



## MATERIAL SAFETY DATA SHEET

**FC CERAMIC BLANKET and BULK FIBRE**      **Effective Date: April 11, 2007**

### 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Group: High Temperature Insulating Ceramic Vacuum-Formed Boards and Shapes  
 Chemical Name: Vitreous Aluminosilicate Fibre  
 Synonyms: Refractory Ceramic Fibre (RCF), Ceramic Fibre, Synthetic Vitreous Fibre (SVF), Man-Made Vitreous Fibre (MMVF), Man-Made Mineral Fibre (MMMMF)  
 Trade Names: **FC Blanket, Bulk Fibre, Chopped Fibre, HP Blanket**  
 Manufacturer/Supplier: FibreCast Incorporated  
 3264 Mainway  
 Burlington, Ontario, Canada L7M 1A7 905-319-1080; Fax 905-319-7611  
 Customer Support: [sales@fibrecast.com](mailto:sales@fibrecast.com)

### 2. COMPOSITION / INFORMATION ON INGREDIENTS

COMPONENTS	CAS #	% BY WEIGHT
Refractories, fibres, aluminosilicate	142844-00-6	100

### 3. LABEL INFORMATION

#### **BULK, CHOPPED, BLANKET REFRACTORY CERAMIC FIBRE PRODUCTS IN VARIOUS SHAPES**

**Symbol:** Toxic – Class D, Division 2A – other toxic effects

**Risk phrases:** Warning: This product contains ceramic fibre, a substance which has been identified by IARC as possibly carcinogenic to humans. Follow safety instructions as stated on the MSDS.

Ceramic fibre may cause temporary skin and upper respiratory tract irritation. Exposure to respirable dust and fibre should be minimized. Product which has been in service above 1800 deg. F or 980 deg C may undergo partial conversion to cristobalite, a crystalline form of silica which is classified by IARC as a known human carcinogen.

**Precautionary Measures:** Avoid breathing dust and contact with skin and eyes. Wear NIOSH approved respirator for airborne concentrations above 0.5 fibre/cc and in dust concentrations above 0.025 mg/m<sup>3</sup> of respirable cristobalite. Wear long-sleeved, loose fitting clothing, gloves and eye protection. Use with adequate ventilation. Wash all exposed areas gently with soap and water after contact.

**First Aid Procedures:** If eyes become irritated, flush with water for 15 minutes. If skin becomes irritated, wash gently with soap and water. If irritation persists, consult physician. If breathing difficulties develop, remove from exposure and call physician immediately.

**Refer to Material Safety Data Sheet for Further Information.**

**FibreCast Inc. 3264 Mainway, Burlington, ON, Canada L7M 1A7; phone 905-319-1080**

#### 4. HAZARDS IDENTIFICATION

**Chronic Effect:** There has been no increased incidence of respiratory disease in studies examining occupationally exposed workers. In animal studies, long-term, laboratory exposure to doses hundreds of times higher than normal occupational exposures has produced fibrosis, lung cancer, and mesothelioma in rats and hamsters. The fibres used in those studies were specially sized to maximize rodent respirability.

**Other Potential Effects:** Target Organs: respiratory tract (nose & throat), eyes, skin.

**Respiratory Tract (nose and throat) Irritation:** If inhaled in sufficient quantity, may cause temporary, mild irritation to respiratory tract. Symptoms may include scratchiness of the nose or throat, cough or chest discomfort.

**Eye Irritation:** Handling new product may also cause temporary, mild mechanical irritation. Fibres maybe abrasive; prolonged contact may cause damage to the outer surface of the eyes.

**Skin Irritation:** Skin contact may cause temporary, mild mechanical irritation. Exposure may also result in inflammation, rash or itching.

**Gastrointestinal Irritation:** Unlikely route of exposure.

**Medical Conditions aggravated by Exposure:** Pre-existing medical conditions, including dermatitis, asthma or chronic lung disease may be aggravated by exposure; individuals who have a history of allergies may experience greater amounts of skin and respiratory irritation.

**Hazard Classification:** Although studies, involving occupationally exposed workers, have not identified any increased incidence of respiratory disease, results from animal testing have been used as the basis for hazard classification: In each of the following cases, the conclusions are qualitative only and do not rest upon any quantitative analysis suggesting that the hazard actually may occur at current occupational exposure levels. In October 2001, the International Agency for Research on Cancer (IARC) confirmed that Group 2B (possible human carcinogen) remains the appropriate IARC classification for refractory ceramic fibre (RCF). ACGIH has classified RCF as "A2-Suspected Human Carcinogen." The Commission of The European Communities (DG XI) has classified RCF as a substance that should be regarded as if it is carcinogenic to man. The Canadian Environmental Protection Agency (CEPA) has classified RCF as "probably carcinogenic (group 2).

The Canadian Workplace Hazardous Materials Information System (**WHMIS**) has classified refractory ceramic fibres as a Class D2A – "Materials Causing Other Toxic Effects".

#### 5. First Aid Measures

**Respiratory Tract (nose & throat) Irritation:** If respiratory tract irritation develops, move the person to a dust free location. Get medical attention if the irritation continues. See Section 8 for additional measures to reduce or eliminate exposure.

**Eye Irritation:** If eyes become irritated, flush immediately with large amounts of lukewarm water for at least 15 minutes. Eyelids should be held away from the eyeball to ensure thorough rinsing. Do not rub eyes. Get medical attention if irritation persists.

**Skin Irritation:** If skin becomes irritated, remove soiled clothing. Do not rub or scratch exposed skin. Wash the area of contact thoroughly with soap and water. Using a skin cream or lotion after washing may be helpful.

**Gastrointestinal Irritation:** If gastrointestinal tract irritation develops, move the person to a dust free environment.

**Notes to Physicians:** Skin and respiratory effects are the result of temporary, mild mechanical irritation; fibre exposure does not result in allergic manifestations.

## 6. FIRE FIGHTING MEASURES

**NFPA Unusual Hazards:** None

**Flammable Properties:** None

**Flash Point:** None

**Hazardous Decomposition Products:** No decomposition if used according to specifications.

**Unusual Fire and Explosion Hazard:** None

**Extinguishing Media:** In the event of a fire, use extinguishing media suitable for type of surrounding fire.

## 7. ACCIDENTAL RELEASE MEASURES

Avoid creating airborne dust. Dust suppressing cleaning methods should be used to clean the work area. If vacuuming, the vacuum must be equipped with a filter. Compressed air or dry sweeping should not be used for cleaning. Refer to local Regulations about compressed air limitations for cleaning.

## 8. HANDLING AND STORAGE

**Storage:** No special requirements.

**Handling:** Handle any fibre products carefully. For volume applications involving a major reshaping of the product, use power tools in conjunction with an effective local dust capture system to minimize dust generation. Depending on the degree of debris, clean the work area with HEPA filtered vacuum or wet sweeping to minimize the accumulation of debris. Do not use compressed air for clean up – Government Regulations limit use of compressed air for clean up – see Regulations for the specific restrictions.

**Empty Containers:** No special requirements.

## 9. EXPOSURE CONTROLS AND PERSONAL PROTECTION

**Occupational exposure limit (OEL) for refractory ceramic fibre:** The Ontario Occupational Exposure Limit is: 0.5 f/cc, 8-hr. TWAEV or OEL.

**Other Occupational Exposure Levels (OEL) RCF-** related occupational exposure limits vary domestically and internationally. Regulatory occupational exposure examples include: Australia – 0.5 f/cc; Austria – 0.5 f/cc; Canada from 0.2 to 1.0 f/cc; Denmark – 1.0 f/cc; France – 0.6 f/cc; Germany – 0.5 f/cc; Netherlands – 1.0 f/cc; New Zealand – 1.0 f/cc; Norway – 2.0 f/cc; Poland – 2.0 f/cc; Sweden – 1.0 f/cc; United Kingdom – 2.0 f/cc; The objectives and criteria underlying each of these OEL decisions also vary. The evaluation of occupational exposure limits and determining their relative applicability to the workplace is best performed, on a case – by - case basis, by a qualified Industrial Hygienist.

**Engineering Controls** - Use engineering controls such as local exhaust ventilation, point of generation dust collection, down draft work stations, emission controlling tool designs and materials handling equipment designed to minimize airborne fibre and dust emissions.

**Personal Protection Equipment** - Respiratory Protection for refractory ceramic fibres: When engineering and/or administrative controls are insufficient, the use of appropriate respiratory protection is recommended. The following information is provided as an example of appropriate respiratory protection for aluminosilicate fibres. The evaluation of workplace hazards and the identification of appropriate respiratory protection is best performed on a case by case basis by a qualified Industrial Hygienist.

**Manufacturer's Respiratory Protection Recommendations When Handling Refractory Ceramic Fibre Products:**

### Respirable Airborne Fibre Concentration

- less than 0.5 f/cc
- 0.5 to 5.0 f/cc
- 5.0 to 25 f/cc

### Respirator Recommendation

To be based on other workplace conditions present  
 Disposable respirator with approved N95 cartridge  
 Minimum a full face piece respirator with N100 cartridge

The N95 recommendation is a minimum default choice. In some case, solid arguments can be made that other respirator types (e.g. N100, etc.) may be suitable for some tasks or work environments. The N95 recommendation is not designed to limit informed choices, provided that respiratory protection decisions are based on the occupational studies covering the activities involved.

**Skin Protection:** Wear gloves, head coverings and full body clothing as necessary to prevent skin irritation.

**Eye Protection:** Wear safety glasses with side shields or other forms of eye protection in compliance with appropriate Canadian standards to prevent eye irritation. The use of contact lenses is not recommended, unless used in conjunction with appropriate eye protection. Do not touch eyes with soiled body parts or materials.

## 10. PHYSICAL AND CHEMICAL PROPERTIES

Odour and Appearance:	Off white to light brown, odourless, fibrous material
Chemical Family:	Vitreous aluminosilicate fibres
Boiling Point	Not applicable
Water Solubility (%):	Not Soluble in Water
Melting Point	1760 °C (3200 °F)
Relative Density (pounds/ft <sup>3</sup> )	varies
Vapour Pressure	Not Applicable
pH:	Not Applicable
Vapour Density (Air = 1):	Not Applicable
% Volatile:	Not Applicable

## 11. STABILITY AND REACTIVITY

Chemical Stability:	Stable under conditions of normal use.
Incompatibility:	Soluble in hydrofluoric acid, phosphoric acid and concentrated alkali
Conditions to Avoid	None known.
Hazardous Polymerization:	Not applicable.

## 12. TOXICOLOGICAL INFORMATION

**Health Data Summary:** Epidemiological studies of refractory ceramic fibre production workers have indicated no increased incidence of respiratory disease, nor other significant health effects. In animal studies, long-term, high-dose inhalation exposure resulted in the development of respiratory diseases in rats and hamsters.

## 13. ECOLOGICAL INFORMATION

No ecological concerns have been identified.

## 14. DISPOSAL CONSIDERATIONS

**Waste Management** To prevent waste materials from becoming airborne during waste storage, transportation and disposal, a covered container or plastic bagging is recommended.

**Disposal:** Refractory Ceramic Fibre, as manufactured, is not classified as a hazardous waste according to Canadian Federal regulations. Any processing, use, alteration or chemical additions to the product, as purchased, may alter the disposal requirements Under Federal regulations, it is the waste generator's responsibility to properly characterize a waste material to determine if it is a "hazardous" waste. Check local, regional, state or provincial regulations to identify all applicable disposal requirements.

## 15. TRANSPORTATION INFORMATION

Canadian Transportation of Dangerous Goods Regulation: Hazard Class & PIN: Non Regulated  
Not classified as dangerous goods under ADR (road), RID (train), or IMDG (ship).

**16. REGULATIONS**

**Canadian Workplace Hazardous Materials Information System (WHMIS)** – RCF is classified as Class D2A – Materials Causing Other Toxic Effects. **Canadian Environmental Protection Act (CEPA)** – All substances in this product are listed as required on the Domestic Substance List (DSL)

**17. OTHER INFORMATION****Refractory Ceramic Fibre After-Service (Tear out) Removal**

Respiratory protection should be provided in compliance with local, provincial, federal standards. During removal operations, an appropriate air-purifying respirator is recommended to reduce inhalation exposure coupled with suitable eye protection. A specific evaluation of workplace hazards and the identification of appropriate respiratory protection are best performed on a case-by-case basis by a qualified industrial hygiene professional.

**18. PREPARATION INFORMATION**

This MSDS was prepared April 11, 2007 by G.E. Menzies P.Eng, ROH. For more information, phone 905-319-1080 or visit our FibreCast website.

**DISCLAIMER**

The information presented herein is presented in good faith and believed to be accurate as of the effective date of this Material Safety Data Sheet. Occupational exposure limits are under constant review and may be changed at any time. Employers may use this MSDS to supplement other information gathered by them in their efforts to assure the health and safety of their employees and the proper use of this product. This summary of the relevant data reflects professional judgment. Employers should note that information perceived to be less relevant has not been included in this MSDS. Therefore, given the summary nature of this document, FibreCast Inc. does not extend any warranty (expressed or implied), assume any responsibility or make any representation regarding the completeness of this information or its suitability for the purposes envisioned by the user.