

**SDS FC LBP Injectite**
**Effective Date: October 15th, 2018**
**1. IDENTIFICATION**

- A. Product Identifier used on label:** FC LBP Injectite available as pumpable, moldable, coatings and cements
- B. Other means of identification:** Non-RCF, High Temperature Soluble Wool Insulating Material in tubes, pails Items 590053 (1gal), 590056(5gal) & 590058(11oz tubes).
- C. Recommended use of the chemical and restrictions on use:**
- Primary Use: This specialties family of high temperature soluble wool insulating pumpables, moldables, coatings and cements are used in both new linings and repairs for online and offline maintenance solutions in various industrial high temperature insulating applications such as heat shields, heat containment, expansion joints, industrial furnaces, ovens, kilns, boilers and other process equipment at applications up to 1200°C. Soluble wool based products are not intended for direct sale to the general public.
  - Uses Advised Against: Dismantling product for other applications.
- D. Manufacturer Name:** FibreCast Incorporated, 3264 Mainway, Burlington, Ontario, Canada, L7M 1A7 Phone 905-319-1080; Fax 905-319-7611; **Email:** sales@fibrecast.com
- E. Emergency Phone #:** CHEMTREC will provide assistance for chemical emergencies at 1-800-424-9300
- F. PSP: Product Stewardship Info:** 1-800-322-2293 [Monday to Friday: 8:00 AM to 4:30 PM]

**2. HAZARDS IDENTIFICATION**

- A. Classification of the chemical is based in Canada on the 5th revised edition of the Globally Harmonized System of Classification and Labelling of Chemicals from the United Nations Economic Commission for Europe and in the USA, it is based on the US Occupational Safety and Health Administration Hazard Communication Standards of 2012.** This product is classified as a Category 2 skin and eye irritant.
- B. Signal word, hazard statement(s), symbol and precautionary statement(s) in accordance with paragraph (f) of §1910.1200 is "Warning"**

**Signal Word:** Warning

**Hazard Statements:** May cause mid skin irritation; may cause eye irritation; may cause respiratory irritation.



**Precautionary statements:** Do not handle until all safety instructions have been read and understood. Wear protective gloves, protective clothing, eye protection, and face protection. If concerned about exposure, get medical advice. Store in a manner to protect shelf life. Dispose of waste in accordance with local, provincial or state and federal regulations.

- C. Describe any hazards not otherwise classified that have been identified during the classification process:** Mild mechanical irritation to skin, eyes and upper respiratory system may result from exposure. These effects are usually temporary.
- D. Mixture rule:** Not applicable.

**3. COMPOSITION / INFORMATION ON INGREDIENTS**

COMPONENTS	CAS NUMBER	% BY WEIGHT
Water	7732-18-5	10 to 30
Amorphous Alkaline Earth Silicate Wool	436083-99-7	10 to 30
Colloidal silica (silicon dioxide)	7631-86-9	15 to 40
Anionic flocculant polymer	proprietary	0.1 to 1.0
Sulphuric acid	7664-93-9	0.1 to 1.0



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## 4. 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** Handling of this material may generate mild mechanical temporary skin irritation. If this occurs, rinse affected areas with water and wash gently. Do not rub or scratch exposed skin.

**EYES** In case of eye contact flush abundantly with water; have eye bath available. Do not rub eyes. **NOSE AND THROAT** If these become irritated move to a dust free area, drink water and blow nose. If symptoms persist, seek medical advice.

**B. Most important symptoms/effects, acute and delayed:** Mild mechanical irritation to skin, eyes and upper respiratory system may result from exposure. These effects are usually temporary.

### C. Indication of immediate medical attention and special treatment needed, if necessary

**NOTES TO PHYSICIANS** Skin and respiratory effects are the result of temporary, mild mechanical irritation; wool fiber exposure should not result in allergic manifestations.

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## 5. FIRE FIGHTING MEASURES

### A. Suitable (and unsuitable) extinguishing media

Use extinguishing agent suitable for surrounding combustible materials.

### B. Specific hazards arising from the chemical (e.g., nature of any hazardous combustion products):

Non-combustible products, class of reaction to fire is zero. Packaging and surrounding materials may be combustible.

### C. Special protective equipment and precautions for fire-fighters

NFPA Codes: Flammability: 0 Health: 1 Reactivity: 0 Special: 0

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## 6. ACCIDENTAL RELEASE MEASURES

**A. Personal precautions, protective equipment, and emergency procedures:** Product is in a wet moldable product of pumpable state when shipped, hence not dusty. After use and dried out, minimize airborne dust. Compressed air or dry sweeping should not be used for cleaning. See Section 8 "Exposure Controls / Personal Protection" for exposure guidelines.

**B. Methods and materials for containment and cleaning up:** Frequently clean the work area with vacuum or wet sweeping to minimize the accumulation of debris. Do not use compressed air for clean-up.

**EMPTY CONTAINERS:** Product packaging may contain residue. Do not reuse

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## 7. HANDLING AND STORAGE

**A. Precautions for safe handling:** After product dries, handle product carefully to minimize airborne dust. Limit use of power tools unless in conjunction with local exhaust. Use hand tools whenever possible.

**B. Conditions for safe storage, including any incompatibilities:** Store in a manner to minimize chance of freezing. After use, handle carefully to minimize generation of dust.

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## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

**A. Occupational Exposure Limits for Soluble wool:** Ontario OEL is 1.0 f/cc, 8-hr. TWAEV. Note the following statement. In the U.S. It uses the OSHA "Particulate Not otherwise Regulated (PNOR)" standard (29CFR 1910.1000 Subpart Z, Air Contaminants) that considers it as part of a Total Dust TWAEV of 15 mg/m<sup>3</sup>.



**Exposure Guidelines – Other Ingredients:** The occupational exposure limits vary widely and are under constant review. Refer to those that apply currently to the location where the product is in use or being removed from service. The engineering controls or personal protective equipment employed to reduce exposure to wool dust and nuisance dust will also control worker exposure to the following ingredients. The manufacturer recommends the following time weighted average occupational action levels for the other ingredients and they are based on current good industrial hygiene practices:

COMPONENTS	Ontario TWAEV
Amorphous silica	10 mg/m3 (as inhalable particles) 2 mg/m3 (as respirable particles)
Silica (after use-e.g. tear-out)	0.05 mg/m3 as respirable particles (from after use - tear out activities)

**B. Appropriate 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 emissions.

**C. Individual protection measures, such as personal protective equipment**

**Skin Protection:** Wear personal protective equipment (e.g. gloves), as necessary to prevent skin irritation. Washable or disposable clothing may be used. If possible, do not take unwashed clothing home. If soiled work clothing must be taken home, employees should be informed on best practices to minimize non-work dust exposure (e.g., vacuum clothes before leaving the work area, wash work clothing separately, and rinse washer before washing other household clothes).

**Eye Protection:** As necessary, wear goggles or safety glasses with side shields.

**Respiratory Protection:** When engineering and/or administrative controls are insufficient to maintain workplace concentrations below a regulatory OEL, the use of appropriate respiratory protection, pursuant to the requirements of OSHA Standards 29 CFR 1910.134 and 29 CFR 1926.103, is recommended. A NIOSH certified respirator with a filter efficiency of at least 95% is recommended. The 95% filter efficiency recommendation is based on NIOSH respirator selection logic sequence for exposure to manmade wool fibers. Pursuant to NIOSH recommendations, N-95 respirators are appropriate for exposures up to 10 times the NIOSH Recommended Exposure Limit (REL). Other factors to consider are the NIOSH filter series N, R or P -- (N) Not resistant to oil, (R) Resistant to oil and (P) oil Proof. These recommendations are not designed to limit informed choices, provided that respiratory protection decisions comply with 29 CFR 1910.134.

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.

**Other Information:** Concentrations based upon an eight-hour time weighted average (TWA) as determined by air samples collected and analyzed pursuant to NIOSH method 7400 (B) for airborne fibers. The manufacturer recommends the use of a full-face piece air purifying respirator equipped with an appropriate particulate filter cartridge during furnace tear-out events and the removal of used fibrous product to control exposures to airborne fiber and the potential presence of crystalline silica.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

<b>APPEARANCE</b> Off-white fibrous, pumpable product	<b>PARTITION COEFFICIENT</b> Not applicable
<b>ODOUR TRESHOLD</b> Not applicable	<b>EVAPORATION RATE</b> Not applicable
<b>BOILING POINT</b> Not applicable	<b>VISCOSITY</b> Not applicable
<b>ODOUR</b> Odourless	<b>VAPOUR DENSITY</b> Not applicable
<b>FLASH POINT</b> Not applicable	<b>DENSITY</b> 80#/ft3
<b>MELTING POINT</b> 1310° C (2390° F)	<b>VAPOUR PRESSURE</b> Not applicable
<b>PARTITION COEFFICIENT:</b> Not applicable <b>n-octanol/water</b>	<b>SOLUBILITY</b> Less than 1 mg/l
<b>FLAMMABILITY</b> Not applicable	<b>pH</b> Not applicable
<b>AUTO-IGNITION TEMPERATURE</b> Not applicable	<b>DECOMPOSITION TEMPERATURE</b> Not applicable



## 10. STABILITY AND REACTIVITY

A. Reactivity	Stable under conditions of normal use
B. Chemical stability	As supplied product is stable and inert.
C. Possibility of hazardous reactions	None
D. Conditions to avoid	Avoid contact with strong acids
E. Incompatible materials	Avoid contact with strong acids
F. Hazardous decomposition products	None

## 11. TOXICOLOGICAL INFORMATION

### A. EPIDEMIOLOGY

This product has not been the subject of epidemiological study. Epidemiological studies related to other fiber chemistries of similar solubility have not identified a statistically significant incidence of exposure-related respiratory disease.

### B. TOXICOLOGY

A review of available scientific literature suggests an inverse relationship between dissolution rate and potential health effects; i.e. the higher the dissolution rate of a fiber the lower its potential to produce health effects. The dissolution rate of AES Wool has been determined through standardized in vitro testing. The dissolution rate of AES Wool is higher than that of other fiber types that have been tested in chronic animal studies and did not produce respiratory disease.

This product possesses a fiber chemistry within the regulatory (European Commission Directive 97/69/EC) definition as a "man-made vitreous (silicate) fiber with random orientation with alkaline oxide and alkaline earth oxide (Na<sub>2</sub>O + K<sub>2</sub>O + CaO + MgO + BaO) content greater than 18% by weight". INSULFRAX® fibers have been tested pursuant to EU protocol ECB/TM/26, rev. 7, Nota Q, Directive 97/69/EC. The results for the short term biopersistence test by inhalation (IH test) was 7 days; well below the regulatory threshold of 10 days cited in Directive 97/69/EC. Based on testing results, AES Wool products are not regarded as potential carcinogens and they ARE EXEMPT from European classification as such. By virtue of these test results, these products ARE EXEMPT from European

regulatory guidelines that require hazard warning labels with specific risk phrases citing respiratory disease potential. In addition, AES Wools have been tested in an independent laboratory, by intratracheal (IT test) instillation, under a protocol that was consistent with the requirements of the German Hazardous Substances Ordinance (BGBI. I pp. 1782, 2049, Third Amendment, Appendix V, No. 7). The half-life clearance of AES Wools was 30 days which is well below the applicable regulatory thresholds. Based on the IT test results, AES Wool products ARE EXEMPT from the requirements of the German Ordinance.

**Irritant Properties:** The definition of "skin irritation" contained in the hazard communication standard, 29 CFR 1900.1200, Appendix A.2.1.1, is "the production of reversible damage to the skin following the application of a test substance for up to 4 hours." When tested using approved methods (for example EU Directive 67/548/EC, Annex V, Method B4), fibers contained in this material give negative results. The fiber contained in this product is an inert material which doesn't interact chemically with exposed skin. However, there is a possibility that exposure to this product may cause temporary mechanical irritation to the eyes, skin or respiratory tract (nose, throat, lungs). This temporary irritation can be mitigated with proper handling practices designed to limit exposure and the use of protective clothing (glasses, gloves, clothing).

(e) International Agency for Research on Cancer and National Toxicology Program: This product has not been specifically evaluated by any regulatory authority or other classification entity, such as the International Agency for Research on Cancer (IARC) or the National Toxicology Program (NTP).

## 12. STABILITY AND REACTIVITY

A. Ecotoxicity	No known aquatic toxicity.
B. Persistence and degradability	These products are insoluble materials that remain stable over time and are chemically identical to inorganic compounds found in the soil and sediment; they remain inert in the natural environment.
C. Bioaccumulative potential	No bioaccumulative potential.
D. Mobility in soil	No mobility in soil.
E. Other adverse effects (such as hazardous to the ozone layer)	No adverse effects of this material on the environment are anticipated.



### 13. DISPOSAL CONSIDERATIONS

- A. WASTE MANAGEMENT:** To prevent waste materials from becoming airborne during waste storage, transportation and disposal, a covered container or plastic bagging is recommended.
- B. DISPOSAL:** This product, as manufactured, is not classified as a hazardous waste according to 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.

### 14. TRANSPORT INFORMATION (Non-mandatory)

<b>A. UN number</b>	Not Applicable
<b>B. UN proper shipping name</b>	Not Regulated.
<b>C. Transport hazard class</b>	Not Applicable
<b>D. Packing group, if applicable</b>	Not Applicable
<b>E. Environmental hazards (e.g., Marine pollutant -Yes/No)</b>	Not a marine pollutant
<b>F. Incompatible materials</b>	Not Applicable
<b>G. Special precautions which a user needs to be aware of, or needs to comply with, in connection with transport or conveyance either within or outside their premises</b>	Not Applicable

Canadian TDG Hazard Class & PIN: Not 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 (WHMIS 2015) – Classified as Class 2 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)

#### B. UNITED STATES REGULATIONS

**OSHA** Comply with Hazard Communication Standards 29 CFR 1910.1200 and 29 CFR 1926.59 and the Respiratory Protection Standards 29 CFR 1910.134 and 29 CFR 1926.103.

**Other States** Soluble wool products are not known to be regulated by states; however, state and local OSHA and EPA regulations may apply to these products. If in doubt, contact your local regulatory agency.

### 16. OTHER INFORMATION

#### A. After-Service AES Wool Thermal Insulation: Removal:

As produced, AES Wools are vitreous (glassy) materials, which do not contain crystalline silica. Continued exposure to elevated temperatures may cause these fibers to devitrify (become crystalline). The first crystalline formations to occur are diopside and wollastonite, which begin to form at about 900° C (1652° F). Under recommended usage, it is unlikely that AES Wools will be exposed to the temperatures and conditions required for the formation of crystalline phase silica. The occurrence and extent of crystalline phase silica formation is highly dependent on temperature, the duration of time that the fibers are exposed to high temperatures, fiber chemistry, and the presence of fluxing agents. The presence of crystalline phase silica can only be confirmed through laboratory analysis of the "hot face" fiber. IARC's evaluation of crystalline silica states, "Crystalline silica inhaled in the form of quartz or cristobalite from occupational sources is carcinogenic to humans (Group 1)" and additionally notes "carcinogenicity in humans was not detected in all industrial circumstances studied" (IARC Monograph Vol. 68, 1997). NTP lists all polymorphs of crystalline silica amongst substances which may "reasonably be anticipated to be carcinogens".



During removal operations, the use of a full-face respirator is recommended to reduce inhalation exposure along with eye & respiratory tract irritation. A specific evaluation of workplace hazards and the identification of appropriate respiratory protection is best performed, on a case by case basis, by a qualified industrial hygiene professional. For more detailed information regarding respirable crystalline silica, call the Product Stewardship Information Hotline (see below).

## B. PRODUCT STEWARDSHIP PROGRAM

FibreCast through its suppliers has established a program to provide customers with up-to-date information regarding the proper use and handling of fiber-based products, including AES wools. In addition, FibreCast and its suppliers have also established a program to monitor airborne fiber concentrations at customer facilities. If you would like more information about this program, please call the Product Stewardship Information Line at 1-800-322-2293. The HTIW Coalition and the U.S. Occupational Safety and Health Administration (OSHA) are partners in PSP HTW, a comprehensive, multi-faceted risk management program designed to control and reduce workplace exposures to high temperature insulation wools (HTIW). For more information regarding PSP HTW, please visit: <http://www.htiwcoalition.org>

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 <sup>3</sup>	Milligrams per cubic meter of air
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



## 16.2 Definitions Continued...

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)

## 16.3 New WHMIS 2015 formatted SDS

SDS Prepared By: G.E.Menzies, P.Eng, ROH, FibreCast H&S Director on October 15th, 2018

## 16.4 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.