Con-Spec Industries Ltd.

REVISION 1.0
REVISION DATE: 1/04/2017

SAFETY DATA SHEET

SECTION 1. IDENTIFICATION

Product Name: **Super Flow Counter-Crete**
Other Means of Identification: **Product Code: CS SFCC**

Recommended Product Use: Concrete countertop material
Restrictions on Use: None Known

Manufacturer/Importer/Supplier/Distributor Information:

Company: Con-Spec Industries Ltd.
Address: 9525 - 63 Avenue NW
Edmonton, Alberta T6E 0G2
Contact: Robert Lummerding
Telephone: 1 (780) 437-6136
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E-Mail: conspec@shaw.ca

Emergency Telephone: CANUTEC (613) 996-6666

SECTION 2. HAZARD(S) IDENTIFICATION

This Material is considered hazardous under the OSHA Hazard Communications Standards (29 CFR 1910.1200)

Physical Hazards: Not Classified

Health Hazards:

Serious eye damage/eye irritation	Category 1
Carcinogenicity	Category 1A
Skin sensitizer	Category 1B
Skin corrosion/irritation	Category 2
Specific Target Organ Toxicity, Repeated Exposure	Category 2 (lungs)
Specific Target Organ Toxicity, Single Exposure	Category 3 (respiratory tract irritation)
Acute toxicity (Inhalation - dust and mist)	Category 4

Label Elements:

Hazard Symbol:

Signal Word: Danger

Hazard Statement: Harmful if inhaled. May cause the irreversible lung disease "silicosis".
May cause cancer. Causes severe skin burns and eye damage. Causes skin irritation.
May cause defatting dermatitis. May cause an allergic skin reaction.

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Precautionary Statement:

Prevention: Avoid all skin contact. Avoid all inhalation of dust. Wear suitable gloves and eye protection. Wear dust mask suitable for crystalline silica dust.

Response: If inhaled, provide fresh air. In case of contact with eyes, flush thoroughly with water. After contact with skin, wash with soap and water.

Storage: Store in a dry location.

Disposal: Dispose of waste and residues in accordance with local authority requirements.

Other Hazards Which do not Result in GHS Classification: None known

SECTION 3. COMPOSITION / INFORMATION ON INGREDIENTS

Mixtures:

Chemical Identity	CAS Number	Content in Percent (%)*
Crystalline Silica (Quartz) / Silica Sand	14808-60-7	40-80
Portland Cement	65997-15-1	20-50

Composition comments: *All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

SECTION 4. FIRST-AID MEASURES

Inhalation: Move person to fresh air. Seek medical attention for discomfort or if coughing or other symptoms do not subside.

Skin Contact: Wash exposed areas of the body with soap and water. Seek medical attention for rash, burns, irritation, dermatitis, and prolong unprotected exposures to wet cement, cement mixtures or liquids from wet cement.

Eye Contact: Do not allow victim to rub eye(s). Rinse eyes thoroughly with water for at least 15 minutes, including under lids, to remove all particles. Seek medical for abrasions and burns, or if irritation persists.

Ingestion: Do not induce vomiting. Drink plenty of water, and consult a doctor immediately.

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Most Important Symptoms/Effects, Acute and Delayed: Prolonged or repeated contact with skin may cause redness, itching, irritation and eczema/ chapping. Extreme irritation of eyes and mucous membranes, including burning and tearing.

Immediate Medical Attention and Special Treatment: Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.

General Information: Good personal hygiene is essential. Always wash your hands after handling crystalline silica, prior to handling food and/or drinkable liquids. If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance.

SECTION 5. FIRE-FIGHTING MEASURES

General Fire Hazards: No unusual fire or explosion hazards noted.

Suitable Extinguishing Media: Use fire-extinguishing media appropriate for surrounding materials.

Unsuitable Extinguishing Media: Do not use water jet as an extinguisher, as this will spread the fire.

Specific Hazards Arising from the Chemical: During fire, gases hazardous to health may be formed.

Special Protective Equipment and Precautions for Firefighters: Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Special Fire Fighting Procedures: Use standard firefighting procedures and consider the hazards of other involved materials.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures: Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Do not breathe dust. Use a NIOSH/MSHA approved respirator if there is a risk of exposure to dust/ fume at levels exceeding the exposure limits. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

Methods and Material for Containment and Cleaning Up: Place spilled material into a container. Use dry clean up methods that do not disperse the dust into the air. Avoid breathing the dust. Scrape wet cement and place in container. Allow material to dry or solidify before disposal. For waste disposal, see section 13 of the SDS.

Notification Procedures: In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.

Environmental Precautions: Do not contaminate water sources or sewer. Prevent further leakage or spillage if safe to do so.

SECTION 7. HANDLING AND STORAGE

Precautions for Safe Handling: Handle material in such a manner as to reduce and/or minimize the dust. Wash hands thoroughly after handling. Do not handle until all safety precautions have been read and understood. Obtain special instructions before use. Use personal protective equipment as required. Do not get in eyes. Avoid contact with skin. Ventilate well, avoid breathing the dust. Use approved respirator if air contamination is above accepted level. Use mechanical ventilation in case of handling which causes formation of dust.

Conditions for Safe Storage, Including any Incompatibilities: Keep container closed until ready for use. Store in original tightly closed container. Store in dry location. Store away from incompatible materials (see Section 10 of the SDS).

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Control Parameters
Occupational Exposure Limits

Chemical Name	Type	Exposure Limit Values	Source
Crystalline Silica (Quartz) / Silica Sand	TWA (8 hr)	0.05 gm/m^3 (Respirable fraction)	ACGIH Threshold Limit Values
Crystalline Silica (Quartz) / Silica Sand	TWA (8 hr)	10 mg/m^3 (Respirable)	OSHA -PEL
Crystalline Silica (Quartz) / Silica Sand	TWA	0.1 mg/m^3 (Respirable)	US. OSHA Table Z-3 29 CFR 1910.1000 (2000)
Crystalline Silica (Quartz) / Silica Sand	TWA	0.3 mg/m^3 (Total Dust)	US. OSHA Table Z-3 29 CFR 1910.1000 (2000)
Portland Cement (65997-15-1)	OEL TWA	10 mg/m^3	Alberta
Portland Cement (65997-15-1)	TWA	5 mg/m^3	OSHA -PEL
Portland Cement (65997-15-1)	TWA	5 mg/m^3	NIOSH

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Chemical Name	Type	Exposure Limit Values	Source
Crystalline Silica (Quartz) / Silica Sand	TWA	0.025 gm/m^3 (Respirable fraction)	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Crystalline Silica (Quartz) / Silica Sand	TWAEV	0.1 mg/m^3 (Respirable)	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
Crystalline Silica (Quartz) / Silica Sand	TWA	0.1 mg/m^3 (Respirable Dust)	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (12 2008)

Consult local authorities for provincial or state exposure limits.
ACGIH® = American Conference of Governmental Industrial Hygienists. TLV® = Threshold Limit Value.
TWA = Time-Weighted Average. STEL = Short-term Exposure Limit. A4 = Not classifiable as a human carcinogen.
OSHA = US Occupational Safety and Health Administration. PEL = Permissible Exposure Limits.
OEL = Occupational Exposure Limits. REL: Recommended Exposure Limit

Appropriate Engineering Controls Mechanical ventilation or local exhaust ventilation may be required. Observe good industrial hygiene practices. Observe occupational exposure limits and minimize the risk of inhalation of dust.

Individual Protection Measures, such as Personal Protective Equipment

General Information: Provide easy access to water supply and eye wash facilities. Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Eye Protection: Use tight fitting safety goggles is recommended. Wearing contact lenses when using cement, under dusty conditions, is not recommended.

Skin Protection: Wear gloves, boot covers and protective clothing impervious to water to prevent skin contact. Do not rely on barrier creams, in place of impervious gloves. Remove clothing and protective equipment that becomes saturated with wet cement and immediately wash exposed areas.

Respiratory: Under ordinary conditions no respiratory protection is required. Wear a NIOSH approved respirator that is properly fitted and is in good condition when exposed to dust above exposure limits.

Hygiene Measures: Observe good industrial hygiene practices. Wash hands before breaks and immediately after handling the product. Do not get in eyes. Do not handle until all safety precautions have been read and understood. Wash contaminated clothing before reuse. Avoid contact with skin.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	
Physical State:	Solid
Form:	Powder
Color:	Light Gray
Odour:	Odourless
Odour Threshold:	No data available.
PH:	Near neutral when dry / When mixed with water pH ~12-13
Melting Point/Freezing Point:	Not applicable.
Initial Boiling Point and Boiling Range:	Not applicable.
Flash Point:	Not applicable.
Evaporation Rate:	Not applicable.
Flammability (solid, gas):	Not applicable.
Upper/Lower Limit on Flammability or Explosive Limits	
Flammability limit - upper (%):	Not applicable.
Flammability limit - lower (%):	Not applicable.
Explosive limit - upper (%):	Not applicable.
Explosive limit - lower (%):	Not applicable.
Vapor Pressure:	Not applicable.
Vapor Density:	Not applicable.
Relative Density:	2.75
Solubility(ies)	
Solubility in Water:	Miscible with water.
Solubility (other):	No data available.
Partition Coefficient (n-octanol/water):	Not applicable.
Auto-ignition Temperature:	Not applicable.
Decomposition Temperature:	No data available.
Viscosity:	No data available.

SECTION 10. STABILITY AND REACTIVITY

Reactivity: The product is stable and non-reactive under normal conditions of use, storage and transport.

Chemical Stability: Material is stable under normal conditions.

Possibility of Hazardous Reactions: No dangerous reaction known under conditions of normal use.

Conditions to Avoid: Keep dry until use. Avoid contact with incompatible materials.

Incompatible Materials: Wet cement is alkaline and is incompatible with acids, ammonium salts and aluminum metal. Cement dissolves in hydrofluoric acid, producing corrosive silicon tetrafloride gas. Cement reacts with water to form silicates and calcium hydroxide. Silicates react with powerful oxidizers such as fluorine, boron trifluoride, chlorine trifluoride, manganese trifluoride and oxygen difluoride.

Hazardous Decomposition Products: Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapors.

SECTION 11. TOXICOLOGICAL INFORMATION

Likely Routes of Exposure: Inhalation, Skin Contact, Eye Contact, Ingestion

Symptoms of Exposure:

Inhalation: Inhalation of dusts may cause respiratory irritation. Prolonged inhalation may be harmful.

Skin: Causes severe skin burns. May cause allergic skin reaction.

Eyes: Causes serious eye damage. Prolonged contact with wet cement/mixture may cause burns.

Ingestion: Irritation of the digestive system may occur if large amounts are swallowed.

Symptoms Related to the Physical, Chemical and Toxicological Characteristics

Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. Upper respiratory tract irritation. Coughing. Discomfort in the chest. Shortness of breath. Skin irritation.

Acute Toxicity / Effects:

Ingestion: Ingestion of silica quartz has no effect. Ingestion of small quantities of cement is not known to be harmful, large quantities can cause chemical burns in the mouth, throat, stomach and digestive tract.

Inhalation: Cement dust can cause inflammation of the interior lining tissue of the nose and cause irritation of upper respiratory system. Prolonged or repeated exposure may cause lung injury including silicosis. Inhalation of silica quartz:

a) Silicosis Respirable crystalline silica (quartz) can cause silicosis, a fibrosis (scarring) of the lungs. Silicosis may be progressive; it may lead to disability and death.

b) Lung Cancer Crystalline silica (quartz) inhaled from occupational sources is classified as carcinogenic to humans.

c) Tuberculosis Silicosis increases the risk of tuberculosis.

d) Autoimmune There is evidence that exposure to respirable crystalline silica (without silicosis) or that the disease silicosis Diseases may be associated with the increased incidence of several autoimmune disorders, such as Scleroderma, Systemic Lupus Erythematosus, rheumatoid arthritis, and diseases affecting the kidneys.

e) Nephrotoxicity There is evidence that exposure to respirable crystalline silica (without silicosis) or that the disease silicosis is associated with the increased incidence of kidney disease, including end stage renal disease.

Skin Contact: Exposure of sufficient duration to wet cement, or to dry cement on moist areas of the body, can cause serious, potentially irreversible damage to skin, eye, respiratory and digestive tracts due to chemical (caustic) burns, including third degree burns. A skin exposure may be hazardous even if there is no pain or discomfort. Cement is capable of causing dermatitis by irritation and allergy.

Eye Contact: Airborne dust may cause immediate or delayed irritation or inflammation. Eye contact with large amounts of dry powder or with wet cement can cause moderate eye irritation, chemical burns and blindness. Eye exposures require immediate first aid and medical attention to prevent significant damage.

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Information on Toxicological Effects Acute Dose Effects
Numerical Measures of Toxicity:

General Product Information: No information available for the product.
Component Analysis - LD50/LC50
Cement (65997-15-1): No Data Available
Silica Sand (14808-60-7): Oral LD50 Rat: 500 mg/kg
Silica: Oral LD50 Rat >22,500 mg/kg.

Dermal: Product: No data available.
Inhalation: Product: No data available.

Repeated Dose Toxicity:

Product: Single exposure, No data available.
Repeated exposure – Category 2, Respiratory System.
Skin Corrosion/Irritation: Prolonged contact with wet cement/mixture may cause burns.
Serious Eye Damage/Eye Irritation: Causes serious eye damage. Prolonged contact with wet cement/mixture may cause burns.

Silicosis:
Silicosis is caused by the inhalation and retention of respirable crystalline silica dust. Silicosis can exist in several forms, chronic (ordinary), accelerated, or acute.
Chronic or Ordinary Silicosis (often referred to as Simple Silicosis) is the most common form of silicosis, and can occur after many years of exposure to relatively low levels of airborne respirable crystalline silica dust. It is further defined as either simple or complicated silicosis.
Simple Silicosis is characterized by lung lesions (shown as radiographic opacities) less than 1 centimeter in diameter, primarily in the upper lung zones. Often, simple silicosis is not associated with symptoms, detectable changes in lung function or disability.
Simple Silicosis may be progressive and may develop into complicated silicosis or progressive massive fibrosis (PMF). Complicated silicosis or PMF is characterized by lung lesions (shown as radiographic opacities) greater than 1 centimeter in diameter. Although there may be no symptoms associated with complicated silicosis or PMF, the symptoms, if present are shortness of breath, wheezing, cough, and sputum production. Complicated silicosis of PMF may be associated with decreased lung function and may be disabling. Advanced complicated silicosis or PMF can result in heart disease secondary to the lung disease (cor pumonale).
Accelerated Silicosis can occur with exposure to high concentrations of respirable crystalline silica over a relatively short period; lung lesions can appear within 5 to 10 years of initial exposure. Progression can be rapid. Accelerated silicosis is similar to chronic or ordinary silicosis, except that lung lesions appear earlier and progression is more rapid. The disease continues to develop even after exposure stops, and is often associated with autoimmune disease, for example, scleroderma (a skin disease involving thickening of the skin.
Acute Silicosis can occur with exposures to very high concentrations of respirable crystalline silica over a very short time period, sometimes as short as a few months. The symptoms of acute silicosis include progressive shortness of breath, fever, cough and weight loss. Acute silicosis is fatal.

Carcinogenicity:

Silica Sand: May cause cancer.
In 1997, IARC (the International Agency for Research on Cancer) concluded that crystalline silica inhaled from occupational sources can cause lung cancer in humans. However in making the overall evaluation, IARC noted that “carcinogenicity was not detected in all industrial circumstances studied. Carcinogenicity may be dependent on inherent characteristics of the crystalline silica or on external factors affecting its biological activity or distribution of its polymorphs.” (IARC Monographs on the evaluation of the carcinogenic risks of chemicals to humans, Silica, silicates dust and organic fibres, 1997, Vol. 68, IARC, Lyon, France.) In June 2003, SCOEL (the EU Scientific Committee on Occupational Exposure Limits) concluded that the main effect in humans of the inhalation of respirable crystalline silica dust is silicosis. “There is sufficient information to conclude that the relative risk of lung cancer is increased in persons with silicosis (and, apparently, not in employees without silicosis exposed to silica dust in quarries and in the ceramic industry).

Therefore, preventing the onset of silicosis will also reduce the cancer risk...” (SCOEL SUM Doc 94-final, June 2003) According to the current state of the art, worker protection against silicosis can be consistently assured by respecting the existing regulatory occupational exposure limits. Occupational exposure to respirable dust and respirable crystalline silica should be monitored and controlled.

IARC Monographs. Overall Evaluation of Carcinogenicity: Silica, quartz (CAS 14808-60-7) Group 1 Carcinogenic to humans.

NTP Report on Carcinogens Silica, quartz (CAS 14808-60-7) Known To Be Human Carcinogen.

The International Agency for Research on Cancer has determined that crystalline silica is carcinogenic to humans (Group 1 - carcinogenic to humans). Refer to IARC Monograph 100C, A Review of Human Carcinogens: Arsenic, Fibres, and Dusts (published in 2011) in conjunction with the use of these materials. The National Toxicology Program classifies respirable crystalline silica as “known to be a human carcinogen”. Refer to the Twelfth Report on Carcinogens (2011). The American Conference of Governmental Industrial Hygienists (ACGIH) classifies crystalline silica, quartz, as a suspected human carcinogen (A2).

Germ Cell Mutagenicity:

In vitro:	Product:	No data available.
In vivo:	Product:	No data available.

Reproductive Toxicity: Product: No data available.

Specific Target Organ Toxicity:

Single Exposure:	May cause respiratory irritation.
Repeated Exposure:	May cause damage to organs (Lungs) through prolonged or repeated exposure. Aspiration hazard Due to the physical form of the product it is not an aspiration hazard.

Chronic Effects Prolonged or Repeated Exposure: May cause lung injury, including silicosis. May cause skin disorders if contact is repeated or prolonged.

SECTION 12. ECOLOGICAL INFORMATION

Eco Toxicity: Not expected to be hazardous to the environment.
Persistence and Degradability: No Data Available
Bioaccumulation Potential: No Data Available
Mobility in Soil: No Data Available
Other Adverse Effects: No other adverse environmental effects are expected.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal of Wastes: This product is not expected to be a hazardous waste. Place spilled material into a container for later use, or it can be disposed of as common waste. Scrape wet material and place in container. Allow material to dry or solidify before disposal. Dispose of according to Federal, State, Provincial and Local regulations.

Contaminated Packaging: Dispose of as unused material.

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SECTION 14. TRANSPORT INFORMATION

TDG: Not regulated as dangerous goods.

UN Shipping Name:	Not Regulated
Classification:	N/A
UN:	N/A
Packing Group:	N/A

SECTION 15. REGULATORY INFORMATION

WHMIS Classification: D.2(B);E

Canada DSL/NDSL Inventory: All components in this product are listed or exempt from the Inventory.

SECTION 16. OTHER INFORMATION

Revision Date: January 4, 2017
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