

SECTION 1 - IDENTIFICATION

Product Name: Ready Mixed Concrete (Concrete)

CAS No: N/A

Product Use: Ready Mix Concrete is widely used as a structural component used in structural and civil engineering. Other means of Identification: Grout, Permeable Concrete, Shotcrete, Gunite, Colored Concrete, Flowable Fill, Roller-Compacted Concrete, Fiber Reinforced Concrete.

Chemical Family: N/A

Chemical Name and Synonyms: N/A

Formula: This product consists of Portland cement, flyash, sand, aggregate, and admixtures, individual compositions of constituents will vary within the mix design ranges.

Supplier/Manufacturer: Buffalo Ridge Concrete, Inc.

Emergency Contact Information: Buffalo Ridge Concrete, Inc.
Dan Scotting (507) 820-0173

SECTION 2 – HAZARD IDENTIFICATION**Hazard 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.

Use proper engineering controls, work practices, and personal protective equipment (PPE) to prevent exposure to wet or dry concrete.

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

GHS Label Elements**Symbols****Signal Word****Danger**



Safety Data Sheet (Ready Mixed Concrete)

GHS Hazard Classification: Wet Concrete

Acute Toxicity Oral (Category 4)
Acute Toxicity Dermal (Category 4)
Skin Corrosion / Irritation (Category 1B)
Skin Sensitization (Category 1)

Hazard Statements: Wet Concrete

H302 Harmful if Swallowed
H312 Harmful in contact with skin
H314 Causes severe skin burns and eye damage
H317 May cause an allergic skin reaction

Precautionary Statements: Prevention and Response for Wet Concrete

- Do not get in eyes, on skin, or on clothing. (P262)
- Wash thoroughly after handling (P264)
- IF ON SKIN: wash with plenty of soap and water (P302+352)
- Wash contaminated clothing before reuse (P363)
- IF SKIN irritation or rash occurs: Get medical advice/attention. (P333+P313)
- IF IN EYES: rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. (P305+ P351+P338)
- IF eye irritation persists: Get medical advice/attention (P337+P313)
- Do not eat, drink or smoke when using this product (P270)
- Wear protective gloves/protective clothing/eye protection/face protection (P280)
- IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. (P301+P330+P331)
- Immediately call a POISON CENTER or doctor/physician if you feel unwell (P312)

GHS Hazard Classification: Hardened Concrete

Acute Toxicity Inhalation (Category 4)
Respiratory Sensitisation (Category 1)

Specific Target Organ Toxicity Repeat Exposure (Category 1)

Carcinogenicity (Category 2)

Hazard Statements: Hardened Concrete

H332 Harmful if inhaled
H334 May Cause allergy or asthma symptoms or breathing difficulties if inhaled
H372 Causes damage to organs through prolonged or repeated exposure. (lungs)
H351 Suspected of causing cancer

Precautionary Statements: Prevention and Response for Hardened Concrete

- Avoid breathing dust/fume/gas/mist/vapours/spray. (P261)
- Use personal protective equipment as required. (P262)
- IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. (P304+P341)
- IF exposed or concerned: Get medical advice/attention. (P333+P313)



Safety Data Sheet (Ready Mixed Concrete)

SECTION 3 – COMPOSITION / INFORMATION ON INGREDIENTS

Ready Mix Concrete Ingredients & Their Exposure Limits:

Current ACIH TLV for 8 hour Exposure

Chemical Entity/Ingredient	CAS No:	Percentage of Mix	Total Dust (Mass) mg/m ³	Respirable Dust (Mass) mg/m ³
Crushed stone or gravel		0 to 60	10 mg/m ³	5 mg/m ³
Sand		1 to 50	10 mg/m ³	5 mg/m ³
Portland Cement	65997-15-1	1 to 25	10 mg/m ³	5 mg/m ³
Water				
Fly Ash		1 to 25	10 mg/m ³	5 mg/m ³
Crystalline Silica	14808-60-7	0.01 to 5	2 mg/m ³	0.05 mg/m ³

Note:

Cements and 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.

SECTION 4 – FIRST AID MEASURES

- **Eyes**

Immediately flush eyes thoroughly with water. Continue flushing for 15 minutes, including under the lids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Seek medical attention immediately.

- **Skin**

Wash skin with water and pH neutral soap or mild detergent intended for use on skin. If contact has been severe enough to cause reddening or actual burns to skin, place sterile bandage on area and seek medical advice/attention.

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

- **Inhalation**

In wet form, concrete cannot be inhaled.

In hardened form (dust), if inhaled and if breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. If exposed or concerned: Get medical advice/attention.

- **Ingestion**

If concrete enters mouth or is accidentally swallowed, wash out thoroughly with water immediately. Do not induce vomiting and drink plenty of water. Seek medical attention and/or poison center immediately.



Safety Data Sheet (Ready Mixed Concrete)

SECTION 5 – FIRE FIGHTING MEASURES

Flammability:	Not Flammable.	Flash Point:	Not Applicable.
Lower Explosive Limit:	Not Applicable.	Upper Explosive Limit:	Not Applicable.
Auto Ignition Temperature:	Not Applicable.	Sensitivity To Static Discharge:	Not Applicable.
Sensitivity To Impact:	Not Applicable.	Extinguishing Media:	Not Applicable.
Special Fire-Fighting Procedures:	None.	Hazardous Combustion Products:	Not Applicable.
Unusual Fire And Explosion Hazards:	Not Applicable.		

SECTION 6 – ACCIDENTAL RELEASE MEASURES

Steps to be taken when ready-mixed concrete is released or spilled:

- The personnel involved with the handling of the wet unhardened or hardened concrete should follow all Exposure Controls as discussed in Section 8.
- Stop the flow of material, if this is without risk.
- Wet unhardened concrete should be recycled or allowed to harden before disposal. In case of an emergency isolate area and keep unnecessary personnel away.
- Do not attempt to wash wet concrete down sewers, storm drains or into bodies of water such as lakes, streams, wetlands, etc.
- Follow applicable Federal, State, and Local regulations if any for disposal. Uncontaminated ready mixed concrete is neither a listed nor a characteristic hazardous waste under designations by the USEPA or USDOT.

SECTION 7 - HANDLING AND STORAGE

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.

Wet Ready-Mixed concrete is alkaline. As such it is not compatible with acids, ammonium salts and aluminum metal.



Safety Data Sheet (Ready Mixed Concrete)

SECTION 8 - EXPOSURE CONTROLS / 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 approved respirators in poorly ventilated areas, if an applicable exposure limit is exceeded, confined space, or when dust causes discomfort or irritation.

Ventilation:

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

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	gray fluid / hydraulic mixture	Odor:	No distinct odor.
Odor Threshold:	Not applicable.	Physical State:	Solid (powder).
pH (as a solid):	Not applicable.	pH:	12 to 13
Solubility In Water:	Not applicable.	Vapor Pressure:	Not applicable.
Vapor Density:	Not applicable.	Boiling Point:	Not applicable (i.e., >1000°C).
Freezing Point:	Not applicable.	Melting Point:	Not applicable.
Specific Gravity (H₂O = 1.0):	3.15	Evaporation Rate:	Not applicable.
Coeff. Water/Oil Dist.:	Not applicable.		



Safety Data Sheet (Ready Mixed Concrete)

SECTION 10 – STABILITY AND REACTIVITY

Stability:	Stable. Wet unhardened concrete will set and harden in approx. 2-8 hours.
Incompatibility:	Portland cement reacts with water to produce a caustic solution, pH 12 to pH 13. 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

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.

SECTION 12 - ECOLOGICAL INFORMATION

Ecotoxicity:	No recognized unusual toxicity to plants or animals. Only relevant in accidental spillage of wet unhardened concrete. If it reaches water, it can result in a slight increase in pH. Hardened concrete is inert.
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SECTION 13 - 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.

SECTION 14 TRANSPORT INFORMATION -

Hazardous materials description/ Proper shipping name:	Ready Mix Concrete is not hazardous under the TDG Act (Canada) or DOT regulations (USA).
Hazard Class:	Not applicable.
Identification Number:	Not applicable.
Required Label Text:	Not applicable.
Hazardous substances--reportable quantities (RO):	Not applicable.



Safety Data Sheet (Ready Mixed Concrete)

SECTION 15 - REGULATORY INFORMATION

Status under USDOL-OSHA Hazard Communication Rule, 29 CFR 1910.1200:

Ready Mix Concrete is considered a "hazardous chemical" under this regulation and should be part of any hazard communication program.

Status under CERCLA/Superfund, 40 CFR 117 and 302:

Not listed.

Hazard Category under SARA (Title III), Sections 311 and 312:

Ready Mix Concrete qualifies as a "hazardous substance" with delayed health effects.

Status under SARA (Title III), Section 313:

Not subject to reporting requirements under Section 313.

Status under TSCA (as of May 1997):

Some substances in Ready Mix Concrete are on the TSCA inventory list.

Status under the Federal Hazardous Substances Act:

Ready Mix Concrete is a "hazardous substance" subject to statutes promulgated under the subject act.

Status under California Proposition 65:

This product contains chemicals (trace metals) known to the State of California to cause cancer, birth defects, or other reproductive harm. California law requires the manufacturer to give the above warning in the absence of definitive testing to prove the defined risks do not exist.

Status under Canadian Environmental Protection Act:

Not listed.

Status under WHMIS:

Portland cement is considered to be a hazardous material under the Hazardous Products Act as defined by the Controlled Products Regulations and is therefore subject to the labeling and MSDS requirements of the Workplace Hazardous Materials Information System (WHMIS).

This product has been classified in accordance with the hazard criteria of the CPR and the MSDS contains all the information required by the CPR.



Safety Data Sheet (Ready Mixed Concrete)

SECTION 16 - OTHER INFORMATION

Prepared By:	Jamie Winter
Approved By:	John Bornhoft
Approval Date or Revision Date:	December 15, 2014
Date Of Previous MSDS:	July 16, 2011
SDS Number:	Not Applicable

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 portland cement.

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