



## SAFETY DATA SHEET

SDS No. M0441

Effective Date: 01/16/2018

### 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**GHS Product Identifier:** ECOFLEX® 100N

**Product Group:** CONTINUOUS FILAMENT FIBERGLASS FABRIC PRODUCT

**Synonym(s):** Synthetic vitreous fiber (SVF), man-made vitreous fiber (MMVF), man-made mineral fiber (MMMMF)

**Recommended Use:** Thermal insulation

**Supplier's Details:** Unifrax I LLC  
600 Riverwalk Parkway, Suite 120  
Tonawanda, NY 14150

**Product Stewardship Information Hotline**  
1-800-322-2293 (Monday - Friday 8:00 a.m. - 4:30 p.m. EST)

For additional SDSs, visit our web page, <http://www.unifrax.com>, or call Unifrax Customer Service at (716) 768-6500

**Emergency Phone Number** CHEMTREC will provide assistance for chemical emergencies. Call 1-800-424-9300

### 2. HAZARDS IDENTIFICATION

Continuous filament fibers are not classified using GHS criteria, or by OSHA, WHMIS or EU legislation. No chronic health effects are known to be associated with exposure to continuous filament fiber glass. Results from epidemiologic studies have not shown any increases in respiratory disease or cancer.

The International Agency for Research on Cancer (IARC) has classified continuous filament fiber glass as a Group 3 substance, not classifiable as to its carcinogenicity to humans.

Because of their large diameter, the continuous filament fibers in this product are not considered respirable.

#### HAZARD CLASSIFICATION

**The International Agency for Research on Cancer (IARC)** has classified continuous filament fiber glass as a Group 3 substance, not classifiable as to its carcinogenicity to humans.

The **Hazardous Materials Identification System (HMIS)** .

Health 1    Flammability 0    Reactivity 0    Personal Protection Index: X (Employer Determined)

### 3. COMPOSITION / INFORMATION ON INGREDIENTS

<u>COMPONENTS</u>	<u>CAS NUMBER</u>	<u>% BY WEIGHT</u>
Continous filament glass fiber	65997-17-3	95-98
Natural fatty acid (spinning aid)	N/A	2-5

(See Section 8 "Exposure Controls / Personal Protection" for exposure guidelines)

### 4. FIRST AID MEASURES

#### DESCRIPTION OF NECESSARY 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 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.

#### **MOST IMPORTANT SYMPTOMS/EFFECTS**

##### **TARGET ORGANS:**

Respiratory Tract (nose & throat), Eyes, Skin

##### **RESPIRATORY TRACT (nose & throat) IRRITATION:**

Irritation of the upper respiratory tract (scratchy throat), coughing, and congestion may occur in extreme exposures.

##### **EYE IRRITATION:**

May cause temporary, mild mechanical irritation. Fibers may be abrasive; prolonged contact may cause damage to the outer surface of the eye.

##### **SKIN IRRITATION:**

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.

## 5. FIRE FIGHTING MEASURES

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

NFPA Unusual Hazards:            None  
Flammable Properties:            None  
Flash Point:                          None  
Hazardous Decomposition Products:    None  
Unusual Fire and Explosion Hazard:    None  
Extinguishing Media:                Use extinguishing media suitable for type of surrounding fire.

## 6. ACCIDENTAL RELEASE MEASURES

### SPILL PROCEDURES

Avoid creating airborne dust. Dust suppressing cleaning methods such as wet sweeping or vacuuming should be used to clean the work area. If vacuuming, the vacuum must be equipped with a HEPA filter. Compressed air or dry sweeping should not be used for cleaning.

## 7. HANDLING AND STORAGE

### STORAGE

Store in original container in a dry area. Keep container closed when not in use.

### HANDLING

Handle fiber carefully. Limit use of power tools unless in conjunction with local exhaust. Use hand tools whenever possible. Frequently 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.

### EMPTY CONTAINERS

Product packaging may contain residue. Do not reuse.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### EXPOSURE GUIDELINES

COMPONENTS	OSHA PEL	ACGIH TLV	MANUFACTURER REG
Continuous filament glass fiber	1 fiber/cc	1 fiber/cc	None established

### 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**

**Respiratory Protection:**

When engineering and/or administrative controls are insufficient, the use of appropriate respiratory protection, pursuant to the requirements of OSHA Standards 29 CFR 1910.134 and 29 CFR 1926.103, is recommended. The following information is provided as an example of appropriate respiratory protection for continuous filament fibers. 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.

<b>MANUFACTURER'S RESPIRATORY PROTECTION RECOMMENDATIONS</b>	
<b><u>Respirable Airborne Fiber Concentration</u></b>	<b><u>Respirator Recommendation</u></b> <sup>«</sup>
Less than 1 f/cc	No specific recommendation. User preference based upon conditions present
1 f/cc to 10 f/cc	A single use respirator or half-face, air purifying respirator with a filter efficiency of at least 95%
50 f/cc to 100 f/cc	Full-facepiece, air purifying respirator equipped with a NIOSH certified particulate filter cartridge with a filter efficiency of at least 95% or PAPR

<sup>«</sup> 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. Higher filter efficiency means lower filter leakage. 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.

**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.
- Potential exposure to other airborne contaminants should be evaluated by a qualified Industrial Hygienist; the selection of appropriate respiratory protection and air monitoring depend upon the conditions present in the work environment.

**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 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 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.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>ODOR AND APPEARANCE:</b>	White, odorless, fibrous material
<b>CHEMICAL FAMILY:</b>	Continuous filament fiberglass
<b>BOILING POINT:</b>	Not Applicable
<b>WATER SOLUBILITY (%):</b>	Not Soluble in Water
<b>MELTING POINT:</b>	Not Applicable
<b>SPECIFIC GRAVITY:</b>	Not Applicable
<b>VAPOR PRESSURE:</b>	Not Applicable
<b>pH:</b>	Not Applicable
<b>VAPOR DENSITY (Air = 1):</b>	Not Applicable
<b>% VOLATILE:</b>	Not Applicable
<b>MOLECULAR FORMULA:</b>	Not Applicable

## 10. STABILITY AND REACTIVITY

<b>CHEMICAL STABILITY:</b>	Stable under conditions of normal use.
<b>INCOMPATIBILITY:</b>	Soluble in hydrofluoric acid, phosphoric acid, and concentrated alkali.
<b>CONDITIONS TO AVOID:</b>	None.
<b>HAZARDOUS DECOMPOSITION PRODUCTS:</b>	None
<b>HAZARDOUS POLYMERIZATION:</b>	Not Applicable.

## 11. TOXICOLOGICAL INFORMATION

### EPIDEMIOLOGY

In 2001, the University of Pittsburgh finalized and published the results of a historical cohort (1946-1992) study of U.S. fiber glass workers. This study represented the world's largest (32,110 workers) and most comprehensive investigation (more than a million persons-years of observation) of long-term health effects of exposure to all types of glass fibers. This study found no increase in mesotheliomas, no increase in non malignant respiratory disease (lung scarring), and no significant increase in respiratory system cancer. There was no relationship between respiratory system cancer and either duration of exposure or time since first exposure. These results are generally similar to other cohort studies conducted in the U.S., Canada and Europe.

### TOXICOLOGY

Biosoluble glass fibers (i.e., fibers that do not persist in the lung) were tested extensively in chronic inhalation studies using laboratory rodents and did not cause any mesotheliomas, lung scarring or lung cancer. In other fiber glass studies, animals exposed by artificial means (e.g., implantation and injection) have shown development of tumors.

## 12. ECOLOGICAL INFORMATION

No ecological concerns have been identified.

### 13. 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

This product, 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.

### 14. TRANSPORT INFORMATION

#### U.S. DEPARTMENT OF TRANSPORTATION (DOT)

Hazard Class:	Not Regulated	United Nations (UN) Number:	Not Applicable
Labels:	Not Applicable	North America (NA) Number:	Not Applicable
Placards:	Not Applicable	Bill of Lading:	Product Name

#### INTERNATIONAL

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

### 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)** - This product 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:** This product is not known to be regulated by any state; 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 Environmental Protection Act (CEPA)** - All substances in this product are listed, as required, on the Domestic Substance List (DSL)

## **16. OTHER INFORMATION**

### PRODUCT STEWARDSHIP PROGRAM

Unifrax has established a program to provide customers with up-to-date information regarding the proper use and handling of this product. In addition, Unifrax has also established a program to monitor airborne fiber concentrations at customer facilities. If you would like more information about this program, please call the Unifrax Product Stewardship Information Hotline at 1-800-322-2293.

### DEFINITIONS

<b>ACGIH:</b>	American Conference of Governmental Industrial Hygienists
<b>ADR:</b>	Carriage of Dangerous Goods by Road (International Regulation)
<b>CAA:</b>	Clean Air Act
<b>CAS:</b>	Chemical Abstracts Service
<b>CERCLA:</b>	Comprehensive Environmental Response, Compensation and Liability Act
<b>DSL:</b>	Domestic Substances List
<b>EPA:</b>	Environmental Protection Agency
<b>EU:</b>	European Union
<b>f/cc:</b>	Fibers per cubic centimeter
<b>HEPA:</b>	High Efficiency Particulate Air
<b>HMIS:</b>	Hazardous Materials Identification System
<b>IARC:</b>	International Agency for Research on Cancer
<b>IATA:</b>	International Air Transport Association
<b>IMDG:</b>	International Maritime Dangerous Goods Code
<b>mg/m<sup>3</sup>:</b>	Milligrams per cubic meter of air
<b>mmpcf:</b>	Million particles per cubic meter
<b>NFPA:</b>	National Fire Protection Association
<b>NIOSH:</b>	National Institute for Occupational Safety and Health
<b>OSHA:</b>	Occupational Safety and Health Administration
<b>29 CFR 1910.134 &amp; 1926.103:</b>	OSHA Respiratory Protection Standards
<b>29 CFR 1910.1200 &amp; 1926.59:</b>	OSHA Hazard Communication Standards
<b>PEL:</b>	Permissible Exposure Limit (OSHA)
<b>PIN:</b>	Product Identification Number
<b>PNOC:</b>	Particulates Not Otherwise Classified
<b>PNOR:</b>	Particulates Not Otherwise Regulated
<b>PSP:</b>	Product Stewardship Program
<b>RCRA:</b>	Resource Conservation and Recovery Act
<b>REL:</b>	Recommended Exposure Limit (NIOSH)
<b>RID:</b>	Carriage of Dangerous Goods by Rail (International Regulations)
<b>SARA:</b>	Superfund Amendments and Reauthorization Act
<b>SARA Title III:</b>	Emergency Planning and Community Right to Know Act
<b>SARA Section 302:</b>	Extremely Hazardous Substances
<b>SARA Section 304:</b>	Emergency Release
<b>SARA Section 311:</b>	SDS/List of Chemicals and Hazardous Inventory
<b>SARA Section 312:</b>	Emergency and Hazardous Inventory
<b>SARA Section 313:</b>	Toxic Chemicals and Release Reporting
<b>STEL:</b>	Short Term Exposure Limit`
<b>SVF:</b>	Synthetic Vitreous Fiber
<b>TDG:</b>	Transportation of Dangerous Goods
<b>TLV:</b>	Threshold Limit Value (ACGIH)

**TSCA:** Toxic Substances Control Act  
**TWA:** Time Weighted Average  
**WHMIS:** Workplace Hazardous Materials Information System (Canada)

**Revision Summary:** Reviewed for accuracy.

**MSDS Prepared By:** UNIFRAX RISK MANAGEMENT DEPARTMENT

#### **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, Unifrax 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.