



SDS Number: AXTDF

Revised/Reviewed: 08/16/2018

Revised From: 06/30/2016

SECTION 1 • PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME OR NUMBER:

- **ARMATEX® TF** series PTFE dispersion coated fiberglass cloth, nonwoven, tape, sleeving, sewing thread, yarn and rope.

| | | | |
|----------|------------------------------------------------------------------------------|-----------------------------|--------------|
| COMPANY: | Mid-Mountain Materials, Inc. | TELEPHONE: | 206-762-7600 |
| ADDRESS: | Office: PO Box 800 2731 77th Ave. SE, Ste. 100 Mercer Island, WA 98040 | EMERGENCY TELEPHONE NUMBER: | 800-382-2208 |
| | Plant: 18825 67th Ave. NE Arlington, WA 98223 | FAX: | 206-762-7694 |

SECTION 2 • HAZARDS IDENTIFICATION



POTENTIAL HEALTH EFFECTS

1) **Polytetrafluoroethylene (PTFE):**

Inhalation of fumes from overheating or burning the resin may cause "polymer fume fever" (see Human Health Effects below).

The compound is not a skin irritant. Effects in animals from single exposure by inhalation to high concentrations of the dust include irritation of the lungs. Repeated oral doses resulted in no observable toxic effects except for alteration in the number of circulating white blood cells after long-term dosing (25% of diet for 90 days). Tests demonstrate no developmental toxicity in animals, and no genetic damage in animals or in bacterial cell cultures.

Human Health Effects of Overexposure to PTFE:

Inhalation of fumes from overheating PTFE may cause polymer fume fever, a temporary flu-like illness with fever, chills, and sometimes cough of approximately 24 hours duration. There are some reports in the literature of persistent pulmonary effects in individuals, especially smokers, who have had repeated episodes of polymer fume fever. Because of complicating factors, such as mixed exposure and smoking history, these findings are uncertain. Protection against acute exposure should also provide protection against any potential chronic effects. Smokers should avoid contamination of tobacco products, and should wash their hands before smoking. Significant skin permeation after contact appears unlikely. There are no reports of human sensitization. Small amounts carbonyl fluoride and hydrogen fluoride may also be evolved when PTFE is overheated or burned.

Inhalation of low concentrations of Hydrogen Fluoride can initially include symptoms of choking, coughing, and severe eye, nose and throat irritation. Possibly followed after a symptomless period of 1 – 2 days by fever, chills, difficulty in breathing, cyanosis, and pulmonary edema. Acute or chronic overexposure to HF can injure the liver and kidneys.

Inhalation, ingestion, or skin or eye contact with Carbonyl Fluoride may initially include: skin irritation, with discomfort or rash; eye corrosion with corneal or conjunctival ulceration; irritation of the upper respiratory passages; or temporary lingering irritation effects with cough, discomfort, difficulty breathing, or shortness of breath. Symptoms may be delayed.

Individuals with preexisting diseases of the lungs may have increased susceptibility to the toxicity of excessive exposure from thermal decomposition products.

2) **Fiberglass Substrate:**

PRIMARY ROUTE(S) OF EXPOSURE: Inhalation.

(Acute): Exposure to glass fibers sometimes causes irritation of the skin. Less frequently irritation of the eyes, nose, or throat may occur. Ingestion may cause short-term irritation of the stomach and intestines. See section 8 of SDS for exposure controls.

(Chronic): There are no known health affects connected with long-term use or contact with this product. See section 11 of SDS for toxicological information.

SECTION 3 • COMPOSITION / INFORMATION ON INGREDIENTS

| CHEMICAL / COMMON NAME | C.A.S. NUMBER | % BY WEIGHT (optional) |
|-----------------------------------|---------------|------------------------|
| • Continuous Filament Fiber Glass | 65997-17-3 | 60-80 |
| • Polytetrafluoroethylene | 9002-84-0 | 20-40 |



SECTION 4 • FIRST-AID MEASURES

EMERGENCY/FIRST AID PROCEDURES

SKIN: Rinse contacted areas with room temperature to cool water, then wash gently with mild soap. If fiberglass becomes embedded, seek medical attention. If molten material gets on skin, cool rapidly with cold water – do not attempt to remove material from skin. Obtain medical treatment for thermal burn.

EYE: Remove contact lens. Flush eyes with clear water for at least 15 minutes - seek medical attention.

INHALATION: Move person to fresh air. Seek medical attention if irritation persists. If overheated, move to fresh air.

INGESTION: Ingestion of this material is not likely. If it does occur, give 2 glasses of water and induce vomiting. Never give anything by mouth to an unconscious person. Call a physician. Watch for several days to make sure intestinal blockage does not occur. If there is blockage, seek medical attention.

SECTION 5 • FIRE-FIGHTING MEASURES

EXTINGUISHING MEDIA: N/A

SPECIAL FIRE FIGHTING INSTRUCTIONS: In a sustained fire, self-contained breathing apparatus, (SCBA), should be worn.

FLASH POINT: Does not burn. Will melt at high temperature. Hazardous gasses/vapors produced in fire are hydrogen fluoride (HF), carbon monoxide, potentially toxic fluorinated compounds.

SECTION 6 • ACCIDENTAL RELEASE MEASURES

ACTION TO TAKE FOR SPILLS/LEAK: Wet and sweep or vacuum fibrous dust.

SECTION 7 • HANDLING AND STORAGE

HANDLING:

Personal: No special precautions. Avoid contamination of cigarettes or tobacco with dust from this material.

Physical: Do not use a torch to clean this material from equipment without local exhaust ventilation and respirator.

SECTION 8 • EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS/WORK PRACTICES

VENTILATION Use local exhaust to completely remove vapors and fumes if being exposed to high temperatures. Otherwise, local exhaust ventilation (if needed) to maintain appropriate airborne dust levels.

PERSONAL PROTECTIVE EQUIPMENT/PROTECTIVE MEASURES

RESPIRATORY PROTECTION: Some applications of these products may not require respiratory protection for fiberglass. However, if airborne fibrous glass concentrations exceed the OSHA permissible limits or if irritation occurs, use a properly fitted NIOSH approved N95 particulate filtering respirator, or better. Use respiratory protection in accordance with your company's respiratory protection program, local regulations, and OSHA regulations under CFR 1910.134.

PROTECTIVE CLOTHING: Loose fitting long sleeved shirt that covers to the base of the neck, long pants and gloves. Skin irritation is known to occur chiefly at pressure points such as around neck, wrist, waist and between fingers.

EYE PROTECTION: Safety glasses with side shields or goggles.

WORK/HYGIENIC PRACTICES: Wash thoroughly with soap and water after use.

EXPOSURE GUIDELINES:

| Ingredient | OSHA PEL (8-hr TWA) | AGGIH TLV (8-hr TWA) | AEL |
|----------------------------------|-------------------------------------------------------|---------------------------------------------|------------------------------------------------------|
| • Fiberglass Continuous Filament | 5 mg/m ³ (respirable dust) | 5 mg/m ³ (inhalable fraction) | NE |
| | 15 mg/m ³ (total dust) | 1 fiber/cc (respirable) | - |
| | 1 fiber /cc (respirable, proposed) | - | - |
| • Polytetrafluoroethylene | 15 mg/m ³ , 8 Hr. TWA, (total dust) | NE | 10 mg/m ³ , 8 Hr. (TWA, total dust) |
| | 5 mg/m ³ , 8 Hr. TWA, (respirable dust) | - | 5 mg/m ³ , 8Hr. (TWA, respirable dust) |

SECTION 9 • PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE: Solid.

COLOR AND ODOR: White fibrous textiles coated with dry, somewhat slippery coating, color varies. No odor.

pH: N/E

MELTING POINT: Coating, 621-648°F ; Substrate: 2150°F

BOILING POINT: N/A

EVAPORATIVE RATE (n-Butyl Acetate = 1): N/A

FLAMMABILITY LIMITS: N/A

LOWER EXPLOSIVE LIMIT: None - does not support flame.

UPPER EXPLOSIVE LIMIT: None – does not support flame.

VAPOR PRESSURE: (mm Hg @ 20°C): N/A

% SOLUBILITY IN WATER: Insoluble

SPECIFIC GRAVITY (water = 1): undetermined

AUTO IGNITION TEMPERATURE: N/A

VISCOSITY: N/A

% VOLATILE BY VOLUME: N/A

POUR POINT: N/A

SECTION 10 • STABILITY AND REACTIVITY

STABILITY: Stable under normal conditions of use. Decomposition (Coating): Heating above 572°F, may cause evolution of particulate matter, which can cause polymer fume fever (see HUMAN HEALTH EFFECTS). Trace amounts of Hydrogen fluoride and carbonyl fluoride maybe evolved at about 750°F, with larger amounts at higher temperatures.

INCOMPATIBILITY: None known

HAZARDOUS DECOMPOSITION PRODUCTS: Sizing or binders may decompose in a fire. Primary combustion products are carbon monoxide, carbon dioxide and water. Other undetermined compounds could be released in small quantities.

HAZARDOUS POLYMERIZATION: Will not occur.

SECTION 11 • TOXICOLOGICAL INFORMATION

CARCINOGENICITY: PTFE COATING

None of the components present in this coating material at concentrations equal to or greater than 0.1% are listed by IARC, NTP, OSHA or ACGIH as a carcinogen.

CARCINOGENICITY: FIBERGLASS



The table below indicates whether each agency has listed each ingredient as a carcinogen:

| Ingredient | AGGIH | IARC | NTP | OSHA |
|-----------------------------------|-------|------|-----|------|
| • Fiber Glass Continuous Filament | A4 | No | No | No |

AGGIH: A4 not classifiable as a Human Carcinogen

ADDITIONAL INFORMATION - FIBER GLASS (Fiberglass): The following information pertains specifically to fiberglass: Factors in fiber toxicity include fiber dimensions along with durability and degree of exposure.

FIBER DIMENSIONS: Fibers are either non-respirable or respirable. Respirable fibers can penetrate to the "deep" lung. According to the World Health Organization (WHO), man-made mineral fibers with diameters equal to or greater than (\geq) 3.0 microns are non-respirable (1). According to the National Institute for Occupational Safety and Health (NIOSH), fibers with diameters $> 3.5 \mu\text{m}$ are non-respirable (2). The narrow, bending passages of the human respiratory system, do not permit the relatively larger, non-respirable fibers to enter the "deep" lung. Instead, they deposit on the surfaces of the upper respiratory tract, nose, or pharynx. They are then cleared through normal physiological mechanisms. As manufactured, continuous filament glass fibers are not respirable (>3.5 micrometers in diameter). Continuous filament glass products that are chopped, crushed, or severely mechanically processed during manufacturing or use may contain a very small amount of respirable particulate, some of which may be respirable fibers. Mechanical processing may cause the filaments to fracture, producing small pieces (fibers and particles) of the larger continuous filaments. There is no evidence that these fibers break longitudinally into smaller diameters. Upon breakage, the fibers may break horizontally into smaller lengths but not longitudinally into smaller diameters. As with any sanding/grinding activity, respirable and non-respirable particles may be generated.

DURABILITY: The term "durability" refers to how long a fiber will remain in the lung. E-glass composition has been found to be durable in the human lung; however, if fibers are non-respirable their durability is unimportant.

DEGREE OF EXPOSURE: The results in terms of airborne concentrations of glass fibers and total dust would indicate that the workmen's exposure to these materials is negligible" (1). See Section 2 of SDS for effects resulting from exposure.

CARCINOGENICITY: (Fiberglass, Continuous Filament) The International Agency for Research on Cancer (IARC) in 2002, categorized fiberglass continuous filament as not classifiable with respect to human carcinogenicity (Group 3). The evidence from human as well as animal studies was evaluated by IARC with results being insufficient to classify fiberglass continuous filament as a possible, probable, or confirmed cancer-causing material.

The ACGIH A4 classification, not classifiable as a human carcinogen, for respirable continuous filament glass fibers is based on inadequate data in terms of its carcinogenicity in humans and/or animals. For respirable continuous filament glass fibers, a TLV - TWA of 1 fiber/cc with an ACGIH A4 classification was adopted for non-respirable glass filament fiber, measured as inhalable dust, to prevent mechanical irritation of the upper respiratory tract.

Continuous filament fiberglass is not listed in the National Toxicology Program (NTP) 14th Annual Report on Carcinogens.

SECTION 12 • ECOLOGICAL INFORMATION

Fiberglass is generally considered to be an inert solid waste, and no special precautions should be taken in case it is released or spilled. These products do not contain, nor are manufactured with, Class I or

Class II Ozone-Depleting Chemicals (CFCs) identified in the Clean Air Act Amendment, 1990 List of Ozone Depleting Chemicals. Product is not expected to present an environmental hazard.

SECTION 13 • DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD: Dispose solid waste in accordance with local, state, and federal regulations. Not considered a hazardous waste under "RCRA" regulations.

SECTION 14 • TRANSPORT INFORMATION

UN/NA CODE: None.

PROPER SHIPPING NAME: Not regulated.

HAZARD CLASS: Not considered hazardous waste under federal "RCRA" regulations.

DOT INFORMATION: Not regulated.

LABELS REQUIRED: None.

BILL OF LADING DESCRIPTION: None.

SECTION 15 • REGULATORY INFORMATION

UNITED STATES: EPA Toxic Substances Control Act (TSCA): Fiberglass carries no Chemical Abstracts Index name, CAS registry number or EPA code designation number. Fiberglass is an "article" as defined in Section 710.2(f). It is exempt from Sections 5 and 8(b) reporting requirements. PPG considers these products exempt from EPA SARA Title III reporting requirements as they do not meet its health or physical hazards definitions nor contain any SARA 313 chemical ingredients in excess of EPA's de minimis concentrations. OSHA Hazard Communication Standard: Subject to the applicable requirements of this regulation. Per this SDS revision date, these fiberglass products are not known to contain chemical ingredients listed by the Pennsylvania, New Jersey or Massachusetts Right to Know Law in excess of amounts requiring reporting on such substances' SDS or labels.

CALIFORNIA PROP 65: Labeling is required. According to the National Toxicology Program (NTP), there is sufficient evidence of carcinogenicity from studies in experimental animals of inhalable glass wool fibers as a class and evidence from studies of fiber properties indicate that only certain fibers within this class — specifically, fibers that are biopersistent in the lung or tracheobronchial region — are reasonably anticipated to be human carcinogens.

CANADA: Exempt from Canadian Environmental Protection Act (CEPA) reporting on the Domestic Substances Lists as these products are considered "articles". Exempt from Workplace Hazardous Materials Information System (WHMIS) labeling & SDS requirements. However, fibrous glass is on the Ingredient Disclosure List. It must be listed as an ingredient on SDS for "controlled products" with fiberglass concentrations greater than 1.0%.

State Regulations (U.S.):

STATE RIGHT- TO- KNOW

- No substances on the state hazardous substances list, for the states indicated below, are used in the manufacture of products on this Material Safety Data Sheet, with the exceptions indicated.

- SUBSTANCES ON THE PENNSYLVANIA HAZARDOUS SUBSTANCES LIST PRESENT AT A CONCENTRATION OF 1% OR MORE (0.01% FOR SPECIAL HAZARDOUS SUBSTANCES) : Polytetrafluoroethylene is listed, but we believe it was listed in error and have petitioned to have it delisted.

NFPA Rating

| | |
|---------------|---|
| Health: | 2 |
| Flammability: | 1 |



| | | |
|------------------|---------------|---|
| NPCA-HMIS Rating | Reactivity : | 0 |
| | Health: | 1 |
| | Flammability: | 0 |
| | Reactivity : | 0 |

Additional Information

MEDICAL USE: CAUTION: Do not use in medical applications involving permanent implantation in the human body. For other medical applications, see DuPont CAUTION Bulletin No. H-50102, available on request.

SARA TITLE III INFORMATION

Hazard Categories:

| | |
|--------------------|-----|
| Acute Health: | Yes |
| Chronic Health: | No |
| Fire Hazard: | No |
| Pressure Hazard: | No |
| Reactivity Hazard: | No |

Reportable Ingredients:

| | |
|-------------|------|
| Sec.302/304 | None |
| Sec. 313 | None |

SECTION 16 • OTHER APPLICABLE INFORMATION

HMIS and NFPA Hazard Rating:

| <u>Category</u> | <u>HMIS</u> | <u>NFPA</u> |
|-----------------|-------------|-------------|
| Acute Health | 1 | 1 |
| Flammability | 0 | 0 |
| Reactivity | 0 | 0 |

NFPA Unusual Hazards: None

HMIS Personal Protection: To be supplied by user depending upon use.

DEFINITIONS

| | |
|-----------------------------|----------------------------------------------------------------------|
| 29 CFR 1910.134 & 1926.103: | OSHA Respiratory Protection Standards |
| 29 CFR 1910.1200 & 1926.59: | OSHA Hazard Communication |
| ACGIH | American Conference of Governmental Industrial Hygienists |
| ADR | Carriage of Dangerous Goods by Road (International Regulation) |
| CAA | Clean Air Act |
| CAS | Chemical Abstract Services |
| CERCLA | Comprehensive Environmental Response, Compensation and Liability Act |
| CFR | Code of Federal Regulations |
| DOT | Department of Transportation |
| DSL | Domestic Substances List (Canada) |
| EEC | European Economic Committee |
| EINECS | European Inventory of Existing Commercial Chemical Substances |
| EPA | Environmental Protection Agency |
| EU | European Union |
| HEPA | High Efficiency Particulate Air |

| | |
|-------|----------------------------------------------------------------|
| HMIS | Hazardous Materials Information System |
| IARC | International Agency for Research on Cancer |
| IATA | International Air Transport Association |
| IMDG | International Maritime Dangerous Goods Code |
| LC | Lethal Concentration |
| LD | Lethal Dose |
| NFPA | National Fire Protection Association |
| NIOSH | National Institute for Occupational Safety and Health |
| NTP | National Toxicology Program |
| OSHA | Occupational Safety and Health Administration |
| PEL | Permissible Exposure Limit |
| PIN | Product Identification Number |
| PNOC | Particulates Not Otherwise Classified |
| PNOR | Particulates Not Otherwise Regulated |
| RCRA | Resource Conservation and Recovery Act |
| RID | Carriage of Dangerous Goods by Rail (International Regulation) |
| SARA | Superfund Amendments and Reauthorization Act |
| STEL | Short Term Exposure Limit |
| TCLP | Toxic Chemical Leachate Program |
| TDG | Transportation of Dangerous Goods |

TITLE III EMERGENCY PLANNING AND COMMUNITY RIGHT TO KNOW ACT – SECTION:

| | |
|-----|-----------------------------------|
| 302 | Extremely Hazardous Substances |
| 303 | Emergency Release |
| 311 | SDS/List of Chemicals |
| 312 | Emergency and Hazardous Inventory |
| 313 | Toxic Chemicals Release Reporting |

| | |
|-------|--------------------------------------------------|
| TLV | Threshold Limit Value |
| TSCA | Toxic Substance Control Act |
| TWA | Time Weighted Average |
| WHMIS | Workplace Hazardous Materials Information System |

| | |
|-------------------|-----------------------------------|
| µm | micrometer (micron) |
| mm | millimeter |
| cm | centimeter |
| m | meter |
| f/cc | fibers per cubic centimeter |
| in | inch |
| oz | ounce |
| lb | pound |
| µg | microgram |
| mg | milligram |
| g | gram |
| kg | kilogram |
| mg/m ³ | milligrams per cubic meter of air |
| mppcf | million particles per cubic foot |
| ppm | parts per million |

| | |
|-----|------------------------|
| N/A | Not Applicable |
| ND | No Data/Not Determined |
| NE | Not Established |
| NR | Not Regulated |

To the best of our knowledge, the information contained in this publication is accurate; however, we do not assume any liability whatsoever for the accuracy or completeness of such information. Moreover, there is a need to reduce human exposure to many materials to the lowest practical limits in view of possible long-term adverse effects. To the extent that any hazards may have been mentioned in the publication, we neither suggest nor guarantee that such hazards are the only ones that exist. Final determination of the suitability of any information or product for the use contemplated by any user, the manner of that use, and whether there is any infringement of any patents is the sole responsibility of the user. We recommend that anyone intending to rely on any recommendation or to use any equipment, processing technique, or material mentioned in this publication should satisfy himself as to such suitability and that he can meet all applicable safety



SDS

Safety Data Sheet

Page 5 of 5

and health standards. We strongly recommend that users seek and adhere to the manufacturers' or suppliers' current instruction for handling each material they use.

<<< End of SDS >>>
