches, ephemeral streams, ponds, and rivers, etc.

Section 7: Handling and Storage

Handling Procedures

- Avoid contact with eyes and skin. Promptly remove clothing which is wet with concrete and launder before reuse. Wash thoroughly after exposure to wet concrete mixtures.
- Avoid breathing dust.
- Refer to Section 8 for personal protective equipment.

Incompatibilities

- Wet concrete is alkaline. As such it is incompatible with acids, ammonium salts and aluminum metal.

Section 8: Exposure Controls and Personal Protection

COMPONENT(S) CHEMICAL NAME	CAS REGISTRY NO	OSHA PEL EXPOSURE LIMIT (mg/m ³)	ACGIH TLV EXPOSURE LIMIT (mg/m ³)
Portland Cement	65997-15-1	^(T) 15 ^(R) 5	^(T) 10
Limestone (CaCO ₃)	1317-65-3	^(T) 15 ^(R) 5	^(T) 10
Crystalline Silica (Quartz)	14808-60-7	^(R) 10 ÷ [% quartz + 2]	^(R) 0.025
Particulate Not Otherwise Regulated	NA	^(T) 15 ^(R) 5	^(T) 10
Components Below are Present due to Fly Ash			
Calcium Oxide (CaO)	1305-78-8	^(R) 5	2
Silicon Dioxide SiO ₂ (Silica, Amorphous)	7631-86-9	^(R) 80 ÷ [% quartz + 2]	NA
Aluminum Trioxide (Al ₂ O ₃)	1344-28-1	5	1
Ferric Oxide Fe ₂ O ₃	1309-37-1	10	5

(T)= Total Dust, (R) = Respirable Dust

ENGINEERING CONTROLS

Ventilation: Use local, general or natural exhaust ventilation adequate for maintaining dust levels below the PEL/TLV exposure limits when working with hardened concrete or dry mix.

PERSONAL PROTECTIVE EQUIPMENT

Personal Protective Equipment: Respiratory

Respiratory protection is not usually required when working with wet concrete. If work creates dust above the levels shown in the table above, suitable NIOSH-approved respiratory protection should be worn.

Personal Protective Equipment: Hands

Wear impermeable/waterproof gloves.

Personal Protective Equipment: Eyes

When engaged in activities where wet concrete or its dry ingredients could contact the eye, wear safety glasses with side shields or goggles.

Personal Protective Equipment: Skin and Body

Wear impermeable/waterproof gloves, do not rely on barrier creams. Barrier creams should not be used in place of waterproof gloves. Wear a fully buttoned long-sleeved shirt, and full length trousers when working with wet concrete. If you have to stand in wet concrete, use waterproof boots that are tight fitting at the tops and high enough to keep concrete from flowing into them. If you are finishing concrete, wear kneepads to protect knees. Wash wet concrete, mortar, cement or cement mixtures from your skin with fresh clean water immediately after contact. Indirect contact through clothing can be as serious as direct contact, so promptly rinse out wet concrete, mortar, cement, or cement mixtures from clothing. Seek medical attention if you have persistent or severe discomfort.

Section 9: Physical and Chemical Properties

<u>Appearance:</u>	Hardened concrete products are odorless solid materials. Unhardened wet concrete has a faint odor, and is a gray, plastic, flowable, granular mud of varying color and texture. Dry mix is a gray powder mixed with aggregate.		
<u>Odor:</u>	Faint	<u>Vapor Density:</u>	Not Applicable
<u>Physical State:</u>	Paste that hardens to a solid	<u>Volatile Organic Compound content:</u>	None
<u>Specific Gravity:</u>	1.9 – 2.4 g/cc	<u>Flammability:</u>	Not Applicable
<u>pH:</u>	~10 - 14 (in water)	<u>Flash Point:</u>	Not Applicable
<u>Solubility in water:</u>	Dependent on Aggregate Type	<u>Upper/Lower Explosive Limits:</u>	Not Applicable
<u>Vapor Pressure:</u>	Not Applicable	<u>Auto-Ignition Temperature:</u>	Not Applicable
		<u>Partition Coefficient: :</u>	Not Applicable
		<u>Boiling, Freezing, Melting Point:</u>	Not Applicable
		<u>Evaporation Rate:</u>	Not Applicable

Section 10: Stability and Reactivity

Chemical Stability

This is a stable material.

Hazardous Reaction Potential

Will not occur.

Incompatible Products

Wet concrete is alkaline. As such it is incompatible with acids, ammonium salts and aluminum metal.

Hazardous Decomposition Products

None

Section 11: Toxicological Information

Acute Toxicity

Wet concrete is not known to be toxic. Toxicity related to major components of concrete: cement, fly ash, and silica sand are negated in wet concrete form. The matrix precludes the inhalation of these constituents which could normally be of an occupational safety concern.

Potential Health Effects: Inhalation

Toxicological information for Crystalline Silica

The ingredients in concrete contain crystalline silica. Exposure to these ingredients in excess of the applicable TLV or PEL may cause or aggravate other lung conditions. Exposure to the dry ingredients in concrete may cause irritation to the moist mucous membranes of the nose, throat, and upper respiratory system.

Carcinogenicity

Chronic exposure to crystalline silica of respirable size has been shown to cause silicosis, a debilitating lung disease. In addition, the International Agency for Research on Cancer (IARC) classifies crystalline silica as carcinogenic to humans, Group 1. The National Toxicology Program (NTP) classifies respirable crystalline silica as a known human carcinogen. The American Conference of Governmental Industrial Hygienists classifies crystalline silica as A2 – a suspected human carcinogen. Crystalline silica is classified by California Proposition 65 as a substance “known to the State of California to cause cancer.”

Toxicological information for Portland Cement

Contains trace amounts of hexavalent chromium which is classified by IARC and NTP as known human carcinogens.

Reproductive Toxicity

Chromium (hexavalent compounds) is listed on the Safe Drinking Water and Toxic Enforcement ACT of 1986 (California Proposition 65) as a substance known to the State to cause cancer and reproductive toxicity.

Specified Target Organ General Toxicity: Single Exposure

This product is not reported to have any single exposure specific target organ toxicity effects.

Specified Target Organ General Toxicity: Repeated Exposure

Causes damage to organs through prolonged or repeated exposure (lungs).

Section 12: Ecological Information

Prevent wet concrete from entering sewers, storm drains or water bodies such as creeks, gullies, ditches, ephemeral streams, ponds, and rivers, etc.

Section 13: Disposal Considerations

When dry, may be disposed of as an inert solid in a sanitary landfill or as construction waste or by other procedures in accordance with all federal, state and local regulations. Hardened concrete can be recycled.

Section 14: Transportation Information

This product is not regulated as a hazardous material by the United States (DOT) transportation regulations.

Section 15: Regulatory Information

All ingredients are included on the TSCA inventory.

Federal Regulations

SARA Title III: Not listed under Sections 302, 304, and 313

CERCLA: Not listed

RCRA: Not listed

OSHA: Dust generated during product use may be hazardous and potential respirable crystalline silica.

This product is considered by OSHA/MSHA to be a hazardous chemical and should be included in the employer's hazard communications program.

State Regulations

California Proposition 65: Respirable crystalline silica is known to the State of California to cause cancer. Chromium (hexavalent compounds) is listed as a substance known to the State to cause cancer and reproductive toxicity.

Section 16: Other Information

Abbreviations

ACGIH: American Conference of Governmental Industrial Hygienists

CFR: US Code of Federal Regulations

DOT: US Department of Transportation

IARC: International Agency for Research on Cancer

IDLH: Immediately Dangerous to Life and Health

MSHA: Mine Safety & Health Administration

NIOSH: National Institute of Occupational Safety & Health, US Department of Health & Human Services

NTP: National Toxicology Program

OSHA: Occupational Safety & Health Administration, US Department of Labor

PEL: Permissible Exposure Limit

SARA Title III: Title III of the Superfund Amendments & Reauthorization Act, 1986

TLV: Threshold Limit Value

TWA: Time-Weighted Average

FDA: Food & Drug Administration

The information within this Safety Data Sheet is presented in good faith and Transit Mix Concrete Company believes it to be correct and accurate as of the effective date given. However, Transit Mix Concrete Company makes no guarantees with respect to such accuracy and assumes no liability in connection with the use of the information contained herein which is not intended to be and should not be construed as legal advice or as insuring compliance with any federal, state or local laws or regulations. Any party using this product should review all such laws, rules, or regulations prior to use, including but not limited to the United States and Local State regulations.