



FISHER WAVY INC.

**SAFETY DATA SHEET: DRY SHOTCRETE WITH STEEL FIBER  
ACCORDING TO GHS 2015 RULES AND REGULATIONS**

**SECTION 1. IDENTIFICATION**

<b>GHS Product Identifier:</b>	Dry Shotcrete with Steel Fiber
<b>Other Means of Identification:</b>	Shotcrete, Portland Cement Product, DS4000FRS, DS4030FRS, DS4035FRS, DS4040FRS, DS4045FRS
<b>Recommended Use:</b>	Construction materials, Support mechanism, Rock stabilization, pneumatically placed concrete or refer to the product data sheet
<b>Restrictions On Use:</b>	Refer to product data Sheet
<b>Canadian Supplier Identifier:</b>	Fisher Wavy Inc. 1 Caesar Road Sudbury, ON P3E-5P3
<b>Emergency Phone Number:</b>	(705) 674-4291(8:30am to 4:30pm)

**SECTION 2: HAZARD IDENTIFICATION**

<b>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).
<b>Label Elements Hazard Pictograms:</b>	
<b>Signal Word:</b>	DANGER
<b>Hazard Statement:</b>	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.
<b>Precautionary Statement(s) Prevention:</b>	Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe dust. Use only outdoors or in a well-ventilated area. Wash any exposed body parts. Contaminated clothing must not leave the workplace. Wear protective gloves/protective clothing/eye protection/face protection.
<b>Response:</b>	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 reusing. If in eyes: Rinse continuously with water for several minutes.
<b>Storage:</b>	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.
<b>Disposal:</b>	Dispose of contents/container in accordance with local/regional/national/international regulations.
<b>Hazards Not Otherwise Classified (HNOC):</b>	Shotcrete is a mixture of inert gravel or rock, sand, Portland Cement, Silica Fume, and water. It also contains chemical admixtures. Due to the product consisting of Steel Fiber the individual steel fiber may protrude out from the sprayed shotcrete possibly puncturing the skin and cause severe scratching. The chemical admixtures are present in quantities comprising less than 1% of the material. SDS are available for all admixtures upon request.



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SECTION 3. COMPOSITION/INFORMATION ON INGRDIENTS			
<b>Chemical name:</b>	Shotcrete aggregate, Silica Fume, Dry admixtures Steel Fiber.		
<b>Chemical Abstract Service (CAS) registry number and unique identifiers:</b>	<b>Component</b>	<b>Percentage (%)</b>	<b>CAS Number</b>
	Aggregates	>35	Varies
	Quartz (Crystalline silica)	>1	14808-60-7
	Portland Cement	>25	65997-15-1
	Water	>5	7732-18-5
	Portlandite		1305-62.0
	Silica Fume	<8	69012-64-2
	Dispersing agent	<0.5	
	Acceleration	<0.5	16828-12-9
	Steel Fiber	<4	7439-89-6
<b>Component Information on Non-Hazardous Components:</b>	<p>The hazardous ingredients in 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.</p> <ul style="list-style-type: none"> <li>• Dispersing agent does not contain any hazardous materials or ingredients with national workplace exposure limits</li> <li>• hydration control none of the ingredients are required to be listed</li> </ul>		

SECTION 4. FIRST AID MEASURES	
<b>Eye contact:</b>	If exposed or concerned: get medical attention. Do not allow individuals to rub their eyes. Immediately flush your eyes gently under running water, do not attempt to remove material from eyes. Obtain medical attention for eye contact with dry or wet (after water added) Shotcrete.
<b>Skin contact:</b>	Wash with soap and water. Remove contaminated clothing and wash before reuse. Call the physician if irritation persists.
<b>Ingestion:</b>	Do not induce vomiting. If conscious, Get medical attention immediately. If throat irritation or coughing persists, proceed as follows. Rinse mouth thoroughly with water. Promptly get affected person to drink large volumes of water to dilute the swallowed chemical. Stop if the affected person feels sick as vomiting may be dangerous. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Seek medical attention if any problems arise.
<b>Inhalation:</b>	Remove to fresh air. Obtain medical attention if breathing difficulties persist. Repeated exposure to respirable (airborne) crystalline silica dust will cause lung damage in the form of silicosis. Get medical attention immediately. Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Do not induce vomiting.
<b>Most important symptoms and effects (acute or delayed)</b>	
<b>Inhalation:</b>	Dry Shotcrete contains Portland Cement, which may contain trace amounts of hexavalent chromium, may cause irritation and is linked with allergic sensitization reactions in some individuals.



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<b>Skin contact:</b>	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. When in the wet state shotcrete 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 shotcrete may result in irritation or burns. Remove any contact Lenses and rinse eyes out repeatedly
<b>Ingestion:</b>	It is not a common route of occupational exposure. If swallowed and irritation or discomfort occurs, obtain medical attention. May cause stomach pain or vomiting. May cause irritation. Gastrointestinal symptoms, including upset stomach.
<b>Immediate medical attention and special treatment, if necessary:</b>	If you feel unwell, seek medical advice (show the label where possible). First Aid personnel should wear appropriate equipment during any rescue.

<b>SECTION 5. FIRE-FIGHTING MEASURES</b>	
<b>Suitable extinguishing media:</b>	Not combustible. Use an extinguishing agent appropriate for surrounding flammable materials. Water spray.
<b>Unsuitable extinguishing media:</b>	Do not use a water jet, or heavy water stream. Use of heavy stream of water may spread fire.
<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. Product is not Explosive.
<b>Special protective equipment and precautions for fire-fighters:</b>	Material is nonflammable. Use appropriate procedures for surrounding flammable materials. Use air-supplied respirator, gloves and protective goggles appropriate for surrounding materials. No specific precautions. Persons without respiratory protection should leave area.

<b>SECTION 6. ACCIDENTAL RELEASE MEASURES</b>	
<b>Personal precautions, protective equipment, and emergency procedures</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. Avoid Breathing int the dust, deny access to unprotected persons.
<b>For response personnel:</b>	
<b>Environmental precautions:</b>	Clean spilled material immediately. Contain spills and wash water to prevent run-off into public waterways. Do not dry sweep spilled dust material. Do not flush into surface water or sanitary sewer system. If the product contaminates rivers and lakes or drains inform the relevant authorities. Local authorities should be advised if significant spillages
<b>Methods and material for containment and clean up and containment:</b>	Proper PPE. Pick up and arrange disposal without creating dust. Keep in sealed and suitable containers for disposal.

<b>SECTION 7. HANDLING AND STORAGE</b>	
<b>Precautions for safe handling:</b>	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.
<b>Conditions for safe storage (including incompatible materials)</b>	Comply with applicable regulations.
<b>Technical measures:</b>	Keep/store away from incompatible materials. Store in the original, labelled, shipping container.



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<b>Storage conditions:</b>	Store in an area that is: dry, well-ventilated. Protect product from contact with water, including humidity. Prevent rainwater and ground water from reaching storage area.
<b>Incompatible materials:</b>	Strong acids, strong bases, strong oxidizers.

**SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

<b>Control parameters</b>															
<b>Component exposure limits:</b>	<table border="1"> <thead> <tr> <th>INGREDIENT NAME:</th> <th>EXPOSURE LIMITS:</th> </tr> </thead> <tbody> <tr> <td>Particulates and not otherwise classified (CAS SEQ250)</td> <td>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</td> </tr> <tr> <td>Portland Cement (CAS 65997-15-1)</td> <td>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</td> </tr> <tr> <td>Crystalline Silica (Quartz) (CAS 14808-60-7)</td> <td>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</td> </tr> <tr> <td>Dispersing agent</td> <td>Long-term exposure limit (8-hour TWA): UK 4 mg/m3 respirable dust</td> </tr> <tr> <td>Silica Fume</td> <td>TWA 80 mg/m3 (R)</td> </tr> <tr> <td>Aluminum sulfate</td> <td>No established limit the exposure limit for nuisance dust is OSHA PEL 15mg/m3. (50 mppcf*) TWA, ACGIH 10mh/m3</td> </tr> </tbody> </table>	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 (Quartz) (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	Dispersing agent	Long-term exposure limit (8-hour TWA): UK 4 mg/m3 respirable dust	Silica Fume	TWA 80 mg/m3 (R)	Aluminum sulfate	No established limit the exposure limit for nuisance dust is OSHA PEL 15mg/m3. (50 mppcf*) TWA, ACGIH 10mh/m3
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<b>Appropriate engineering controls:</b>	Ensure adequate ventilation, especially in confined areas. Ensure all national/local regulations are observed. If the use of this product generates dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure below any recommended or statutory limits.														
<b>Personal Protective Equipment (PPE):</b>	Protective goggles or safety glasses with side shields. Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Protective clothing. Dust formation: Use a properly fitted NIOSH approved air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary.														
<b>Hygiene Measures:</b>	Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.														



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**SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

Appearance (Physical state, colour etc.):	Solid. Grey to black, granular
Odour:	N/A
Odour threshold:	N/A
pH:	12-13 in water
Freezing point:	Dry N/A
Initial boiling point/boiling range:	117 degrees C (242.6 degrees F) for Aluminum sulfate only but consist less than .5% of the product.
Flash point:	N/A
Evaporation rate:	N/A
Flammability (solid; gas):	N/A
Lower flammable/explosive limit:	N/A
Upper flammable/explosive limit:	N/A
Vapour pressure:	N/A
Vapour density:	N/A
Relative density:	1.5- 3.0
Solubility:	0.1% in water
Partition coefficient-n-octanol/water:	N/A
Auto-ignition temperature:	N/A
Specific Gravity:	2- 2.7
Viscosity:	N/A

**SECTION 10. STABILITY AND REACTIVITY**

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

**SECTION 11. TOXICOLOGICAL INFORMATION**

<i>Information on Toxicological</i>			
<i>Effects- Product</i>			
Acute toxicity:	<b>Product:</b>	LC50	LD50 (oral)    LD50 (dermal)
	Silica, Total Quartz	-	50 mg/kg (rat)
	<ul style="list-style-type: none"> <li>• May cause mild irritation of the gastrointestinal tract if large quantities are ingested.</li> <li>• Nausea and stomach pain may occur. There may be vomiting and diarrhoea.</li> </ul>		
Corrosion/irritation:	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.		
Sensitization:	May cause sensitization due to trace amounts of hexavalent chromium.		
Carcinogenicity:	May cause lung damage, cancer through chronic inhalation.		



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Specific target organ toxicity (repeated exposure):	<b>Product:</b>	<b>IARC</b>	<b>ACGIH®</b>	<b>OSHA</b>	<b>NTP</b>
	Silica, Total Quartz	Group 1	A2	Listed	Known Carcinogen
	Portland Cement	-	A4	-	-
Reproductive toxicity Specific target organ toxicity (single exposure):	Silica Fume	-	-	-	Known Carcinogen
	<ul style="list-style-type: none"> <li>Causes damage to organs (Lungs) through prolonged or repeated exposure. Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels. Prolonged exposure can cause silicosis.</li> </ul>				
Specific target organ toxicity (repeated exposure): Chronic symptoms:	<b>Name:</b>	<b>Category</b>	<b>Route of Exposure</b>	<b>Target Organs</b>	
	Calcium oxide	3	Inhalation, skin contact	Respiratory tract irritation, Skin irritation	
	Cement, Portland chemicals	3	Inhalation, skin contact	Respiratory tract irritation, Skin irritation	
	Silica Fume	-	Inhalation	Respiratory tract and lung irritation	
	Aluminum Sulfate	2 and 3	Inhalation, Contact.	Causes serious eye irritation, may cause respiratory irritation.	
Specific target organ toxicity (repeated exposure): Potential Chronic health effects: General:	<b>Name</b>	<b>Category</b>	<b>Route of Exposure</b>	<b>Target Organs</b>	
	Crystalline Silica (Quartz)	-	Inhalation	May cause damage to organs (lung) through prolonged or repeated exposure.	
Potential Chronic health effects: Aspiration hazards:	<p>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.</p> <p>May cause irritation of the mucous membranes and respiratory system. May cause shortness of breath, sneezing and coughing.</p>				

**SECTION 12. ECOLOGICAL INFORMATION**

<b>Ecotoxicity:</b>	May cause long lasting harmful effects to aquatic life.
<b>Persistence and degradability:</b>	Remarks: Taking into consideration the properties of several ingredients, the product is estimated not to be readily biodegradable according to OECD classification.
<b>Bio-accumulative potential:</b>	Discharge into the environment must be avoided. Product is not expected to bioaccumulate
<b>Mobility in soil:</b>	No information was located.
<b>Other adverse effects:</b>	Avoid release to the environment. Dispose of this material and its container in a safe way. The product has not been tested. The statements on ecotoxicology have been derived from the properties of the individual components.

**SECTION 13. DISPOSAL CONSIDERATIONS**

<b>Waste Disposal Recommendations:</b>	Dispose of waste material in accordance with all local/regional/national/provincial/territorial/and international regulations. Do not contaminate ponds, waterways or ditches with product or used container.
<b>Ecology- Waste Materials:</b>	Avoid release to the environment.




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**SECTION 14. TRANSPORT INFORMATION**

UN number:	N/A
UN proper shipping name:	N/A
Transport hazard class(es):	No transport warning signs required
Packing group:	N/A
Environmental hazards:	N/A
Transport in bulk, if applicable:	Product is packaged in 1000kg tote Bags stacked 2 per skid, secure safely to transporting deck. Transport in Bulk According to Annex II of MARPOL 73/78 and the IBC Code
Special precautions:	Follow MTO regulations Follow all rules and regulations.

**SECTION 15. REGULATORY INFORMATION**

<b>Canadian Regulations</b> <i>Shotcrete</i>	Class D Division 2 Subdivision A- Very toxic material causing other toxic effects
<b>WHIMIS classification:</b>	This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the SDS contains all of the information required by the Controlled Products Regulations.
	
<b>IDLConcentration:</b>	Listed on the Canadian DSL (Domestic Substance List) Listed on the Canadian IDL (Ingredient Disclosure List) 1%
<b>USA Regulations</b>	Toxic Substances Control Act (TSCA) Section 8(b) All ingredients are on the TSCA Inventory or are exempt from TSCA Inventory requirements under 40 CFR 720. Additional USA Regulatory Lists This product contains a chemical known to the State of California to cause cancer.

**SECTION 16. OTHER INFORMATION**

<b>SDS prepared by:</b>	Fisher Wavy Inc.
<b>Phone number</b>	705-674-4291
<b>Revision date:</b>	July 10, 2025
<b>Other Information:</b>	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 NO WARRANTY, EXPRESS OR IMPLIED, CONCERNING THE PRODUCT, THE MERCHANTABILITY, OR FITNESS THEREOF FOR ANY PURPOSE, CONCERNING THE ACCURACY OF ANY INFORMATION PROVIDED BY SELLER."