

# Material Safety Data Sheets

Garrott Brothers Continuous Mix Inc.

Ready-Mix Concrete

P.O. Box 419 / 375 Red River Rd. Gallatin, TN 37066 Phone: 615-452-2385 Fax: 615-452-8952

## Section 1 - IDENTIFICATION

**Product Name:**  
Ready Mix Concrete – Plastic State

**Previous MSDS:**  
updated yearly

**Supplier/Manufacture:**  
Garrott Brothers Continuous Mix Inc.  
P.O. Box 419/375 Red River Rd.  
Gallatin, TN 37066

**Revised Date:**  
2-11-10

**Chemical Name / Synonyms:**

**Prepared By:**  
Andrew J. Rucker / Daniel Bugbee

**Chemical Family:**  
Calcium Compounds  
Silica Compound

## Section 2 – COMPONENTS

### Hazardous Ingredients:

### Total Dust

### Respirable Dust

**Portland Cement (CAS # 65997-15-1) – approximately 2% - 26% by weight**

ACGIH TLV	10 mg/m <sup>3</sup>	N/A
OSHA PEL	15 mg/m <sup>3</sup>	5mg/m <sup>3</sup>
OSHA PEL	N/A	50 mppcf (crystalline silica <1%)

**Aggregates (CAS # none) – approximately 36% - 92% by weight**

ACGIH TLV	10 mg/m <sup>3</sup>	
OSHA PEL	15 mg/m <sup>3</sup>	5mg/m <sup>3</sup>

**Flyash (CAS # 68131-74-8) – approximately 0% - 25% by weight**

ACGIH TLV	10 mg/m <sup>3</sup>	
OSHA PEL	15 mg/m <sup>3</sup>	5 mg/m <sup>3</sup>

**Crystalline Silica (CAS # 14808-60-7) – approximately 5% - 13% by weight**

ACGIH TLV		0.1 mg/m <sup>3</sup>
OSHA PEL	2 mg/m <sup>3</sup>	(30mg/m <sup>3</sup> (13% SiO <sub>2</sub> )
OSHA PEL		0.7mg/m <sup>3</sup> / (10 mg/m <sup>3</sup> / (13% SiO <sub>2</sub> +2))
OSHA PEL		13.8 mppcf (250 /( 13% SiO <sub>2</sub> +5)) mppcf

**Water (CAS # 77321-85) – approximately 6% - 13% by weight**

### Trace Elements:

Ready Mix concrete is made from natural materials mined from the earth. Trace amounts of naturally occurring elements might be detected during chemical analysis of these materials.

### Additives:

Certain additives may be incorporated in the ready mix concrete and MSDS's are available for such additives upon request.

## Section 3 -- HAZARDS 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.

### Routes of Exposure:

#### **Eye Contact:**

Exposure to airborne dust during the handling or mixing of the dry ingredients in ready-mix 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 (see Section 4) and medical attention to prevent significant damage to the eye.

#### **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 during the handling or mixing of the dry ingredients in ready-mix 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 individuals 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 on their first contact with the product. Other persons may first experience this effect after years of contact with wet unhardened concrete products.

#### **Ingestion:**

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.

#### **Inhalation:**

The ingredients in ready-mix concrete contain crystalline silica. Exposure to these ingredients in excess of the applicable TLV or PEL (see Section 2) may cause or aggravate other lung conditions.

Exposure to the dry ingredients in ready-mix concrete may cause irritation to the moist mucous membranes of the nose, throat, and upper respiratory system. also Medical Conditions which may be aggravated by inhalation or dermal exposure: Pre-existing upper respiratory and lung diseases by exposure to the dry ingredients.

Persons with unusual hyper sensitivity, to chemicals, dust and metallic compounds may experience adverse reactions to wet concrete.

#### **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 these organizations, including but not limited to: crystalline silica, hexavalent chromium, lead compounds, mercury compounds, nickel compounds, and possibly other chemicals.

## Section 4 — FIRST AID

**Eyes:** Immediately flush eyes thoroughly with water. Continue flushing eyes for at least 15 minutes, including under lids, to remove all particles. Call physician immediately.

**Skin:**

Wash skin with cool water and pH-neutral soap or mild detergent intended for use on skin. Seek medical treatment in all cases of prolonged exposure to wet concrete, liquids from wet concrete products, or prolonged wet skin exposure to the dry ingredients in ready-mix concrete.

**Ingestion:**

Do not induce vomiting. If conscious, have the victim drink plenty of water and call a physician immediately.

**Inhalation of Airborne Dust:**

Remove to fresh air. Seek medical help if coughing and other symptoms do not subside. (Inhalation of gross amounts of the dry ingredients in ready-mix concrete required immediate medical attention.)

## Section 5 — FIRE & EXPOLOSION DATA

Flash Point:	None	Extinguishing Media:	Not Combustible
Lower Explosive Limit:	None	Special Fire Fighting Procedures:	None
Upper Explosive Limit:	None	Hazardous Combustion Products:	None
Auto Ignition Temperature:	Not Combustible	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 protection equipment as described in Section 8

Dispose of waste material according to local, state, and federal regulations.

## Section 7 — HANDLING & STORAGE

Normal temperatures and pressures do not affect the material.

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

## Section 8 – EXPOSURE CONTROLS / PERSONAL PROTECTION

### **Eye Protection:**

When engaged in activities where wet concrete or its dry ingredients could contact the eye, wear safety glasses with side shields or goggles. 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 around wet concrete or its dry ingredients. If contact occurs, promptly wash affected area with soap and water. Where prolonged exposure to wet concrete products might occur, wear impervious clothing and gloves to eliminate skin contact. Where boots that are impervious to water to eliminate foot and ankle exposure.

### **Skin Protection:**

Prevention is essential to avoid potentially severe skin injury. Avoid contact with wet concrete products or its dry ingredients. If contact occurs, promptly wash affected area and seek treatment. If clothing becomes saturated with wet concrete, it should be removed and replaced with clean dry clothing.

### **Respiratory Protection:**

Avoid actions that cause dust exposure to occur. Use local or general ventilation to control exposures. Review properties in section 9 & 10 for applicable exposures limits.

NIOSH approved particulate filter respirators should be used in the context of respiratory protection programs meeting the requirements of OSHA respiratory and / or filter cartridge selection should be used on American National Standards Institute (ANSI) Standards Z88.2 Practices for Respiratory Protection.

### **Ventilation:**

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

### Section 9 — PHYSICAL & CHEMICAL PROPERTIES

Appearance:	Gray Granular Mixture	Vapor Pressure:	Not Applicable
Odor:	No Distinct Odor	Vapor Density:	Not Applicable
Physical State:	Liquid	Boiling Point:	Not Applicable
Specific Gravity (H <sub>2</sub> O=1):	1.70 to 3.00	Melting Point:	Not Applicable
PH (in water) (ASTM D 1293-95):	12 to 13	Evaporation Rate:	Not Applicable
Solubility in Water:	Slightly Soluble		

### Section 10 - STABILITY & REACTIVITY

Stability:	Stable
Conditions to Avoid:	Unintentional contact with water
Incompatibility:	Wet Ready-Mix concrete is alkaline. As such it is incompatible with acids, ammonium salts and aluminum metal
Hazardous Decomposition:	Will not spontaneously occur. Adding water results in hydration and produces (caustic) calcium hydroxide
Hazardous Polymerization:	Will not occur

### Section 11 - TOXICOLOGICAL INFORMATION

NIOSH conducted a study, "The Mortality of U.S. Portland Cement and Quarry Workers" (March 1985) which found: "There is no excess mortality from all causes of death, lung cancer, non-malignant respiratory disease, or ischemic heart disease" among workers studied.

### Section 12 - ECOLOGICAL INFORMATION

Ecotoxicity: No recognized unusual toxicity to plants or animals

Relevant Physical & Chemical Properties: See Section 9 and 10

### Section 13 - DISPOSAL

Dispose of waste material according to local, state, and federal regulations. (Since ready-mix concrete is stable, uncontaminated unused dry material may be saved for future use.)

## Section 14 - TRANSPORTATION DATA

Hazardous Materials Description/Proper Shipping Name: Ready-Mix concrete is not hazardous under U.S. Department of Transportation (DOT) regulations.

Hazard Class: Not Applicable

Identification Number: Not Applicable

Required Label Text: Not Applicable

Hazardous Substances/Reportable Quantities (RQ): Not Applicable

## Section 15 - OTHER REGULATORY INFORMATION

Status under OSHA Hazard Communication Standard, 29 CFR 1910.1200:

Unhardened Ready-Mix concrete is considered a "hazardous chemical" under this regulation, and should be included in the employer's hazard communication program.

Reportable Quantities under the Clean Water Act, CERCLA, and EPCRA, 40 CFR 117, 302 and 355: Unhardened Ready-Mix concrete is not listed.

Hazard Category and Applicability of EPCRA Hazardous Substance Inventory Reporting, 40 CFR 370: Unhardened Ready-Mix concrete qualifies as a "hazardous substance".

Applicability of EPCRA Toxic Chemical Release Inventory (TRI) Reporting, 40 CFR 372:

Unhardened Ready-Mix concrete is not a TRI listed chemical, however TRI listed constituents are present in concentrations below the Supplier Notification De Minimums Levels.

Status under the Toxic Substances Control Act, 40 CFR 710:

Unhardened Ready-Mix concrete and the chemicals present in Unhardened Ready-Mix concrete are on the TSCA inventory list. (Continued) Status under the Federal Hazardous Substances Act and Its Regulations: Unhardened Ready-Mix concrete is a "hazardous substance" subject to the following labeling requirements for consumer use.

## Section 16 — OTHER INFORMATION

### Abbreviations:

ACGIH	American Conference of Governmental Industrial Hygienists
ANSI	American National Standards Institute
CAS	Chemical Abstract Service
CERCLA	Federal Comprehensive Environmental Response, Compensation, and Liability Act (Superfund)
CFR	Code of Federal Regulations
DOT	Department of Transportation
EPCRA	Emergency Planning and Community Right-to-Know Act of 1986
IARC	International Agency for Research on Cancer
m <sup>3</sup>	Cubic Meter
mg	Milligram
mppcf	Million Particles per Cubic Foot
MSDS	Material Safety Data Sheet
MSHA	Mine Safety and Health Administration
NIOSH	National Institute of Occupational Safety and Health
NTP	National Toxicology Program
OSHA	Occupational Safety and Health Administration
PEL	Permissible Exposure Limit
RQ	Reportable Quantities
SiO <sub>2</sub>	Crystalline Silica, Quartz
TLV	Threshold Limit Values
TRI	Toxic Release Inventory
TSCA	Toxic Substance Control Act

*The information provided in this material safety data sheet is believed to provide a useful summary of the hazards of unhardened (plastic) Ready – Mix concrete as it is commonly used. 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 – Mix concrete products. The information provided herein was believed by Garrott Brothers Continuous Mix Inc. to be accurate at the time of preparation or prepared from sources believed to be reliable, but it is the responsibility of the user to investigate and understand other pertinent sources of information to comply with all laws and procedures applicable to the safe handling and use of the product. In no event shall Seller be liable for incidental or consequential damages, whether Buyer's claim is based on contract, breach of warranty, negligence or otherwise.*