



## Safety Data Sheet

### SECTION 1. IDENTIFICATION

<b>GHS Product Identifier:</b>	Wet Shotcrete
<b>Other Means of Identification:</b>	Wet Shotcrete, Shotcrete, Gunite, Portland Cement Product
<b>Recommended Use:</b>	Construction materials, Support mechanism, Rock stabilization
<b>Restrictions On Use:</b>	N/A
<b>Canadian Supplier Identifier+:</b>	Fisher Wavy Inc. P.O Box 2000 Copper Cliff, ON P0M 1N0
<b>Emergency Phone Number:</b>	(705) 674-4291

### SECTION 2: HAZARD IDENTIFICATION

<b>GHS Classification and Category:</b>	Skin Corrosion/Irritation- skin irritation (Category 1, 1A, 1B, and C). Serious Eye Damage/Eye Irritation-eye irritation- (Category 2 and 2A). Carcinogenicity (Category 1, 1A, 1B, and 2). Specific Target Organ Toxicity- repeated exposure (Category 1 and 2). Respiratory or Skin Sensitization-respiratory sensitizer (Category 1, 1A, and 1B).
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**GHS Label Elements**  
**Hazard Pictograms:**



**Signal Word:**

Danger

**Hazard Statement:**

May cause cancer.

May cause damage to organs (lung) through prolonged or repeated exposure.

Causes severe skin burns and eye damage.

Causes serious eye irritation.

May cause an allergic skin reaction.

**Precautionary Statement(s)**

**General:**

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood.

**Prevention:**

Do not breathe dust. Wash any exposed body parts. Contaminated clothing must not leave the workplace. Wear protective gloves/protective clothing/eye protection/face protection.

**Response:**

If exposed or concerned: Get medical advice/attention if rash or irritation occurs.

If on skin: Wash with plenty of water. Take off contaminated clothing and wash it before reuse.

If in eyes: Rinse continuously with water for several minutes.

**Storage:**

Restrict and control access to stockpile areas.

Engulfment hazard: To prevent burial or suffocation, do not enter a confined space without an effective procedure for assuring safety.

**Disposal:**

Dispose of contents/container in accordance with local/regional/national/international regulations.

**Hazards Not Otherwise Classified (HNOC):**

Shotcrete is a mixture of inert gravel or rock, sand, Port-

land Cement, Silica Fume, and water. It also contains chemical admixtures. Fly ash and/or granulated slag, which have no effect on the hazards associated with the use of the product. The chemical admixtures are present in quantities comprising less than 1% of the material. SDS are available for all admixtures upon request.

### SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

**Chemical name:** Concrete

**Chemical Abstract Service (CAS) registry number and unique identifiers:**

Component	Percentage (%)	CAS Number
Aggregates	>35	Varies
Quartz (Crystalline silica)	>1	14808-60-7
Portland Cement	>25	65997-15-1
Ashes	0- 25	Varies
Water	>5	7732-18-5
Portlandite		1305-62-0

**Component Information on Non-Hazardous Components:**

The hazardous ingredients in plastic (wet) shotcrete can become airborne during application. Water added to the materials reacts with some of the ingredients to form calcium hydroxide, a corrosive chemical which will irritate the eyes and skin upon contact. Shotcrete dust from dried Portland Cement may also contain hazardous ingredients in sufficient concentrations to cause skin, eye, or respiratory irritation.

### SECTION 4. FIRST AID MEASURES

*First Aid*

**Eye contact:** If exposed or concerned: get medical attention. Do not allow individual to rub eyes. Immediately flush eyes

	gently under running water, do not attempt to remove material from eyes. Obtain medical attention for eye contact with wet concrete.
<b>Skin contact:</b>	Wash with soap and water. Remove contaminated clothing and wash before reuse. Call physician if irritation persists.
<b>Ingestion:</b>	Do not induce vomiting. If conscious, drink milk. Seek medical attention if any problems arise.
<b>Inhalation:</b>	Remove to fresh air. Obtain medical attention if breathing difficulties persist.
<i>Most important symptoms and effects (acute or delayed)</i>	
<b>Inhalation:</b>	Repeated exposure to respirable (airborne) crystalline silica dust will cause lung damage in the form of silicosis.
<b>Skin contact:</b>	Wet Shotcrete contains Portland Cement, which may contain trace amounts of hexavalent chromium and is linked with allergic sensitization reactions in some individuals. These reactions may lead to contact dermatitis and skin ulceration. Exposure to dust from dry ingredients or hardened cement can cause skin irritation, dermatitis and/or redness to the exposed skin. Wet concrete exhibits caustic, abrasive and dehydrating properties. Irritation or pain may be delayed for several hours and cannot be relied upon as an indication of exposure.
<b>Eye contact:</b>	Exposure to dust from dry ingredients or hardened cement can cause irritation and tearing of the eyes. Exposure to wet concrete may result in irritation or burns.
<b>Ingestion:</b>	Is not a common route of occupational exposure. If swallowed and irritation or discomfort occurs, obtain medical attention.
<b>Immediate medical attention and special treatment, if necessary:</b>	If you feel unwell, seek medical advice (show the label where possible).

## SECTION 5. FIRE-FIGHTING MEASURES

<b>Suitable extinguishing media:</b>	Not combustible. Use extinguishing agent appropriate for surrounding flammable materials.
<b>Unsuitable extinguishing media:</b>	N/A
<b>Specific hazards arising from the chemical:</b>	Not combustible. Nonflammable. Spalling of hardened concrete may occur under conditions of intense heat.
<b>Hazardous thermal decomposition products:</b>	Material is not combustible.
<b>Special protective equipment and precautions for fire-fighters:</b>	Material is nonflammable. Use appropriate procedures for surrounding flammable materials. Use PPE appropriate for surrounding materials. No specific precautions.

## SECTION 6. ACCIDENTAL RELEASE MEASURES

<i>Personal precautions, protective equipment, and emergency procedures</i>	
<b>For response personnel:</b>	Keep unprotected personnel out of the area. Do not dry sweep dusty material. All local and Federal laws governing waste disposal must be followed.
<b>Environmental precautions:</b>	Clean spilled material immediately. Contain spills and wash water to prevent run-off into public waterways. Remove wet concrete from roadways immediately. Do not dry sweep spilled dust material.
<b>Methods and material for containment and clean up</b>	
<b>Containment:</b>	Proper PPE.

## SECTION 7. HANDLING AND STORAGE

### Precautions for safe

**handling:** Use proper PPE. Remove contaminated clothing as soon as possible. Dust may be generated during handling or mixing dry powder or from cutting, breaking or crushing hardened material. Use wet cutting methods where possible. Handle in accordance with good industrial hygiene and safety procedures. Wash hands and other exposed areas with mild soap and water before eating, drinking, or smoking and when leaving work.

**Conditions for safe storage (including incompatible materials)**

**Technical measures:** Comply with applicable regulations.

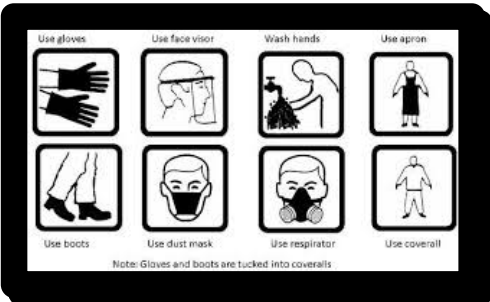
**Storage conditions:** Keep/store away from incompatible materials.

**Incompatible materials:** Strong acids, strong bases, strong oxidizers.

## SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Control parameters**  
**Component exposure limits:**

INGREDIENT NAME:	EXPOSURE LIMITS:
Particulates and not otherwise classified (CAS SEQ250)	ACGIH TLV (U.S, 3/2012) TWA: 3 mg/m3. Form: Respirable particles TWA: 10 mg/m3. Form: Inhalable particles OSHA PEL (U.S, 6/2010) PEL: 5 mg/m3. Form Respirable fraction PEL: 15 mg/m3. Form: Total dust TWA: 5 mg/m3. Form: Respirable fraction TWA: 15 mg/m3. Form: Total dust
Portland Cement (CAS 65997-15-1)	ACGIH TLV (U.S, 3/2012) TWA: 0.025 mg/m3. Form: Respirable dust OSHA PEL (U.S, 6/2012) PEL: 10 mg/m3. Form: Respirable dust PEL: 30 mg/m3. Form: Total dust
Crystalline Silica (Quarz) (CAS 14808-60-7)	ACGIH TLV (U.S, 3/2012) TWA: 3mg/m3. Form: Respirable dust TWA: 10mg/m3. Form: Total dust OSHA PEL (U.S, 6/2012)

	PEL: 5mg/m3. Form: Respirable dust PEL: 15mg/m3. Form: Total dust
<b>Appropriate engineering controls:</b>	Ensure adequate ventilation, especially in confined areas. Ensure all national/local regulations are observed.
<b>Personal Protective Equipment (PPE):</b>	Protective goggles or safety glasses with side shields. Gloves. Protective clothing. Dust formation: dust mask.
	

## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance (Physical state, colour etc.):</b>	Plastic until it becomes solid upon setting. Grey to black, plastic, flowable, granular
<b>Odour:</b>	N/A
<b>Odour threshold:</b>	N/A
<b>pH:</b>	12-13 in water
<b>Freezing point:</b>	0
<b>Initial boiling point/boiling range:</b>	N/A
<b>Flash point:</b>	N/A
<b>Evaporation rate:</b>	N/A
<b>Flammability (solid; gas):</b>	N/A
<b>Lower flammable/explosive limit:</b>	N/A
<b>Upper flammable/explosive limit:</b>	N/A
<b>Vapour pressure:</b>	N/A
<b>Vapour density:</b>	N/A
<b>Relative density:</b>	1.5- 3.0
<b>Solubility:</b>	0.1% in water
<b>Partition coefficient-n-octanol/water:</b>	N/A
<b>Auto-ignition temperature:</b>	N/A
<b>Specific Gravity:</b>	2- 2.7
<b>Viscosity:</b>	N/A

## SECTION 10. STABILITY AND REACTIVITY

<b>Reactivity:</b>	Hazardous reactions will not occur under normal conditions. Stable.
<b>Chemical stability:</b>	Stable under recommended handling and storage conditions.
<b>Possibility of hazardous reactions:</b>	Hazardous polymerization will not occur.
<b>Conditions to avoid:</b>	Keep dry until used. Avoid contact with incompatible compounds.
<b>Incompatible materials:</b>	Acids, aluminum, ammonium salts, alkali and alkaline earth compounds.
<b>Hazardous decomposition products:</b>	Quartz (silica) will dissolve in hydrofluoric acid producing a corrosive gas, silicon tetrafluoride.

## SECTION 11. TOXICOLOGICAL INFORMATION

*Information on Toxicological Effects- Product*

<b>Acute toxicity:</b>	Not classified
<b>Corrosion/irritation:</b>	Skin: May cause skin burns or skin ulcers. Eye: May cause eye irritation or serious eye damage. Respiratory: Increased risk of lung cancer from chronic exposure to crystalline silica. Also, silicosis, autoimmune diseases, and kidney disorders.
<b>Sensitization:</b>	May cause sensitization due to trace amounts of hexavalent chromium.
<b>Carcinogenicity: Specific target organ toxicity (repeated exposure):</b>	See chart below.

Product:	OSHA	IARC	ACGIH	NTP
Portland Cement	-	-	A4	-
Crystalline Silica (Quartz)	-	1	A2	Know to be human carcinogen

Not classified.

<b>Reproductive toxicity: Specific target organ toxicity (single exposure):</b>	Name:	Category	Route of Exposure	Target Organs
	Crystalline Silica (quartz)	-	Inhalation	Not reported to have effects
<b>Specific target organ toxicity (repeated exposure): Chronic symptoms:</b>	Name	Category	Route of Exposure	Target Organs
	Crystalline Silica (Quartz)	-	Inhalation	May cause damage to organs (lung) through prolonged or repeated exposure.
<b>Potential Chronic health effects: General:</b>	Prolonged inhalation of respirable crystalline silica may be harmful. May cause damage to organs (lung) through prolonged or repeated exposure. Also, autoimmune disorders, silicosis and kidney failures.			
<b>Aspiration hazards:</b>	Not classified.			

**SECTION 12. ECOLOGICAL INFORMATION**  
 (information is optional)

<b>Ecotoxicity:</b>	No additional information available
<b>Persistence and degradability:</b>	N/A
<b>Bioaccumulative potential:</b>	N/A
<b>Mobility in soil:</b>	N/A
<b>Other adverse effects:</b>	Avoid release to the environment.

**SECTION 13. DISPOSAL CONSIDERATIONS**  
 (information is optional)

<i>Waste Disposal</i>	
<b>Recommendations:</b>	Dispose of waste material in accordance with all local/regional/national/provincial/territorial/and

**Ecology- Waste Materials:** international regulations.  
Avoid release to the environment.

## SECTION 14. TRANSPORT INFORMATION (information is optional)

**UN number:** N/A  
**UN proper shipping name:** N/A  
**Transport hazard class(es):** N/A  
**Packing group:** N/A  
**Environmental hazards:** N/A  
**Transport in bulk, if applicable:** Follow MTO regulations  
**Special precautions:** Follow all rules and regulations.

## SECTION 15. REGULATORY INFORMATION (information is optional)

### *Canadian Regulations*

#### *Shotcrete*

#### **WHIMIS**

**classification:** Class D Division 2 Subdivision A- Very toxic material causing other toxic effects



**Quartz (14808-60-7)** Listed on the Canadian DSL (Domestic Substance List)  
Listed on the Canadian IDL (Ingredient Disclosure List)

**IDL Concentration:** 1%

#### **WHMIS**

**Classification:** Class D Division 2 Subdivision A- Very toxic material causing other toxic effects  
Class D Division 2 Subdivision B- Toxic material causing other toxic effects

## SECTION 16. OTHER INFORMATION

**Revision date:** January 05, 2016

Fisher Wavy Inc.  
Safety Data Sheet: Wet Shotcrete  
According to GHS 2015 Rules and Regulations

**Other Information:**

This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200.

**“The information provided herein is believed by seller to be accurate at the time of preparation, or prepared from sources believed to be reliable. Health and Safety precautions in this data sheet may not be adequate for all individuals or situations. Users have the responsibility to comply with all laws and procedures applicable to the safe handling and use of the product, to determine the suitability of the product for its intended use, and to understand possible hazards associated with mixing this product with other materials. SELLER MAKES NOWARRANTY, EXPRESS OR IMPLIED, CONCERNING THE PRODUCT, THE MERCHANTABILITY, OR FITNESS THEROF FOR ANY PURPOSE, CONCERNING THE ACCURACY OF ANY INFORMATION PROVIDED BY SELLER.”**