SDS Number: AXFF-2 **Revised/Reviewed: 06/30/2016** **Revised From: n.d.**

SECTION 1 • PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME OR NUMBER: **ARMATEX® FIRESTAR™** Vermiculite coated fiberglass textiles - cloth, tape, sleeving, and rope.

COMPANY: Mid-Mountain Materials, Inc.

ADDRESS: Office: PO Box 800
2731 77th Ave. SE, Ste. 100
Mercer Island, WA 98040

Plant: 18825 67th Ave. NE
Arlington, WA 98223

TELEPHONE: 206-762-7600

EMERGENCY TELEPHONE NUMBER: 800-382-2208

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SECTION 2 • HAZARDS IDENTIFICATION

POTENTIAL HEALTH EFFECTS

(ACUTE) Exposure to glass fibers sometimes causes irritation of the skin and, less frequently, irritation of the eyes, nose, or throat.

(CHRONIC) A number of epidemiology studies, done over many years of workers employed for up to 40 years in the manufacture of continuous filament fiber glass have shown no evidence of increased in either malignant or non-malignant respiratory disease attributable to exposure to fiber glass. However, recent studies have shown slight increase in lung cancer among workers employed in the manufacture of glass wool and mineral wool insulation products. Those same studies showed no evidence of similar effects among continuous filament fiber glass workers. This product is a continuous filament fiber glass product. Animal inhalation studies for fiber glass have not shown evidence for either a carcinogenic or fibrogenic response. Studies using artificial implantation or injection of glass fibers into animals have resulted in cancer. However, since there are no natural mechanisms which would mimic such artificial exposures, those studies are not thought to be relevant to human exposure.

SIGNS AND SYMPTOMS OF EXPOSURE: Itching along with possible eye and skin irritation, sneezing, coughing, and throat irritation.

SECTION 3 • COMPOSITION / INFORMATION ON INGREDIENTS

CHEMICAL / COMMON NAME	C.A.S. NUMBER	% BY WEIGHT (opt)
• Fiberglass Continuous Filament (Fibrous Glass)	65997-17-3	90 – 95%
OSHA PEL: 10 mg/m^3, 8hr TWA		
ACGIH TLV: 3 X 10 fiber/m^3, 8-hr TWA (NIOSH)		
OSHA has not established a specific PEL for fibrous glass. It is considered to be a "particulate not otherwise regulated" m(PNOR) and is under the OSHA nuisance dust PELs of 5 mg/m^3 for the respirable dust fraction and mg/m^3 for the total dust fraction for an 8-hr TWA.		
• Chemically Exfoliated Vermiculite	None listed	5 – 10%
OSHA PEL: None listed		

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 fiber glass becomes embedded, seek medical attention

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.

INGESTION: Ingestion of this material is not likely. If it does occur, 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: Non-burning. Water is the preferred extinguishing media.

FIRE FIGHTING PROCEDURES: In any sustained fire, wear self-contained breathing apparatus (SCBA). Every company should have a written fire/evacuation policy including training that is compliant with governmental regulations (e.g., NFPA/OSHA).

SECTION 6 • ACCIDENTAL RELEASE MEASURES

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

SECTION 7 • HANDLING AND STORAGE

HANDLING AND STORAGE PROCEDURES: No special precautions.

Other Precautions: If fiberglass concentrations exceed permissible exposure levels respiratory protection nuisance dust in accordance with OSHA 1910.134 should be used.

SECTION 8 • EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS/WORK PRACTICES

VENTILATION: 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, a properly fitted NIOSH/MSHA approved disposable dust respirator such as the 3M model 8210 (formerly 8710) or model 9900 (in high humidity environments) or equivalent

should be used. 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, with long pants and gloves. Skin irritation is known to occur chiefly at pressure points such as around neck, wrist, waist, and between fingers. Work clothing should be laundered separately from other clothing before reuse.

EYE PROTECTION: Safety glasses with side shields or goggles.

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

EXPOSURE GUIDELINES

INGREDIENT

• Fiberglass Continuous Filament

ACGIH TLV: (8-hr TWA) 5 mg/m^3 inhalable fraction
1 f/cc respirable fibers

OSHA PEL: (8-hr TWA) 15 mg/m^3 total
5 mg/m^3 respirable

Note: OSHA does not prescribe a Permissible Exposure Limit (PEL), but relies on the PEL-TWA's for nuisance dust as noted.

For ingredients – Decabromodiphenyl Oxide & Antimony Oxide – no exposure limit guidelines have been established.

AIR SAMPLING/ANALYTICAL METHODS: Gravimetric total dust NIOSH Sampling & Analytical Method 0500; the Gravimetric respirable dust NIOSH Method 0600 and the NIOSH 7400 B Fiber Counting Rules; and IOM Sampler for meeting ACGIH criteria for inhalable particulate mass.

SECTION 9 • PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE: Solid.

COLOR AND ODOR: White fibrous textiles.

pH: N/A

MELTING POINT: N/A

BOILING POINT: N/A

FLASH POINT: Non-burning.

EVAPORATIVE RATE (ethyl ether = 1): N/A

FLAMMABILITY LIMITS: N/A

LOWER EXPLOSIVE LIMIT: N/A

UPPER EXPLOSIVE LIMIT: N/A

VAPOR PRESSURE: (mmHg @ 20°C): N/A

% SOLUBILITY IN WATER: Insoluble.

SPECIFIC GRAVITY (water = 1): Undetermined.

VAPOR PRESSURE: (mmHg @ 20°C): N/A

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.

INCOMPATIBILITY: None known.

HAZARDOUS DECOMPOSITION PRODUCTS: N/A

HAZARDOUS POLYMERIZATION: Will not occur.

SECTION 11 • TOXICOLOGICAL INFORMATION

CARCINOGENICITY: The table below indicates whether or not each agency has listed each ingredient as a carcinogen:

INGREDIENT	ACGIH	IARC	NTP	OSHA
• Fiber Glass Continuous Filament	A4	No	No	No
(See detailed information on fiber glass, below)				
• Vermiculite	No	No	No	No

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 (≥) 3.0 microns are non-respirable (1). According to the National Institute for Occupational Safety and Health (NIOSH), fibers with diameters > 3.5 µm 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.

Fiber Glass Continuous Filament: IARC, in June, 1987, 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 as 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) 7th Annual Report on Carcinogens, nor is it regulated by OSHA as a carcinogen.

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. Keep debris minimal by locating waste disposal equipment near work area

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: N/A

BILL OF LADING DESCRIPTION: N/A.

SECTION 15 • REGULATORY INFORMATION

SARA Title III Section 313

This product does not contain any chemicals in concentration subject to the reporting requirements of section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 (Title III of SARA) and of 40 CFR 372

Clean Air Act: No ingredient is listed.

WHMIS (Canada): Status not controlled and no classification.

NSR Status (Canada): Each ingredient is on the DSL.

TSCA Status: Each ingredient is on the inventory.

SECTION 16 • OTHER APPLICABLE INFORMATION

HMIS and NFPA Hazard Rating:

CATEGORY	HMIS	NFPA
Acute Health	1	1
Flammability	0	0
Reactivity	0	0

NFPA Unusual Hazards: None .
HMIS Personal Protection: Supplied by user; dependent 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 or guarantee that such hazards are the only ones which 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 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 >>>