

FC PRECAST REFRACTORY SHAPES

Effective Date: April 19th, 2011

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

- A. **Product Group** : Precast Shapes, Tiles, and Inserts for Fireplaces (manufactured item – not WHMIS controlled)
- B. **Chemical Name** : Heavy Duty Select
- C. **Synonyms** : Precast Shapes, Tiles and Inserts
- D. **Trade Names** : FibreCast Precast Refractory Shapes
- E. **Manufacturer** : FibreCast Incorporated - 3264 Mainway - Burlington, Ontario, Canada L7M 1A7 905-319-1080; Fax 905-319-7611
Customer Support: sales@fibrecast.com

2. COMPOSITION / INFORMATION ON INGREDIENT

COMPONENTS	CAS NUMBER	% BY WEIGHT
Inert refractory, fused alumina-silicate mix	n/a	60 to 80
Cement (calcium aluminate)	65997-16-2	15 to 20
Aluminum oxide	1344-28-1	0 to 5
Magnesium oxide	1309-48-4	1 to 3
Iron oxide	1309-37-1	1 to 3
Carbon steel needles	7439-89-6	0.5 to 1.0
Silica - quartz as sand	14808-60-7	0.1 to 5

3. LABEL INFORMATION

This is a manufactured article with a permanent shape and it is not expected to release any hazardous ingredients. Therefore the product is not a WHMIS controlled product, hence requires no WHMIS label. However, when the product is removed after use and crushed for disposal or recycling, dust controls may be required.

4. HAZARDS IDENTIFICATION

- A. **Effects of Overexposure** : (based on after service situations e.g. tear outs, crushing, cutting, or recycling):
- B. **Respirable – Acute** : Exposure to airborne particulate may cause temporary irritation or discomfort to skin, nose, throat or lungs and may aggravate bronchial disorders.
- C. **Respirable - Chronic Effect** : Long term inhalation of respirable quartz, cristobalite, fused silica and other respirable airborne particulate may cause silicosis a delayed long-term lung disease and other respiratory disorders. IARC states that there is sufficient evidence for the carcinogenicity of crystalline silica to humans – group 1.
- D. **Skin Irritation** : Prolonged contact with skin may cause irritation.
- E. **Medical Conditions Aggravated By Exposure** : Pre-existing medical conditions, including dermatitis, asthma or chronic lung disease, may be aggravated by exposure to a variety of airborne particulate. Workers who have a history of allergies may experience greater amounts of skin and respiratory irritation.



5. FIRST AID MEASURES

A. Description of necessary measures subdivided according to the different routes of exposure, i.e., inhalation, skin and eye contact, and ingestion

SKIN: If skin becomes irritated, remove soiled clothing. Do not rub or scratch exposed skin. Wash the area of contact thoroughly with a mild soap and water.

EYES: If eyes become irritated, flush immediately with large amounts of lukewarm water. Eyelids should be held away from the eyeball to ensure thorough rinsing. Do not rub eyes with dirty hands or shirt sleeves. Get medical attention if irritation persists.

NOSE AND THROAT: If respiratory tract irritation develops, move the worker to a dust free location. Get medical attention if the irritation continues.

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

B. Indication of immediate medical attention and special treatment needed, if necessary:

Skin and respiratory effects are the result of temporary, mild irritation; dust exposure does not result in allergic manifestations.

6. FIRE FIGHTING MEASURES

A. **NFPA UNUSUAL HAZARDS :** None

B. **Flammable Properties :** None

C. **Flash Point :** This product is non-combustible and does not pose a fire or explosion hazard and will not contribute to the intensity of a fire.

D. **Specific hazards arising from the chemical (e.g., nature of any hazardous combustion products):** None

E. **Hazardous Decomposition Products:** Product that has been in service could be a problem to workers during a tear-out or recycling of product. Product requires the addition of water to the cement during manufacture and shaping of product. This water evaporates as product hardens with a small portion driven out by heat during the initial heat-up. Too fast an initial heating rate may cause the development of excess steam pressure, which could result in a rupture or explosion. Also, some minor amounts of liquid concrete form release may vapourize during the initial heating of product, which can result in a short-term one-time odour.

F. **Unusual Fire and Explosion Hazard:** None expect as noted above.

G. **Extinguishing Media:** Use extinguishing media suitable for type of surrounding fire

7. ACCIDENTAL RELEASE MEASURES

A. **Personal precautions, PPE, and Emergency Procedures:** During removal after its final use, avoid creating unnecessary airborne dust when crushing or disposal of product.

B. **Methods and materials for containment and Cleaning Up:** Compressed air or dry sweeping should not be used for cleaning up any residual dust or product.

8. HANDLING AND STORAGE

A. **Precautions for safe handling:** Handle the product carefully to minimize the generation of airborne dust and particulate. Do not use compressed air for the clean up of any residual material.

B. **Conditions for safe storage:** No particular requirement other than to avoid contamination by another product.



9. EXPOSURE CONTROLS / PERSONAL PROTECTION

A. Ontario Occupational exposure limits [OEL] The following occupational exposure limits (OELs) are based on a dusty removal or crushing of the product after it has been in use. OELs vary widely and are under constant review. MOL Reg 833 and ACGIH latest TLV book are the best guides for the latest occupational exposure levels. Also refer to those that apply currently to the location where the product is being removed from service. Engineering controls, good work procedures and personal protective equipment need to be employed to reduce exposure to airborne dust as follows:

COMPONENTS	Recommended OEL Ontario
Crystalline silica (quartz)	0.05 mg/m3. (respirable)[ACGIH guideline]
Inhalable dust	3.0 mg/m3 (respirable portion)
Magnesium oxide	10.0 mg/m3 (inhalable particles)
Aluminum oxide	5.0 mg/m3 (respirable fraction)
Iron oxide	5.0 mg/m3 (respirable fraction)

B. Individual protection measures, such as personal protective equipment: The use of appropriate respiratory protection is recommended. A N95 air purifying respirator recommendation is a minimum default choice. In some case, solid arguments can be made that other respirator types may be suitable for some tasks or work environments.

Skin Protection: Wear long sleeved loose fitting clothing and suitable gloves. If possible, do not take unwashed clothing home. If soiled work clothing must be taken home, employers should ensure employees are thoroughly trained on the best practices to minimize or avoid non-work dust exposure (e.g. vacuum clothes before leaving the work area, wash work clothing separately, rinse washer before washing other household clothes, etc.)

Eye Protection: Wear safety glasses with integrated side shields or other forms of eye protection in compliance with appropriate CSA standards to prevent eye irritation when machining or cutting product. The use of contact lenses is not recommended, unless used in conjunction with appropriate eye protection such as goggles. Do not rub eyes with soiled hands or sleeves. If possible, have eye-washing facilities available where eye irritation can occur.

Other Information: Concentrations are based upon an eight-hour time weighted average (TWA) as determined by air samples collected and analyzed over sufficient exposure periods. The supplier recommends, at a minimum, the use of a quality air purifying respirator equipped with an appropriate particulate filter cartridge during extended tear-out events to control exposures to respirable dust and crystalline silica. A qualified Industrial Hygienist should evaluate potential exposure to the airborne contaminants that could be present from other products. The selection of appropriate respiratory protection and air monitoring will depend upon conditions present in a particular work environment and updated legislation.

10. PHYSICAL AND CHEMICAL PROPERTIES

10.1 Information on basic physical and chemical properties

APPEARANCE Solid shape, grey in colour	SPECIFIC GRAVITY 2.0 TO 3.0
BOILING POINT Not applicable	pH Wet unhardened product may exceed pH of 11
ODOUR No odour	% VOLATILE Not applicable
MELTING POINT > 2000 deg F.	Chemical Family Alumino silicate/cement

11. STABILITY AND REACTIVITY

Strong acids may react violently with dry or wet unhardened product. Product requires the addition of water during manufacture and shaping. This water evaporates normally as the shape hardens. However there is some potential that some water vapour may be driven out by heat during the initial heat-up of the product which would result in a rupture.

Hazardous Decomposition Products: During the initial heating of product, water vapour and some low levels of odours may be released. Use adequate ventilation or other precautions to reduce exposure to any vapours, gases and odours. Inhalation may cause eye irritation, respiratory tract irritation, bronchial hyper-reactivity or an asthmatic-type response. After the initial heating, no further off gassing is anticipated.



12. ECOLOGICAL INFORMATION

No ecological concerns have been identified.

13. DISPOSAL CONSIDERATIONS

- A. **Waste Management:** To prevent waste materials from becoming airborne during waste storage, transportation or disposal, a covered container is recommended.
- B. **Disposal:** 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.

14. TRANSPORT INFORMATION

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

15. REGULATORY INFORMATION

- A. CANADIAN REGULATIONS
 Canada Canadian Workplace Hazardous Materials Information System – Product is not a controlled product as long as it's shape is not modified or altered. However, after its service life when the product is removed and crushed, some minor amounts of inhalable crystalline silica and dust could be expected and product would then be classified as Class D2A – Materials Causing other Toxic Effects during the handling and disposal.

16. OTHER INFORMATION

16.1 Definitions

ACGIH	American Conference of Governmental Industrial Hygienists
ADR	Carriage of Dangerous Goods by Road (International Regulation)
AES	Alkaline Earth Silicate Wools
ASW	Alumino-Silicate Wools
CAA	Clean Air Act
CAS	Chemical Abstracts Service
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
DSL	Domestic Substances List
EPA	Environmental Protection Agency
EU	European Union
f/cc	Fibers per cubic centimeter
HEPA	High Efficiency Particulate Air
HMIS	Hazardous Materials Identification System
HTIW	North American high temperature insulation wool industry
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods Code
mg/m ³	Milligrams per cubic meter of air



16.1 Definitions Continued

mmpcf	Million particles per cubic meter
NFPA	National Fire Protection Association
NIOSH	National Institute for Occupational Safety and Health
OSHA	Occupational Safety and Health Administration
29 CFR 1910.1200 & 1926.59	OSHA Respiratory Protection Standards
29 CFR 1910.1200 & 1926.59:	OSHA Hazard Communication Standards
PCW	Polycrystalline Wools
PEL	Permissible Exposure Limit (OSHA)
PIN	Product Identification Number
PNOC	Particulates Not Otherwise Classified
PNOR	Particulates Not Otherwise Regulated
PSP	Product Stewardship Program
RCFA	Refractory Ceramic Fiber Association
RCRA	Resource Conservation and Recovery Act
REL	Recommended Exposure Limit (NIOSH)
RID	Carriage of Dangerous Goods by Rail (International Regulations)
SARA	Superfund Amendments and Reauthorization Act
SARA Title III	Emergency Planning and Community Right to Know Act
SARA Section 302	Extremely Hazardous Substances
SARA Section 304	Emergency Release
SARA Section 311	MSDS/List of Chemicals and Hazardous Inventory
SARA Section 312	Emergency and Hazardous Inventory
SARA Section 313	Toxic Chemicals and Release Reporting
STEL	Short Term Exposure Limit
SVF	Synthetic Vitreous Fiber
TDG	Transportation of Dangerous Goods
TLV	Threshold Limit Value (ACGIH)
TSCA	Toxic Substances Control Act
TWA	Time Weighted Average
WHMIS	Workplace Hazardous Materials Information System (Canada)

16.2 Preparation Information:

This MSDS was prepared April 19th, 2011 by G.E.Menzies P.Eng. ROH. For more information, phone 905-319-1080 or visit our FibreCast website.

16.3 Disclaimer:

The information presented herein is presented in good faith and believed to be accurate as of the effective date of this Safety Data Sheet. Employers may use this SDS to supplement other information gathered by them in their efforts to assure the health and safety of their employees and the proper use of the 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 SDS. 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.

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