

# Material Safety Data Sheet

Material Name: Flow-Rite Foundry Filters

MSDS ID: MSDS-1000

## \*\*\* Section 1 - Chemical Product and Company Identification \*\*\*

Part Number: FC, HD, ST

Product Use: Molten Metal Filter Cores

### Manufacturer Information

CoorsTek Advanced Materials Hamilton, ULC  
45 Curtis Avenue North  
P.O. Box 551  
Paris, Ontario, Canada N3L 3T6

Phone: 1 (519) 442-7792

Emergency # 1 (800) 424-9300 (CHEMTREC)

## \*\*\* Section 2 - Hazards Identification \*\*\*

### Emergency Overview

This material is considered an "article" under 29 CFR 1910.1200 (Hazard Communication). The information in this MSDS is provided for situations where this article may be deformed creating dusts or fumes which may be potentially hazardous.

### Hazard Statements

Contains a naturally occurring mineral component which is a carcinogen. Do not grind, cut or disturb in such a way that dust is created or released. Do not breathe dust. Wash thoroughly after handling.

### Potential Health Effects: Eyes

Dust or powder may cause mechanical irritation to eye tissue.

### Potential Health Effects: Skin

Dust or powder may cause mechanical irritation to the skin. Rubbing may increase irritation, especially if allowed to remain in contact with the skin for extended periods.

### Potential Health Effects: Ingestion

Ingestion of this product is unlikely. However, ingestion of product may produce gastrointestinal irritation and disturbances.

### Potential Health Effects: Inhalation

Dusts of this product may cause irritation of the nose, throat, and respiratory tract.

HMIS Ratings: Health: 0\* Fire: 0 Reactivity: 0 Pers. Prot.: Gloves, Safety Glasses

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe \* = Chronic hazard

## \*\*\* Section 3 - Composition / Information on Ingredients \*\*\*

CAS #	Substance	Percent
66402-68-4	Ceramic materials and wares, chemicals	100
14808-60-7	Quartz**	0.6-15

\*\*NOTE: This is not a separate component, it is included in the Ceramic Materials and Wares. See "Section 11: Toxicological Information" for more information.

### Substance Related Regulatory Information

This preparation may be regulated, have exposure limits or other information identified as the following: Nuisance particulates.

### Component Information/Information on Non-Hazardous Components

This product has been evaluated using criteria specified in 29CFR 1910.1200 (Hazard Communication Standard) and the Canadian Hazardous Product Act (WHMIS).

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## \*\*\* Section 4 - First Aid Measures \*\*\*

### First Aid: Eyes

Immediately flush eyes with plenty of water for at least 15 minutes. If irritation persists get medical attention.

### First Aid: Skin

For skin contact, flush with large amounts of water. If irritation persists, get medical attention.

### First Aid: Ingestion

If the material is swallowed, get immediate medical attention or advice -- Do not induce vomiting.

### First Aid: Inhalation

If symptoms are experienced, remove source of contamination or move victim to fresh air. Call a physician if symptoms develop or persist. If the affected person is not breathing, apply artificial respiration. Seek medical attention.

## \*\*\* Section 5 - Fire Fighting Measures \*\*\*

### General Fire Hazards

See Section 9 for Flammability Properties.

This refractory material is not expected to be a fire hazard.

### Hazardous Combustion Products

None expected in normal fire conditions (Melting point= >1800°C (3272°F)).

### Extinguishing Media

Use methods for the surrounding fire.

### Fire Fighting Equipment/Instructions

Fire fighters should wear full-face, self contained breathing apparatus and impervious protective clothing. Fire fighters should avoid inhaling any combustion products.

**NFPA Ratings: Health: 1 Fire: 0 Reactivity: 0**

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

## \*\*\* Section 6 - Accidental Release Measures \*\*\*

### Containment Procedures

No special procedures necessary.

### Clean-Up Procedures

Wear appropriate protective equipment and clothing during clean-up. Avoid the generation of dusts during clean-up. Put material in suitable, covered, labeled containers.

### Evacuation Procedures

None necessary.

### Special Procedures

Wear appropriate personal protective equipment.

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## \*\*\* Section 7 - Handling and Storage \*\*\*

### Handling Procedures

Avoid contact of dusts with skin and eyes. Avoid breathing dusts from this material. Keep container closed. Keep formation of airborne dusts to a minimum.

### Storage Procedures

Keep the container dry. Guard against dust accumulation of this material.

## \*\*\* Section 8 - Exposure Controls / Personal Protection \*\*\*

### A: Component Exposure Limits

Consult local authorities for acceptable exposure limits.

#### Ceramic materials and wares, chemicals (66402-68-4)

- ACGIH: 10 mg/m<sup>3</sup> TWA (inhalable particles, recommended); 3 mg/m<sup>3</sup> TWA (respirable particles, recommended) (related to Particulates (insoluble or poorly soluble) not otherwise specified (PNOS))
- OSHA: 15 mg/m<sup>3</sup> TWA (total dust); 5 mg/m<sup>3</sup> TWA (respirable fraction) (related to Particulates not otherwise regulated)
- Alberta: 10 mg/m<sup>3</sup> TWA (total particulate); 3 mg/m<sup>3</sup> TWA (respirable particulate) (related to Particulates not otherwise regulated)
- British Columbia: 10 mg/m<sup>3</sup> TWA (total dust); 3 mg/m<sup>3</sup> TWA (respirable fraction) (related to Particles (insoluble or poorly soluble) not otherwise specified)
- Manitoba: 10 mg/m<sup>3</sup> TWA (inhalable particles, recommended); 3 mg/m<sup>3</sup> TWA (respirable particles, recommended) (related to Particulates (insoluble or poorly soluble) not otherwise specified)
- New Brunswick: 10 mg/m<sup>3</sup> TWA (particulate matter containing no asbestos and < 1% crystalline silica, inhalable fraction); 3 mg/m<sup>3</sup> TWA (particulate matter containing no asbestos and < 1% crystalline silica, respirable fraction) (related to Particulates not otherwise classified)
- NW Territories: 5 mg/m<sup>3</sup> TWA (respirable mass); 10 mg/m<sup>3</sup> TWA (total mass) (related to Nuisance particulate)
- Nova Scotia: 10 mg/m<sup>3</sup> TWA (inhalable particles, recommended); 3 mg/m<sup>3</sup> TWA (respirable particles, recommended) (related to Particulates (insoluble or poorly soluble) not otherwise specified)
- Nunavut: 5 mg/m<sup>3</sup> TWA (respirable mass); 10 mg/m<sup>3</sup> TWA (total mass) (related to Nuisance particulate)
- Ontario: 10 mg/m<sup>3</sup> TWAEV (inhalable particulate); 3 mg/m<sup>3</sup> TWAEV (respirable particulate) (related to Particles (insoluble or poorly soluble) Not Otherwise Specified)
- Quebec: 10 mg/m<sup>3</sup> TWAEV (total dust, containing no asbestos and less than 1% crystalline silica) (related to Particulates not otherwise classified)
- Saskatchewan: 10 mg/m<sup>3</sup> TWA (inhalable fraction); 3 mg/m<sup>3</sup> TWA (respirable fraction) (related to Particulates, n.o.c.)  
20 mg/m<sup>3</sup> STEL (inhalable fraction); 6 mg/m<sup>3</sup> STEL (respirable fraction) (related to Particulates, n.o.c.)

#### Quartz (14808-60-7)

- ACGIH: 0.025 mg/m<sup>3</sup> TWA (respirable fraction)
- OSHA: 0.1 mg/m<sup>3</sup> TWA (respirable dust)
- NIOSH: 0.05 mg/m<sup>3</sup> TWA (respirable dust)
- Alberta: 0.1 mg/m<sup>3</sup> TWA (respirable particulate)
- British Columbia: 0.025 mg/m<sup>3</sup> TWA (respirable)
- Manitoba: 0.025 mg/m<sup>3</sup> TWA (respirable fraction)
- New Brunswick: 0.1 mg/m<sup>3</sup> TWA (respirable fraction)
- NW Territories: 0.1 mg/m<sup>3</sup> TWA (respirable mass); 0.3 mg/m<sup>3</sup> TWA (total mass)
- Nova Scotia: 0.025 mg/m<sup>3</sup> TWA (respirable fraction)
- Nunavut: 0.1 mg/m<sup>3</sup> TWA (respirable mass); 0.3 mg/m<sup>3</sup> TWA (total mass)
- Ontario: 0.10 mg/m<sup>3</sup> TWAEV (designated substance regulation)
- Quebec: 0.1 mg/m<sup>3</sup> TWAEV (respirable dust)
- Saskatchewan: 0.05 mg/m<sup>3</sup> TWA (respirable fraction)
- Yukon: 300 particles/mL TWA

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## Engineering Controls

Ventilation should effectively remove and prevent buildup of any dust generated from the handling of this product.

## PERSONAL PROTECTIVE EQUIPMENT

### Personal Protective Equipment: Eyes/Face

Wear safety glasses.

### Personal Protective Equipment: Skin

Wear leather or other appropriate work gloves, if necessary for type of operation.

### Personal Protective Equipment: Respiratory

If ventilation is not sufficient to effectively prevent buildup of dust, appropriate NIOSH respiratory protection must be provided.

### Personal Protective Equipment: General

Eye wash fountain is recommended.

## \*\*\* Section 9 - Physical & Chemical Properties \*\*\*

<b>Appearance:</b>	Beige to white filter	<b>Odor:</b>	Not Available
<b>Physical State:</b>	Solid	<b>pH:</b>	Not Applicable
<b>Vapor Pressure:</b>	Not Applicable	<b>Vapor Density:</b>	Not Applicable
<b>Boiling Point:</b>	Not Applicable	<b>Melting Point:</b>	>1800°C (3272°F) (Mullite)
<b>Solubility in Water:</b>	Insoluble	<b>Density:</b>	1.9 g/cc approx.
<b>Flash Point:</b>	Not Applicable	<b>Flash Point Method:</b>	Not Applicable
<b>LFL:</b>	Not Applicable	<b>UFL:</b>	Not Applicable
<b>Auto Ignition Temp:</b>	Not Applicable		

## \*\*\* Section 10 - Chemical Stability & Reactivity Information \*\*\*

### Chemical Stability

This is a stable material.

### Chemical Stability: Conditions to Avoid

Avoid high airborne dust accumulation.

### Incompatibility

None identified.

### Hazardous Decomposition

None known.

### Possibility of Hazardous Reactions

Hazardous polymerization will not occur.

## \*\*\* Section 11 - Toxicological Information \*\*\*

### Acute Dose Effects

#### A: General Product Information

If dusts are created, they may cause irritation to the skin, eyes and respiratory system. At very high exposure levels the dust may have an effect on the lungs.

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Exposure to quartz (the most stable and common form of crystalline silica) is responsible for the majority of clinically diagnosed silicosis. Silicosis is a fibronodular lung disease that typically occurs after occupational exposure to crystalline silica for 5 years or longer. Inhalation of quartz dusts may cause shortness of breath, limitation of chest expansion, dry cough, and a lessened capacity for work. Individuals with a pre-existing disease in, or a history of ailments involving the skin or respiratory tract, are at a greater risk of developing adverse health effects when exposed to this material.

## **B: Component Analysis - LD50/LC50**

**Quartz (14808-60-7)**

Oral LD50 Rat: 500 mg/kg

## **Carcinogenicity**

### **A: General Product Information**

No information available for the product.

### **B: Component Carcinogenicity**

**Quartz (14808-60-7)**

ACGIH: A2 - Suspected Human Carcinogen

NIOSH: potential occupational carcinogen

NTP: Known Human Carcinogen (Select Carcinogen)

IARC: Monograph 68 [1997] (listed under Crystalline silica inhaled in the form of quartz or cristobalite from occupational sources) (Group 1 (carcinogenic to humans))

## **Other Toxicological Information**

Under normal conditions of use for glass products, the likelihood of inhaling or ingesting amounts necessary for these effects to occur is very small.

## \* \* \* Section 12 - Ecological Information \* \* \*

## **Ecotoxicity**

### **A: General Product Information**

No information available for the product.

### **B: Component Analysis - Ecotoxicity - Aquatic Toxicity**

No ecotoxicity data are available for this product's components.

## **Environmental Fate**

No information available for the product.

## \* \* \* Section 13 - Disposal Considerations \* \* \*

## **US EPA Waste Number & Descriptions**

### **A: General Product Information**

Material, if discarded, is not expected to be a characteristic hazardous waste under RCRA.

### **B: Component Waste Numbers**

No EPA Waste Numbers are applicable for this product's components.

## **Disposal Instructions**

Dispose of waste material according to Local, State, Federal, and Provincial Environmental Regulations.

See Section 7 for Handling Procedures. See Section 8 for Personal Protective Equipment recommendations.

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## \*\*\* Section 14 - Transportation Information \*\*\*

### DOT Information:

**Shipping Name:** Not regulated as a hazardous material for transportation.

### TDG Information:

**Shipping Name:** Not regulated as a dangerous good for transportation.

## \*\*\* Section 15 - Regulatory Information \*\*\*

### US Federal Regulations

#### A: General Product Information

All components are on the U.S. EPA TSCA Inventory List.

#### B: Component Analysis

None of this products components are listed under SARA Section 302 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65), or CERCLA (40 CFR 302.4).

**Acute Health:** No **Chronic Health:** Yes (dust) **Fire:** No **Pressure:** No **Reactive:** No

### State Regulations

#### A: General Product Information

Other state regulations may apply. Check individual state requirements.

#### B: Component Analysis - State

The following components appear on one or more of the following state hazardous substances lists:

Component	CAS	CA	MA	MN	NJ	PA	RI
Ceramic materials and wares, chemicals (related to Nuisance particulates)	66402-68-4	No	No	No	No	No	Yes <sup>1</sup>
Quartz	14808-60-7	No	Yes	Yes	Yes	Yes	Yes

The following statement(s) are provided under the California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65):

WARNING! This product contains a chemical known to the state of California to cause cancer.

### Component Analysis - WHMIS IDL

The following components are identified under the Canadian Hazardous Products Act Ingredient Disclosure List:

Substance	CAS #	Minimum Concentration
Quartz	14808-60-7	1 %

**WHMIS Classification:** Not a controlled product under WHMIS.

### Additional Regulatory Information

#### A: General Product Information

No additional information available.

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## B: Component Analysis – Inventory

Substance	CAS #	TSCA	CAN	EEC
Ceramic materials and wares, chemicals	66402-68-4	Yes	DSL	EINECS
Quartz	14808-60-7	Yes	DSL	EINECS

### \*\*\* Section 16 - Other Information \*\*\*

#### Other Information

Reasonable care has been taken in the preparation of this information, but the manufacturer makes no warranty of merchantability or any other warranty, expressed or implied, with respect to this information. The manufacturer makes no representations and assumes no liability for any direct, incidental or consequential damages resulting from its use.

MSDS Version 2.100, 06-SEP-2011: Updated material, part number and company names.

MSDS Version 2.000, 09-JAN-2009: Updated format.

#### Key/Legend

ACGIH = American Conference of Governmental Industrial Hygienists. AICS = Australian Inventory of Chemical Substances. CAS = Chemical Abstract Service. CERCLA = Comprehensive Environmental Response, Compensation and Liability Act. CFR = Code of Federal Regulations. CHEMTREC = Chemical Transportation Emergency Center. DSL = Canadian Domestic Substance List. EINECS = European Inventory of New and Existing Chemical Substances. EPA = Environmental Protection Agency. HEPA = High Efficiency Particulate Air. HMIS = Hazardous Materials Identification System. IARC = International Agency for Research on Cancer. IDLH = Immediately Dangerous to Life and Health. MITI = Japanese Ministry of International Trade and Industry. NDSL = Canadian Non-Domestic Substance List. NFPA = National Fire Protection Association. NIOSH = National Institute of Occupational Safety and Health. NJTSR = New Jersey Trade Secret Registry. NTP = National Toxicology Program. OSHA = Occupational Safety and Health Administration. NA = Not available or Not Applicable. SARA = Superfund Amendments and Reauthorization Act. TDG = Transportation of Dangerous Goods. TLV = Threshold Limit Value. TSCA = Toxic Substances Control Act. WHMIS = Workplace Hazardous Materials Information System.

End of Sheet MSDS-1000