SAFETY DATA SHEET

Following Regulation 1910.1200

SDS Number: MK226 Date of first issue: 13 October 2020 Date of last revision: 21 February 2022

1 - Identification of product

a - Product identifier used on the label

Tradenames: MicroFoil Tape

b - Other means of identification

FIBROUS GLASS FILAMENT PRODUCT

c - Recommended use of the chemical and restrictions on use

Application as thermal insulation, heat shields, heat containment, gaskets and expansion joints in industrial furnaces, ovens, kilns, boilers and other process equipment and in the aerospace, automotive and appliance industries, and as passive fire protection systems and firestops. (Please refer to specific technical data sheets for more information)

d - Name, address, and telephone number

Morgan Advanced Materials 2730 Industrial Parkway Elkhart, IN 46516 Telephone: 574-296-3500	**Morgan Advanced Materials** P. O. Box 923; Dept. 300 Augusta, GA 30903-0923 Telephone: 706-796-4200

e - Emergency Phone Number

For Product Stewardship and Emergency Information:
Hotline - 1-800-722-5681
Fax - 706-560-4054

For additional SDSs and to confirm this is the most current SDS for the product, visit our web page www.morganthermalceramics.com or send a request to MT.NorthAmerica@morganplc.com

2 - Hazard Identification

a - Classification of the chemical in accordance with paragraph (d) of §1910.1200

Under OSHA HCS 2012, one or more components (titanium dioxide or special purpose glass wool) in these products have been classified as category 2 carcinogen.

b - Signal word, hazard statement(s), symbol(s) and precautionary statement(s) in accordance with paragraph (f) of §1910.1200

Under OSHA HCS 2012, RCF is classified as GHS category 2 carcinogen.

Hazard Pictograms

Signal Words
Warning

Hazard Statements
Suspected of causing cancer by inhalation.

Precautionary Statements
Do not handle until all safety instructions have been read and understood.
Use respiratory protection as required; see section 8 of the Safety Data Sheet.
If concerned about exposure, get medical advice.
Store in a manner to minimize airborne dust.
Dispose of waste in accordance with local, state and federal regulations.

Supplementary Information
May cause temporary mechanical irritation to exposed eyes, skin or respiratory tract.
Minimize exposure to airborne dust.

Emergency Overview

c - Describe any hazards not otherwise classified that have been identified during the classification process

d - Mixture Rule

3 - Composition / Information On Ingredients

a - Composition table

COMPONENTS	CAS NUMBER	% BY WEIGHT
Fibrous Glass Filament	65997-17-3	95 - 98
Sizing	NONE	2 - 5

b - Common Name

Glass Fiber Product

d - Impurities and Stabilizing Additives

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

Eyes

If irritation develops, flush eyes immediately with large amounts of water. If irritation persists, seek medical attention or advice.

Skin

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.

Respiratory Tract

Move to fresh air. If breathing is difficult, give oxygen. If symptoms develop and persist, get medical attention.

Gastrointestinal

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

c - Indication of immediate medical attention and special treatment needed, if necessary

5 - Fire-fighting measures

a - Suitable (and unsuitable) extinguishing media and

Use extinguishing media suitable for type of surrounding fire

c - Special Protective Equipment and Precautions for Firefighters

Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode

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

6 - Accidental Release Measures

a - Personal precautions, protective equipment, and emergency procedures

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.

7 - Handling and storage

a - Precautions for safe handling

Keep container closed when not in use. Transfer only to approved containers with complete and appropriate labeling. Do not take internally.
Keep out of reach of children.

b - Conditions for safe storage, including any incompatibilities

c - empty containers

8 - Risk Management Measures / Exposures 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

EXPOSURE GUIDELINES			
MAJOR COMPONENT	***OSHA PEL***	***ACGIH TLV***	***MANUFACTURER'S REG***
Fibrous Glass Filament	1 f/cc	Not Established	NONE
OTHER OCCUPATIONAL EXPOSURE LEVELS (OEL)			
Ontario Canada OEL – Continuous filament glass fibers = 5 mg/m^3(Inhalable) or 1 f/cc. Industrial hygiene standards and occupational exposure limits vary between countries and local jurisdictions. Check which exposure levels apply to your facility and comply with local regulations. If no regulatory dust or other standards apply, a qualified industrial hygienist can assist with a specific workplace evaluation including recommendations for respiratory protection.			

b - Appropriate Engineering Controls

c - Individual protection measures, such as personal protective equipment

PPE - Skin

Wear long-sleeved, loose fitting clothing, gloves and hat as necessary to prevent skin irritation.

PPE - Eye

Wear goggles/safety glasses with sideshields

PPE – Respiratory

When engineering and/or administrative controls are insufficient to maintain workplace concentrations below the PEL/REG or 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% 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.

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

a - Appearance	White odorless wool-like fibrous material
b -Odor	No odor
c - Odor Threshold	Not available
e- pH	Not applicable
d - Melting Point	Not applicable
f- Initial Boiling Point/Range	Not applicable
g- Flashpoint	Not applicable
h - Evaporation Rate	Not applicable
i - Flammability	Not applicable
j - Upper/Lower Flammability or Explosive Limits	Not applicable
k - VAPOR PRESSURE	Not applicable
l - VAPOR DENSITY	Not applicable
m - Solubility	Not Applicable
n - Relative Density	Not applicable
o - Partition Coefficient: n-Octanol/water	Not determined
p - Auto-ignition temperature	Not applicable
q - Decomposition Temperature	Not applicable
r - Viscosity	Not available

10 - Stability and Reactivity

a - Reactivity

b - Chemical Stability

This material is stable under all conditions of use and storage.

c - Possibility of Hazardous Reaction

Not applicable.

d - Conditions to Avoid

None

e - Incompatible Materials

None.

f - Hazardous decomposition products

11 - Toxicological information

a - TOXICOKINETICS, METABOLISM AND DISTRIBUTION

b - Acute Toxicity

c - Epidemiology

d - Toxicology

SPECIAL PURPOSE GLASS FIBER
There is suficient evidence in experimental animals for the carcinogenicity of special purpose glass fibers including E-glass and '475' glass fibers. Many intraperitioneal studies of speical-purpose glass fibers have been conducted, most of wehihc have examined the tumorigenic potential of two composition of special-purpose glass fibers (E-glass and '475' fibers) after injection or surgical implantation of fibers at high doses (approximiately 109 fibers) into the peritioneal cavity of rats. All of these studies reported an increase in peritioneal tumors (IARC VOL: 81 (2002))

Per the Toxicological Profile for Synthetic Vitreous Fibers by the Agency for Toxic Substances and Disease Registry (ATSDR), the International Agency for the Research on Cancer (IARC 2002) concluded that special purpose glass fibers (E-glass and '475' glass fibers) not used as insulating materials were classified as Group 2b, possibly carcinogenic to humans, because of their relatively high biopersistence.

IRRITANT PROPERTIES
When tested using approved methods (Directive 67/548/EEC, Annex 5, Method B4), fibers contained in this material give negative results. All man-made mineral fibers, like some natural fibers, can produce a mild irritation resulting in itching or rarely, in some sensitive individuals, in a slight reddening. Unlike other irritant reactions this is not the result of allergy or chemical skin damage but is caused by mechanical effects.

International Agency for Research on Cancer and National Toxicology Program

12 - Ecological information

No data available.

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

13 - Disposal Considerations

Waste Management and Disposal

Comply with federal, state and local regulations

Additional information

14 - Transport information

a - UN number.

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

b - UN proper shipping name

Not applicable.

c - Transport hazard class(es)

This material is not regulated hazardous material for transportation.

d - Packing group, if applicable

e - Environmental hazards (e.g., Marine pollutant (Yes/No))

No.

f - Transport in bulk (according to Annex II of MARPOL 73/78 and the IBC Code)

Not regulated.

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

International

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

15 - Regulatory information

15.1 - United States Regulations

UNITED STATES REGULATIONS
SARA Title III: This product does not contain any substances reportable under Section 302, 304, 313 (40 CFR 372). Section 311 and 312 apply.
OSHA: Comply with Hazard Communication Standards 29 CFR 1910.1200 and 29 CFR 1926.59 and Respiratory Protection Standards 29 CFR 1910.134 and 29 CFR 1926.103.
TSCA: All substances contained in this product are listed, if required, in the TSCA Chemical Inventory.

15.2 - International Regulations

INTERNATIONAL REGULATIONS
Canada WHMIS: Not applicable
Canadian EPA: All substances in this product are listed, as required, on the Domestic Substance List (DSL)

16 - Other Information

initial statement

Devitrification

PRECAUTIONARY MEASURES TO BE TAKEN AFTER SERVICE UPON REMOVAL
High temperature insulating wool (HTIW) is typically used in insulation applications to keep temperature exposure at 900°C or above in a closed space. The exposure temperature maximum occurs at the hot face surface of the insulation. The heat exposure on the insulation decreases from the hot face to the cold face as the insulation "insulates itself". As a result, only thin layers of the hot face surface of the insulation become devitrified and respirable dust generated during removal operations typically do not contain detectable levels of crystalline silica (CS).

Toxicological evaluation of the effect of the presence of CS in artificially heated HTIW material has not shown any increased toxicity in vitro and in vivo. The results from different factor combinations such as increased brittleness of fibers or micro crystals embedded in the glass structure of the fiber and therefore not biologically available, may explain the lack of toxicological effects. IARC evaluation as provided in Monograph 68 is not relevant since CS is not biologically available in after-service HTIW.

Product Stewardship Program

Morgan Thermal Ceramics www.morganthermalceramics.com

HMIS HAZARD RATING

TECHNICAL DATA SHEETS

Revision Summary

1st Edition of SDS

MSDS prepared by

SDS Prepared By: MORGAN THERMAL CERAMICS ENVIRONMENTAL, HEALTH & SAFETY 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, Morgan Thermal Ceramics 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.