

## 1 IDENTIFICATION OF SUBSTANCE:

### Product details

**Product Name:** BIOSOLUBLE FIBER PRODUCTS

### Product information:

BIOSOLUBLE FIBER BULK, BIOSOLUBLE FIBER BLANKET, BIOSOLUBLE FIBER PAPER, BIOSOLUBLE FIBER MODULE

### Manufacturer/Supplier:

WELLTHERM INSULATION LIMITED  
UNIT 411 Building 2 NO.1690 CAILUN ROAD, SHANGHAI, CHINA  
TEL: +86 21 50800837

**Information Department:** Health, Safety and Environmental Department.

### Emergency information:

During normal hours the Health, Safety and Environmental Department.  
Emergency call Tell: +86 21 50800837

## 2 COMPOSITION/DATA ON COMPONENTS:

### Chemical characterization:

#### Description: (CAS#)

436083-99-7	Amorphous alkaline-earth-silicate fiber (SiO <sub>2</sub> 62-67%, CaO 28-33%, MgO 1-6%, trace elements 0-1%)	100%
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## 3 HAZARDS IDENTIFICATION

### Harmful to the environment:

No hazards

### Potential hazards to human ways:

May cause temporary mechanical irritation to eyes, skin, and respiratory tract (nose, throat & lungs). Pre-existing medical conditions, including dermatitis, asthma or chronic lung disease may be aggravated by exposure; individuals who are atopic (with a history of allergies) may experience greater amounts of skin and respiratory irritation.

## 4 FIRST AID MEASURES

### FIRST AID PROCEDURES

#### 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 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; fiber exposure does not result in allergic manifestations

## 5 FIRE FIGHTING MEASURES

### Suitable extinguishing agents

Product is not flammable. Use firefighting measures that suit the surrounding fire.

### Protective equipment:

General respiratory protective devices.

General protection clothing.

## 6 ACCIDENTAL RELEASE MEASURES

### Person-related safety precautions:

Wear protective equipment. Keep unprotected persons away.

Ensure adequate ventilation

### Measures for environmental protection:

Do not allow material to be released to the environment without proper governmental permits.

### Measures for cleaning/collecting:

Use neutralizing agent.

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

### Additional information:

See Section 7 for information on safe handling

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

## 7 HANDLING AND STORAGE

### Handling

#### Information for safe handling:

Keep container tightly sealed.

Store in cool, dry place in tightly closed containers.

Ensure good ventilation at the workplace.

#### Storage:

Storerooms and containers must meet the requirements: No special requirements.

**The use of a common storage facility to store the data:** stored away from oxidizing agents.

#### Empty containers:

Product packaging may contain residue. Do not reuse.

## 8 EXPOSURE CONTROLS AND PERSONAL PROTECTION

### EXPOSURE GUIDELINES

COMPONENTS	OSHA PEL	MANUFACTURER
Amorphous alkaline-earth-silicate	None Established	See below**

There is no specific regulatory standard for Biosoluble Fiber in the U.S. OSHA's "Particulate Not Otherwise Regulated (PNOR)" standard [29 CFR 1910.1000, Subpart Z, Air Contaminants] applies generally, Total Dust 15mg/m<sup>3</sup>, Respirable Fraction 5mg/m<sup>3</sup>.

### OTHER OCCUPATIONAL EXPOSURE LEVELS (OEL)

ACGIH TLV's : Amorphous alkaline-earth-silicate – Particulates Not Otherwise Classified (PNOC): Inhalable particulate – 10 mg/m<sup>3</sup>. Respirable particulate – 3 mg/m<sup>3</sup>.

\*\*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.

### 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 fiber emissions.

### PERSONAL PROTECTION EQUIPMENT

#### Skin Protection:

Wear gloves, head coverings and full body clothing 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, 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:

Wear safety glasses with side shields or other forms of eye protection in compliance with appropriate OSHA 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. If possible, have eye-washing facilities readily available where eye irritation can occur.

#### Respiratory Protection:

When effective engineering and/or administrative controls are insufficient, the use of appropriate respiratory protection, pursuant to the requirements of OSHA 1910.134, is recommended. For dust concentrations below the applicable exposure limit value, PPE is not required. 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.



## 9 PHYSICAL AND CHEMICAL PROPERTIES:

**ODOR AND APPEARANCE:** White odorless, fibrous material **CHEMICAL FAMILY:** Calcium Magnesium Silicate

**Fibers BOILING POINT:** Not Applicable

**WATER SOLUBILITY(%):** Not Soluble in Water

**MELTING POINT:** 1260 °C (2300 °F)

**SPECIFIC GRAVITY:** 2.60

**VAPOR PRESSURE:** Not Applicable

**PH:** Not Applicable

**VAPOR DENSITY (AIR=1):** Not Applicable

**%VOLATILE:** Not Applicable

**MOLECULAR FORMULA:** SiO<sub>2</sub>CaO.Mgo.

## 10 STABILITY AND REACTIVITY

### Hazardous reactions

**CHEMICAL STABILITY:** Stable under conditions of normal use

**INCOMPATIBILITY:** Avoid direct contact with strong acid environments Conditions to avoid: None.

**Hazardous decomposition products:** None

**Hazardous polymerization:** Not Applicable

## 11 TOXICOLOGICAL INFORMATION

### 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:

This product has been the subject of limited testing.

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 biosoluble fiber has been determined through standardized in vitro testing. The dissolution rate of biosoluble 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 (Na<sub>2</sub>O + K<sub>2</sub>O + MgO + BaO) content greater than 18% by weight". Biosoluble 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, biosoluble based 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, biosoluble fibers 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 biosoluble fibers was 30 days; well below the applicable regulatory thresholds. Based on the IT test results, biosoluble products ARE EXEMPT from the requirements of the German Ordinance.

The definition of "irritant" contained in the hazard communication standard, 29 CFR 1900.1200, Appendix A, is "...a reversible inflammatory effect on living tissue by chemical action...". Biosoluble fiber 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). 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). Other types of man-made vitreous fiber (MMVF) have been evaluated and subsequently classified as potential carcinogens. Various classifications, such as “possible carcinogen”, “probable carcinogen”, and “reasonably anticipated to be a carcinogen” have been given to other MMVF’s.

## 12 ECOLOGICAL INFORMATION

### General notes:

No ecological concerns have been identified.

## 13 DISPOSAL CONSIDERATIONS

### Product:

#### Recommendation

Consult state, local or national regulations to ensure proper disposal.

#### Recommendation:

Discarded plastic bags should be used, the bag is at least 0.05mm thick to prevent the breeding of dust. Disposal must be made according to official regulations.

## 14 TRANSPORT INFORMATION

Not classified as dangerous goods under ADR (road), RID (train) or IMDG (ship).

## 15 REGULATIONS

### 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). Sections 311 and 312 (40 CFR 370) apply (delayed hazard). 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)—Biosoluble fiber 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:** Biosoluble fiber products 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 Substances List (DSL).



# SAFETY DATA SHEET

**European Union:** European Directive 97/69/EC—By virtue of testing results, biosoluble fiber has been exempt from classification and labeling as a potential carcinogen.

## 18 OTHER INFORMATION:

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

### 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. 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 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 MSDS. Therefore, given the summary nature of this document, Welltherm Insulation Limited 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.