

Safety Data Sheet

Material Name: **Protherm Soluble Fiber Blanket**

Section 1 – Chemical Product and Company Identification

Product Name: Protherm Soluble Fiber Blanket
Chemical Name: Alkaline Earth Silicate Wool, Magnesium Silicate Fiber
Product Use: Thermal Insulation
Manufacturer / Supplier Information:
Manufactured for:
Amity Insulation Group Inc.
14715 122 Avenue,
Edmonton, AB T5L 2W4
Phone: 780-454-8558

Emergency Contacts: CHEMTREC: 1-800-424-9300,
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Preparation Date: October 17, 2019 **Supersedes:** November 23, 2015

Section 2 – Hazard Identification

HAZARD CLASSIFICATION: No classification

SIGNAL WORD: Not applicable

HAZARD STATEMENT: Not applicable. See specifics below.

Inhalation:

- Minimize exposure to airborne dust. Inhalation of dust created when cutting, installing or other activities with this product may cause temporary upper respiratory irritation and/or congestion. Irritation effects do not offer dependable warning to workers who may be exposed to gradually increasing amounts and therefore become used to it. Remove affected individuals to fresh air if issues arise.

Skin Contact:

- Dust from this product may cause temporary irritation to the skin.

Eye Contact:

- Irritation and inflammation of the mucous membrane, tearing, and sensitivity to light.

Medical Conditions Aggravated by Exposure:

- Pre-existing upper respiratory and lung diseases such as, but not limited to bronchitis, emphysema and asthma, pulmonary heart disease or eye problems. Chronic respiratory or skin conditions may worsen from exposure to this product.

Ingestion:

- Ingesting this product is unlikely. However, ingestion of product may produce gastrointestinal irritation and disturbances as well as possible abrasion of mouth and throat.

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Section 3 – Composition / Information on Ingredients

Amorphous alkaline-earth-silicate (calcium-magnesium-silicate) fiber (CAS #436083-99-7):

Component	Percent by Weight (ppm)
Silicon Dioxide: SiO ₂	55-65
CaO	23-35
MgO	5-10

Section 4 – First Aid Measures

Inhalation:

- If inhaled, remove the affected person to fresh air. Drink water to clear throat and blow nose to removed dust. Apply artificial respiration if needed. If irritation persists, or breathing is difficult, get immediate medical attention by calling the poison center, physician or emergency medical service giving the appropriate information.

Skin Contact:

- Handling the material may generate mild mechanical temporary skin irritation. Wash with mild soap and running water. Wash before eating or using the restroom. If skin becomes irritated, do not rub or scratch exposed skin. Using a skin cream or lotion after washing may be helpful. If irritation persists get medical attention.

Eye Contact:

- Immediately flush eyes with potable running water for at least 15 minutes. Do not rub or apply pressure. Eyelids should be held away from the eyeball to ensure thorough rinsing. Dust particles may scratch the eye. If irritation persists get medical attention.

Ingestion:

- Not intended to be ingested or eaten. Relocate affected individual to an environment of clean and fresh air. Drink large amounts of water to reduce irritation. If irritation persists, or breathing is difficult, get immediate medical attention by calling the poison center, physician or emergency medical service giving CAS the appropriate information.

Section 5 – Fire Fighting Measures

General Fire Hazards and Fire Fighting Instructions:

- There is no potential for fire or explosion. Noncombustible products class of reaction to fire is zero. Wear self-contained breathing apparatus and protective clothing.

NFPA Unusual Hazards: None

Flash Point: None

Auto-ignition Temperature: None

Extinguishing Media: Use proper extinguishing media for the surrounding fire and surrounding combustible materials.

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

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Section 6 – Accidental Release Measures

Minimize airborne dust. See Section 8 for exposure guidelines.

Containment Procedures:

- Pick up large pieces, vacuum dust with HEPA filtered equipment and use water as a dust suppressant if sweeping is necessary. Do not use compressed air for clean-up, avoid dry sweeping and wear proper protective clothing such as gloves, goggles and an approved respirator.

Clean-Up Procedures:

- Collect material and place in a suitable container for disposal as non-hazardous waste. Collect in sift proof containers and avoid generation of dust.

Environmental Precautions:

- Ensure there is adequate ventilation in accordance with appropriate government authorities. Avoid clean up procedures that could cause water pollution.

Section 7 – Handling and Storage

Handling Procedures:

- Keep product in its packaging as long as practical to minimize potential dust generation: Keep work areas clean. Avoid unnecessary handling of scrap materials. Avoid generation of dust. Wash hands before eating, drinking, smoking or using the washroom.

Storage Procedures:

- Material should be kept dry and covered. Stored material should be protected from spark producing activities. Protect product from weather. Product packaging may contain residue. Do not reuse.

Clean-Up Procedures:

- Clean up dust carefully and use wet sweeping or high efficiency vacuum to remove dust. During after-service removal activities, wet exposed material to minimize airborne dust. A surfactant may be added to the water to improve the wetting process. Do not allow water to accumulate on floors.

Section 8 – Exposure Controls / Personal Protection

- a) OSHA permissible exposure limit (PEL), American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Value (TLV), and any other exposure limit used or recommended by the chemical manufacturer, importer, or employer preparing the safety data sheet, where available

Components	OSHA	ACGIH	MANUFACTURER
Amorphous alkaline-earth-silicate (calcium-magnesium-silicate) fiber	Particulates Not Otherwise Regulated (PNOR) : Total Dust -- 15 mg/m ³ . Respirable Fraction -- 5 mg/m ³ *	Particulates Not Otherwise Classified (PNOC) : Inhalable particulate -- 10 mg/m ³ . Respirable particulate -- 3 mg/m ³	See below**

*There is no specific regulatory standard for AES in the U.S. OSHA's "Particulate Not Otherwise Regulated (PNOR)" standard [29 CFR 1910.1000, Subpart Z, Air Contaminants] applies generally; Total Dust 15 mg/m³; Respirable Fraction 5 mg/m³.

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** As with most industrial materials, it is prudent to minimize unnecessary exposure to respirable dusts. Note that Industrial hygiene standards and occupational exposure limits differ between countries and local jurisdictions. Check with your employer to identify any "respirable dust", "total dust" or "fiber" exposure standards to follow in your area. If no regulatory dust or fiber control standard apply, a qualified industrial hygiene professional can assist with a specific evaluation of workplace conditions and the identification of appropriate respiratory protection practices. In the absence of other guidance, the supplier has found that it is generally feasible to control occupational fiber exposure to 1 f/cc or less.

(b) Appropriate engineering controls:

General dilution ventilation and/or local exhaust ventilation should be provided as necessary to maintain exposures below regulatory limits. Under conditions in which the product is sawed, drilled, or otherwise mechanically altered, local exhaust ventilation, point of generation dust collection, down draft work stations, emission controlling tool designs and material handling equipment should be used to limit exposure of airborne fiber emissions to the minimum attainable level.

(c) Individual protection measures, such as personal protective equipment

Skin Protection:

Wear gloves, head coverings and full body clothing as necessary to prevent skin irritation. Normal work clothing (long sleeved shirt, long pants and leather, cotton or knit gloves) is recommended. Washable or disposable clothing may be used. 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 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:

As necessary, wear safety glasses with side shields in compliance with OSHA guidelines when handling this product. Goggles and /or face shield may be required when installing product overhead, outside in wind conditions or during cutting or machining. 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. If possible, have eye-washing facilities readily available where eye irritation can occur.

Respiratory Protection:

When engineering and/or administrative controls are insufficient to maintain workplace concentrations below the applicable level, 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% should be used. The 95% filter efficiency recommendation is based on NIOSH respirator selection logic sequence for exposure to particulates. Selection of filter efficiency (i.e. 95%, 99% or 99.97%) depends on how much filter leakage can be accepted and the concentration of airborne contaminants. Other factors to consider are the NIOSH filter series N, R or P. (N) **N**ot resistant to oil, (R) **R**esistant to oil and (P) oil **P**roof. These recommendations are not designed to limit informed choices, provided that respiratory protection decisions comply with 29 CFR 1910.134. When it is not possible or feasible to reduce respirable dust exposures through engineering controls, employees are encouraged to use good work practices together with respiratory protection.

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.

Exposure Procedures:

When cutting, storing or installing, it is important to provide general or local ventilation systems as required in order to maintain dust concentrations below the regulatory limits. Wet suppression, and enclosed employee work stations will also assist. It is important that all workers are advised of the health and safety aspects of materials they are using. Doing so will protect their health and alleviate misconceptions they may have about materials. Workers should be informed about the requirements concerning smoking, eating and drinking in the workplace as well as the requirements for protective equipment and clothing.

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Eye / Face Protection:

Section 9 – Physical & Chemical Properties

(a) Appearance	White, fibrous blanket	(j) Upper/lower flammability or explosive limits	Not applicable
(b) Odor	Odorless	(k) Vapor pressure	Not applicable
(c) Odor threshold	Not applicable	(l) Vapor density	Not applicable
(d) pH	Not applicable	(m) Relative density	2.60
(e) Melting point	1260° C (2300° F)	(n) Solubility	Insoluble
(f) Initial boiling point and boiling range	Not applicable	(o) Partition coefficient: n-octanol/water	Not applicable
(g) Flash point	Not applicable	(p) Auto-ignition temperature	Not applicable
(h) Evaporation rate	Not applicable	(q) Decomposition temperature	Not applicable
(i) Flammability	Not applicable	(r) Viscosity	Not applicable

Section 10 – Chemical Stability & Reactivity Information

Stability:	Stable under conditions of normal use.
Reactivity:	Not expected.
Hazardous Decomposition:	Not applicable.
Incompatible Materials:	None expected.
Hazardous Polymerization:	Not applicable.

Section 11 – Toxicological Information

(a) through (d)

Toxicological Data/Epidemiology Data

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.

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 fiber has been determined through standardized in vitro testing. The dissolution rate of AES fibers 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 (Na₂O + K₂O + CaO + MgO + BaO) content greater than 18% by weight".

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

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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, and 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).

Section 12 – Ecological Information

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| (a) Eco toxicity (aquatic and terrestrial, where available): | 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) Bio accumulative potential: | No bio accumulative potential. |
| (d) Mobility in soil: | No mobility in soil. |
| (e) Other adverse effects (i.e. hazardous to the ozone layer): | No adverse effects of this material on the environment are anticipated. |

Section 13 – Disposal Considerations

Dispose of waste material in accordance with local, municipal, provincial and federal environmental regulations. As produced, this material is usually accepted for disposal at most sites licensed for the disposal of industrial waste. Check applicable regulations and waste site policies prior to disposal. Waste should be placed containers for disposal. In case of contamination, by other materials classified as hazardous waste, expert guidance should be sought.

WASTE MANAGEMENT

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

DISPOSAL

The material as manufactured, is not classified as a hazardous waste according to Federal regulations (40 CFR 261). 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.

EUROPEAN UNION

Waste from this product is not classified as "hazardous" or "special" under European Union regulations. Disposal is permitted at landfills licensed for industrial waste.

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Section 14 – Transportation Information

Shipping Class / Name: This product is not classified nor regulated for transport. Product should remain in sealed containers during transportation. Not classified as dangerous goods under ADR (road), RID (train), IATA (air) or IMDG (ship).

(a) UN number	Not Applicable
(b) UN proper shipping name	Not Applicable
(c) Transport hazard class(es)	Not Applicable
(d) Packing group, if applicable	Not Applicable
(e) Environmental hazards (e.g., Marine pollutant (Yes/No))	Not a marine pollutant
(f) Transport in bulk (according to Annex II of MARPOL 73/78 and the IBC Code)	Not Applicable
(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	Not Applicable

Canadian TDG Hazard Class & PIN: Not regulated
Not classified as dangerous goods under ADR (road), RID (train) or IMDG (ship)

Section 15 – Regulatory Information

UNITED STATES REGULATIONS

EPA:

- Superfund Amendments and Reauthorization Act (SARA) Title III - This product does not contain any substances reportable under Sections 302, 304, 313, (40 CFR 372).
- Toxic Substances Control Act (TSCA) - All substances in this product are listed, as required, on the TSCA inventory.
- Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) and the Clean Air Act (CAA) – The material contains fibers with an average diameter greater than one micron and thus is not considered a hazardous air pollutant.

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.

States:

- The material and components are not known to be regulated. However, state and local OSHA and EPA regulations may apply to these products. If in doubt, contact your local regulatory agency.

INTERNATIONAL REGULATIONS

Canada:

- Canadian Workplace Hazardous Materials Information System (WHMIS):
 - No Canadian Workplace Hazardous Materials Information System (WHMIS) categories apply to this product.
- Canadian Environmental Protection Act (CEPA)
 - All substances in this product are listed, as required, on the Domestic Substance List (DSL)

European Union:

- European Directive 97/69/EC - By virtue of testing results, material fiber has been exempted from classification and labeling as a potential carcinogen.

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Section 16 – Other Information

DEFINITIONS

ACGIH:	American Conference of Governmental Industrial Hygienists
ADR:	Carriage of Dangerous Goods by Road (International Regulation)
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
IARC:	International Agency for Research on Cancer
IATA:	International Air Transport Association
IMDG:	International Maritime Dangerous Goods Code
mg/m³:	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 1910.134 & 1926.103:	OSHA Respiratory Protection Standards
29 CFR 1910.1200 & 1926.59:	OSHA Hazard Communication Standards
PEL:	Permissible Exposure Limit (OSHA)
PIN:	Product Identification Number
PNOC:	Particulates Not Otherwise Classified
PNOR:	Particulates Not Otherwise Regulated
PSP:	Product Stewardship Program
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:	SDS/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)

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After-Service Thermal Insulation: Removal

As produced, material fibers 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^o C (1652^o F). Under recommended usage, it is unlikely that material fibers 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.

Disclaimer

As of the date of preparation of this document, the foregoing information is believed to be accurate and is provided in good faith to comply with applicable municipal, provincial and federal laws. Amity Insulation Group Inc. makes no warranty or representation with respect to such information and disclaims all liability from reliance thereon. This information is presented in accordance with various environment, health and safety regulations. Because the use of the information and the conditions of use of this product are not within the control of Amity Insulation Group Inc, it is the responsibility of the recipient of this information to remain currently informed on chemical hazard information and determine the conditions of safe use. Users of this product should become aware of the product SDS information and also notify their employees, agents and contractors regarding the information contained herein.