

SAFETY DATA SHEET

Rieth-Riley Construction Co., Inc.
 P.O. Box 477, Goshen, IN 46527-0477
 Phone (574) 875-5183; Fax (574) 875-8405;
 24-Hour Emergency No. CHEMTREC 1-800-262-8200



Prepared 11/24/2015

SECTION 1	IDENTIFICATION
Product Name:	Plant-Mixed Portland Cement Concrete
CAS No.:	65997-15-1 (Portland Cement)
Trade Name:	Ready-Mix Concrete
Synonyms:	Concrete, Pervious Concrete, Self-Consolidating Concrete, Flowable Fill, Grout, Stucco, Permeable Concrete, Roller Compacted Concrete, Colored Concrete, Fiber Reinforced Concrete, Gunite, Shotcrete.
Type of Products:	Concrete is widely used in construction.

SECTION 2	HAZARD(S) IDENTIFICATION
Classifications:	Carcinogenicity – Category 1A
	Skin corrosion/irritation – Category 1B
	Specific Target Organ Toxicity, single exposure – Category 3
	Specific Target Organ Toxicity, repeated exposure – Category 2
Pictograms:	
Signal Word:	DANGER
Hazard Statements:	<ul style="list-style-type: none"> • Corrosive – causes severe skin burns and eye damage • Harmful by inhalation (may contain respirable crystalline silica) • May cause damage to organs (lungs) through prolonged or repeated inhalation. May cause respiratory irritation.
Precautionary Statements:	<p>Do not handle until this safety information contained in this SDS has been read and understood. Exposure of sufficient duration to wet concrete can cause serious, potentially irreversible tissue (skin, eye, respiratory tract) damage due to chemical (caustic) burns, including third degree burns. Do not breathe dusts. If inhaled (excessive concentrations), remove to fresh air. Inhaling respirable dust may aggravate existing respiratory system disease(s). Exposure to dust may aggravate existing skin and/or eye conditions. Do not eat, drink, smoke, apply cosmetics while handling these products. Avoid prolonged contact of the material with skin. Unhardened concrete is capable of causing dermatitis by irritation and allergy. Concrete may cause immediate or delayed irritation or inflammation of the skin. If on skin: wash affected skin with a mild soap and cool potable water. Take off contaminated clothing and wash it before reuse. Eye contact with wet concrete can cause eye irritation, chemical burns, and blindness. Dust in eyes: flush eyes with running cool potable water for at least 20 minutes. Remove contact lenses, if present and easy to do, and continue rinsing. (However, it is not recommended to wear contact lenses when handling this product).</p>

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SECTION 2	HAZARD(S) IDENTIFICATION
	<p>Seek medical attention for abrasions and burns. If swallowed and if gastrointestinal discomfort occurs give a large quantity of water if person is conscious. Do not induce vomiting. Seek medical attention immediately.</p> <p>Avoid creating dust when handling, using, storing. Use with adequate ventilation to keep exposure below Permissible Exposure Limits.</p> <p>Dispose in accordance with local/regional/national/international regulations.</p>

SECTION 3	COMPOSITION/INFORMATION ON INGREDIENTS	
	<p>Unhardened concrete is an odorless semi-fluid, flowable, granular paste of varying color and texture. Concrete contains cement which is manufactured from materials mined from the earth and is processed using energy provided by fuels. Trace amounts of chemicals may be detected during chemical analysis such as potassium and sodium sulfate compounds, chromium compounds, nickel compounds, and other trace compounds.</p>	
	CAS Registry No.	% by Weight (Approximately)
Component		
Aggregates (crushed stone)	1317-65-3	36 – 92
Portland Cement	65997-15-1	2 – 26
Fly Ash	68131-74-8	0 – 25
Crystalline Silica (Quartz)	14808-60-7	5 – 13
CAS Chemical Abstract Service Any concentration listed may vary due to batch variation(s).		

SECTION 4	FIRST AID MEASURES
Inhalation:	Remove to fresh air. Seek medical attention if coughing and other symptoms do not subside. Inhalation of gross amounts of the dry ingredients in Ready-Mix Concrete requires IMMEDIATE medical attention. It may be dangerous to the person (e.g. First Responders) providing mouth-to-mouth resuscitation.
Eyes:	Immediately flush eye(s) with plenty of clean, cool potable water for at least 20 minutes while holding eyelids open. Remove contact lenses, if present and easy to do, and continue rinsing to remove all particles. Get medical attention for abrasions and burns.
Skin:	Wash skin with mild soap and clean, cool potable water. Seek medical treatment if irritation is caused by prolonged exposure to wet concrete, liquids from wet concrete products, or prolonged skin exposure to dry ingredients in Ready-Mix Concrete. Burns should be treated as caustic burns. Ready-Mix Concrete causes skin burns with little warning. Pain or the severity of the burn may not be known until hours after exposure.
Ingestion:	If person is conscious, give a large quantity of water. Do not induce vomiting. Contact a licensed health care professional immediately.

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SECTION 5	FIRE-FIGHTING MEASURES
Extinguishing Agent:	Not flammable/not combustible.
Unusual Fire and Explosion Hazards:	None reported (However, Ready Mix Concrete reacts slowly with water forming hydrated compounds, releasing heat and producing a strong alkaline solution until the reaction is substantially completed).
Special Fire Fighting Procedures:	None known.
Hazardous Combustion Products:	None known.

SECTION 6	ACCIDENTAL RELEASE MEASURES
Spilled Material: Collect dry material with a scoop or similar. Avoid actions that cause dust to become airborne. Persons involved with the handling of wet unhardened concrete should take steps to avoid contact with the eyes and skin, through the use of proper personal protective equipment. Wet unhardened concrete should be recycled or allowed to harden before disposal. Do not wash concrete down sewage and drainage systems or into bodies of water such as lakes, ponds, streams, wetlands, etc.	

SECTION 7	HANDLING AND STORAGE
<p>Avoid contact with skin and eyes. Promptly remove clothing which is wet with concrete and launder before reuse. Wash thoroughly after exposure to wet concrete mixtures.</p> <p>Dust containing respirable crystalline silica and other components may be generated by crushing, cutting, grinding, or drilling hardened concrete or concrete products. Do not breathe dust. Avoid contact with skin and eyes. Do not store near food, beverages, or personal items. Observe appropriate Industrial Hygiene practices.</p> <p>Ready Mix Concrete reacts slowly with water forming hydrated compounds, releasing heat and producing a strong alkaline solution until the reaction is substantially completed.</p>	

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SECTION 8		EXPOSURE CONTROLS/PERSONAL PROTECTION	
Component	OSHA PEL	ACGIH TLV-TWA	
Portland Cement	Total Dust: 15 mg/m ³	1.0 mg/m ³	
	Respirable Dust: 5 mg/m ³		
Respirable Particulates/Dust	5 mg/m ³ TWA	Respirable Particles: 3 mg/m ³ TWA	
		Inhalable Particles: 10 mg/m ³ TWA	
Particulates (not otherwise regulated)	Total Dust: 15 mg/m ³ TWA	None Established	
Crystalline Silica (Quartz)	10 mg/m ³ /% SiO ₂ + 2	0.025 mg/m ³	
Crystalline Silica (Cristobalite)	Use ½ the value calculated from the count or mass formula for quartz	0.025 mg/m ³	
Crystalline Silica (Tridymite)	Use ½ the value calculated from the count or mass formula for quartz	None Established	
mg/m ³ milligrams per cubic meter of air volume. ACGIH American Conference of Governmental Industrial Hygienists OSHA Occupational Safety and Health Administration PEL Permissible Exposure Limit TLV Threshold Limit Value TWA Time Weighted Average			
Ventilation:	When cutting, grinding, crushing or drilling hardened concrete, use local exhaust ventilation or other methods to maintain dust levels below exposure limits.		
Respiratory Protection:	It is good practice to conduct personal monitoring to determine a worker's potential exposure airborne concentrations of respirable and/or total dust and respirable crystalline silica during handling and use of this product, including activities which generate dust (such as cutting, grinding, crushing, or drilling hardened concrete). If concentrations are below applicable exposure limits, respiratory protection is not required. If concentrations exceed the applicable exposure limits and while engineering controls are being implemented, use a NIOSH approved air-purifying respirator equipped with the appropriate filter in accordance with an employer/company-specific Respiratory Protection Program.		
Eye & Face Protection:	Safety glasses with side shields should be worn as minimum protection when cutting, grinding, crushing, or drilling hardened concrete. Dust goggles should be worn when excessively (visible) dusty conditions are present or anticipated. When there is a splash hazard working with wet unhardened concrete, wear safety glasses with side shields or goggles. Wearing contact lenses when working with unhardened concrete is not recommended. A safety shower (e.g., eye and body wash) station should be immediately available at the work area.		
Skin Protection:	When handling wet unhardened concrete, wear impervious, waterproof, abrasion and alkaline-resistant gloves to prevent skin contact. Do not rely on barrier creams instead of gloves.		

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SECTION 8	EXPOSURE CONTROLS/PERSONAL PROTECTION
Body Protection:	Where prolonged exposures to unhardened concrete products might occur, wear impervious and waterproof clothing to eliminate skin contact. Where required, wear boots that are impervious to water to eliminate foot and ankle exposure. If clothing becomes saturated with wet concrete, it should be removed and replaced with clean, dry clothing. Do not allow material to get in boots.
Personal Hygiene:	Wash dust-exposed hands with soap and water before eating, drinking, smoking, applying cosmetics, or using toilet facilities. Wash work clothes after each use. Clean skin with soap and water. Avoid breathing dust.

SECTION 9	PHYSICAL AND CHEMICAL PROPERTIES
Appearance:	Gray granular mixture, liquid, semi-solid
Odor and Odor Threshold:	No odor
pH:	12 – 13 (in water)
Specific Gravity:	1.70 – 3.00 (wet)
Melting Point/Freezing Point:	Not applicable
Boiling Point:	Not applicable
Flash Point:	Not applicable
Flammability/Explosive Limits:	Not flammable
Auto-ignition Temperature:	Not flammable
Vapor Pressure:	Not applicable
Vapor Density:	Not applicable
Solubility:	Slightly soluble

SECTION 10	STABILITY
Stability:	Stable (wet unhardened concrete sets and hardens in approximately 2 – 8 hours and is no longer hazardous).
Incompatibility (Materials to Avoid):	<p>Wet Ready-Mix Concrete is alkaline. It is incompatible with acids, ammonium salts, and aluminum metal. Cement dissolves in hydrofluoric acid, producing corrosive silicon tetrafluoride gas. Cement reacts with water to form silicates and calcium hydroxide.</p> <p>Silica reacts violently with powerful oxidizing agents such as fluorine, boron trifluoride, chlorine trifluoride, manganese trifluoride, oxygen difluoride, and hydrogen peroxide yielding possible fire and/or explosions. Silica is also incompatible with acetylene and ammonia. Silica dissolves readily in hydrofluoric acid producing a corrosive gas – silicon tetrafluoride.</p> <p>Ready Mix Concrete reacts slowly with water forming hydrated compounds, releasing heat and producing a strong alkaline solution until the reaction is substantially completed).</p>

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SECTION 10	STABILITY
Conditions to Avoid:	Avoid contact with incompatible materials (as above) and do not allow wet unhardened concrete to harden on tools or surfaces.
Hazardous Decomposition Products:	Silica dissolves in hydrofluoric acid producing a corrosive gas-silicon tetrafluoride.
Hazardous Polymerization:	Not known to polymerize.

SECTION 11	TOXICOLOGICAL INFORMATION
Wet concrete is not known to be toxic. Toxicity related to major components of concrete including cement, fly ash and silica sand are negated in wet concrete form. Fresh concrete is abrasive and alkaline.	
Primary Routes of Exposure:	Inhalation, Ingestion
Eye Contact:	Exposure to airborne dust during the sawing of hardened concrete or handling of the dry ingredients may cause immediate or delayed irritation or inflammation. Eye contact by splashes of wet concrete may cause eye effects that range from moderate eye irritation to chemical (caustic) burns.
Skin Contact:	Discomfort or pain cannot be relied upon to alert a person to a hazardous skin exposure. The only effective means of avoiding skin injury is prevention of contact with wet concrete. Exposure handling or mixing of the dry ingredients may cause drying of the skin. Exposure to wet concrete can cause severe skin effects including thickening, cracking, and/or fissuring of the skin. Prolonged exposure can cause severe skin damage in the form of caustic burns.
Skin Absorption:	Not expected to be a significant route of exposure
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 require immediate medical attention.
Inhalation:	Repeated and prolonged or chronic exposure to respirable dust in excess of allowable exposure limits can result in pneumoconiosis, a lung disease. Repeated and prolonged (chronic) exposure to respirable crystalline silica-containing dust in excess of allowable exposure limits may cause silicosis, a progressive pneumoconiosis, and possibly lung cancer. Silicosis increases the risk of contracting pulmonary tuberculosis.
Medical Conditions Aggravated By Exposure:	Inhaling respirable dust and/or crystalline silica may aggravate existing respiratory system diseases(s) such as bronchitis, emphysema, chronic obstructive pulmonary disease (COPD). Exposure to dust may aggravate existing skin and/or eye conditions. Smoking and COPD may also exacerbate the effects of excessive exposure to this material.

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SECTION 11	TOXICOLOGICAL INFORMATION
Carcinogenicity:	<p>Respirable Crystalline Silica</p> <p>Crystalline Silica: The IARC concluded that there is “sufficient evidence in humans for the carcinogenicity of crystalline silica in the form of quartz or Cristobalite,” there is “sufficient evidence in experimental animals for the carcinogenicity of quartz dust” and there is “limited evidence in experimental animals for the carcinogenicity of Tridymite dust and Cristobalite dust”. The overall IARC evaluation is that “crystalline silica inhaled in the form of quartz or Cristobalite dust is carcinogenic to humans (Group I)”. The IARC evaluation noted that not all industrial circumstances studied evidenced carcinogenicity. The NTP has listed respirable crystalline silica as a known human carcinogen. The American Conference of Governmental Industrial Hygienists (ACGIH) has listed respirable crystalline silica (quartz) as a suspected human carcinogen (A-2 designation, 2015). The Occupational Safety and Health Administration (OSHA) does not list crystalline silica on the carcinogen list.</p> <p>California Proposition 65 – Crystalline silica was listed in 1996 on the Safe Drinking Water and Toxic Enforcement Act of 1986 as a “chemical known to the state to cause cancer or reproductive toxicity.”</p>
Specific Target Organ Toxicity (Acute Exposure):	This product is not reported to have any single exposure specific target organ toxicity effects.
Specific Target Organ Toxicity (Chronic Exposure):	Causes damage to organs through prolonged or repeated exposure to lungs.
Signs & Symptoms of Overexposure:	Symptoms of silicosis include (but may not be limited to): shortness of breath, difficulty breathing upon exertion, coughing, diminished chest expansion, reduction in lung volume, right heart enlargement, or failure.

SECTION 12	ECOLOGICAL INFORMATION
If fresh concrete is accidentally spilled and reaches water, it can result in a slight rise in pH. Hardened concrete is inert.	

SECTION 13	DISPOSAL CONSIDERATIONS
Hardened concrete can be recycled. Inert. Dispose of waste and containers in compliance with applicable local, State, Federal regulations. Allow wet unhardened concrete to harden and dispose of in a landfill as solid waste.	

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SECTION 14	TRANSPORT INFORMATION
U.S. Department of Transportation (USDOT):	Not regulated
Transportation of Dangerous Goods (TDG):	Not regulated
IATA:	Not regulated
IMDG-Code:	Not regulated

SECTION 15	IDENTIFICATION
CERCLA:	This product is not listed as a CERCLA hazardous substance (40 CFR 302.4)
TSCA Status:	Portland cement and crystalline silica are exempt from reporting under the inventory update rule. TSCA 6, Final Risk Assessment, Chromium ion (Cr ⁶⁺)
DSL Status:	All components of this product are on the Canadian DSL list.
SARA 311/312 Hazards:	Considered a hazardous and a delayed health hazard.
Penn. RTK:	US Pennsylvania Worker and Community Right-to-Know Law (34 PA Code Chap. 301-323): Quartz silica is considered hazardous for purposes of this Act, but it is not a special hazardous substance or an environmental hazardous substance.
Mass. RTK:	US Massachusetts Commonwealth's Right-To-Know Law (Appendix A to 105 Code of Massachusetts Regulations Section 670.000). Respirable crystalline silica is considered toxic when used in abrasive blasting and molding. Limestone and Portland Cement
NJ RTK:	US New Jersey Worker and Community Right-To-Know Act (New Jersey Statute Annotated Section 34: 5A-5). Respirable Crystalline Quartz Silica (as well as other forms). Limestone and Portland Cement
California Prop 65:	Warning! This product contain chemicals (Respirable Crystalline Quartz Silica and Chromium, hexavalent) known to the State of California to cause cancer.

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SECTION 16	OTHER INFORMATION
Label Requirements:	
OSHA:	Label as required by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
WHMIS Classification:	<p>Products containing crystalline silica and calcium carbonate are classified as D2A “Materials Causing Other Toxic Effects,” and E, “Corrosive” and are subject to WHMIS requirements.</p> <div style="text-align: center;"> </div>
Disclaimer:	<p>The information contained herein is furnished without warranty of any kind. Employers should use this Information only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use of these materials and the safety and health of employees. The data in this SDS was 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, standards, and regulations applicable to the safe handling and use of these products and to determine the suitability of the product for its intended use.</p>