
SECTION I - PRODUCTION IDENTIFICATION

Z-TUFF™ SILICONE COATED FABRIC**MANUFACTURER:**

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Prepared by: Quality Department

SECTION II - INGREDIENTS

The above products are considered "articles" according to OSHA hazard Communication Standard 29 CFR 1910.1200 and, as such, are exempt from the Material Safety Data Sheet provisions of 29 CFR 1910.1200(G)(6). As a service to the customer, Newtex Industries Inc. has prepared this Material Safety Data Sheet to provide appropriate safety and handling information. These products are considered non-hazardous when used according to accepted practices for the intended use.

<u>COMMON NAME:</u>	<u>CHEMICAL NAME:</u>	<u>CAS No.</u>	<u>WT.%</u>
Continuous Filament Fiber Glass (non-respirable)	Fibrous Glass	65997-17-3	70-85%
- Non-respirable filaments and particulate			>98%
- Respirable particulate			<1%
- Respirable particulate with fiber-like dimensions (glass shards)			<0.002%
Silicone coating	Silicone	mixture	15-30%
- No reportable quantities of hazardous chemicals are present			

SECTION III - HAZARD IDENTIFICATION

Emergency Overview

No unusual conditions are expected from this product.
Fiberglass may cause mechanical irritation to
the skin, eye, and upper respiratory tract.

PRIMARY ROUTES OF ENTRY:

- Inhalation: No effects are known to be associated with the inhalation of vapors from this material. Breathing dusts and fibers may cause short-term mechanical irritation of the nose, throat and upper respiratory tract.
- Skin: Short contact with human skin is not likely to produce skin irritation. Repeated prolonged contact can induce mild irritation. This product is not likely to be absorbed through human skin.
- Eyes: May cause a physical irritation to the eye.
- Ingestion: Although not likely to occur in industrial applications, accidental ingestion may cause irritation of the mouth and gastrointestinal tract.

CHRONIC HEALTH EFFECTS:

There is no known chronic health effects associated with long term use or contact with this product. As manufactured, Z-TUFF™ SILICONE COATED PRODUCTS are non-respirable. Non-respirable fibers cannot reach the deep lung, because they have a diameter of greater than 3.5 microns. Fibers of this diameter cannot penetrate the narrow, bending passages of the human respiratory tract to reach the lower regions of the lung and thus, have no possibility of causing serious pulmonary damage. Instead they are deposited on the surface of the upper respiratory tract, nose, or pharynx. These fibers are then cleared through normal physiological mechanisms. Chopped, crushed or severely mechanically processed fiberglass may contain a very small amount of respirable fibers that could reach the deep lung. The measured airborne concentration of these respirable fibers in areas where severe processing of fiberglass occurred has been shown to be extremely low and well below the TLV. , Z-TUFF™ SILICONE COATED PRODUCTS in the form supplied do not contain respirable fibers.

CARCINOGENICITY: This product is not known as a carcinogen.

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE:

Respiratory or skin conditions that are aggravated by mechanical irritants may be at an increased risk for worsening from exposure to this product.

SECTION IV – FIRST AID

- INHALATION: Move the person to fresh air. Seek medical attention if irritation persists.
- SKIN: Wash any material off skin with mild soap and cool water. Do not rub or scratch irritated areas. This may force fibers into the skin. Seek medical attention if irritation persists.
- EYES: Flush with water for at least 15 minutes. Seek medical attention if irritation persists.
- INGESTION: Not expected to occur. Should ingestion take place, the person should be watched for several days to ensure intestinal blockage does not occur.

SECTION V - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (METHOD USED):	N/A
FLAMMABLE LIMIT:	LEL: N/A UEL: N/A
AUTO IGNITION TEMPERATURE:	N/A
UNUSUAL FIRE AND EXPLOSIVE HAZARDS:	None
EXTINGUISHING MEDIA:	Fiberglass will not support combustion. In a sustained fire use an extinguisher appropriate for surrounding fire.
SPECIAL FIRE FIGHTING PROCEDURES:	Fiberglass itself will not support combustion, but in a sustained fire, proper protection against products of combustion for the fuel and the sizing must be worn. Use self-contained breathing apparatus (SCBA) and full bunker turnout gear in a sustained fire.
HAZARDOUS COMBUSTION PRODUCTS:	In a sustained fire, the organic binders will decompose, releasing minor quantities of decomposition products believed to be insufficient to be harmful.

SECTION VI - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

- Land Spill: Material is a solid. Pick up the larger pieces and wet sweep or vacuum up any scrapes. Place in a suitable container for disposal as a non-hazardous waste.
- Water Spill: This material will sink and disperse along the bottom of waterways and ponds. Large pieces should be removed and placed in a suitable container for disposal. Smaller pieces cannot be easily removed after it is waterborne; however, the material is non-hazardous in water.
- Air Release: The material will settle out of the air where it can be cleaned as a land spill.

SECTION VII – HANDLING AND STORAGE

PRECAUTIONS TO BE TAKEN IN HANDLING:	For maximum comfort, avoid excessive contact with skin and use good personal hygiene.
OTHER PRECAUTIONS:	If excessive dust is generated, use a respirator approved by NIOSH for dust. This material is not an electrical conductor and may accumulate static charge.

STORAGE TEMPERATURE: N/A
STORAGE PRESSURE: N/A
GENERAL: No special storage procedures are required for this material.

SECTION VIII – EXPOSURE CONTROL/ PERSONAL PROTECTION

EXPOSURE LIMITS:

<u>COMMON NAME:</u>	<u>OSHA PEL</u> 8-hr TWA	<u>ACGIH TLV</u> 8-hr TWA
Continuous Filament Fiber Glass (non-respirable)		
- Non-respirable filaments and particulate	15mg/m ³ (total dust)	5mg/m ³ (inhalable fraction)
- Respirable particulate	5mg/m ³ (respirable dust)	3mg/m ³ (PNOC)
- Respirable particulate with fiber-like dimensions (glass shards)	None Established	1 fiber/cc aspect ratio >5:1
Size	None Established	None Established

OSHA = Occupational Safety and Health Administration

ACGIH = American Conference of Governmental Industrial Hygienists

PEL = Permissible Exposure Limits

TLV = Threshold Limit Value

PNOC = Particles Not Otherwise Classified

As manufactured the continuous filament fiber glass in this product is not respirable. 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 glass shards.

VENTILATION: Use local exhaust or general room dilution to maintain employee exposures below occupational exposure limits.

LOCAL EXHAUST: Is not necessary. Use if required to keep employees exposure below occupational exposure limits during use or manufacturing.

SPECIAL: None

MECHANICAL: None

OTHER: None

RESPIRATORY PROTECTION: If the use or manufacturing of this product generates high dust levels, the level of glass fibers in the air exceeds the occupational exposure limits, or if irritation occurs, use a properly fitted NIOSH/MSHA approved disposable respirator such as 3M model 8210 (or 3M model

8271 in high humidity environments). Always use a respirator in accordance with your company's respiratory protection program, local regulations, and OSHA regulation 29CFR1910.134.

PROTECTIVE GLOVES: Not required, but gloves and barrier creams can be used to protect against mechanical irritation of the hands.

EYE PROTECTION: As generally good practice, safety glasses with side shields should be worn.

OTHER PROTECTIVE CLOTHING OR EQUIPMENT: None required. Good personal hygiene, barrier creams, caps, coveralls, loose fitting long sleeve shirt that covers to the base of the neck and long pants will maximize comfort. Skin irritation is known to occur chiefly at pressure points such as around the neck, wrist, waist, and between fingers.

WORK HYGIENIC PRACTICES: Handle using good industrial hygiene and safety practices. Wash thoroughly with mild soap and cool water after handling of the material. Remove material from clothing using vacuum equipment (never used compressed air). Always wash work cloths separately from other clothing. Wipe out washer or sink to prevent loose glass fibers from getting on other clothing. Keep the work area clean of dusts and fibers released during processing or fabrication. Use vacuum equipment to clean up product. Avoid dry sweeping or using compressed air as these techniques re-suspend dusts and fibers into the air. Have access to a shower and eye wash station.

SECTION IX - PHYSICAL DATA

BOILING POINT:	Not Applicable
MELTING POINT:	>~1100°F
FREEZING POINT:	Not Applicable
SPECIFIC GRAVITY RANGE (H₂O=1):	2.6
pH:	Not Applicable
VISCOSITY:	Not Applicable
SOLUBILITY IN WATER:	Negligible
PERCENT VOLATILE BY VOLUME:	Not Applicable
VAPOR DENSITY (Air=1):	Not Applicable
VAPOR PRESSURE (mm Hg):	Not Applicable
EVAPORATION RATE (Butyl Acetate=1):	Not Applicable
PHYSICAL STATE:	Solid
APPEARANCE AND ODOR:	Silver/gray or rust colored fabric with no odor

SECTION X - REACTIVITY DATA

STABILITY:	Stable
CONDITIONS TO AVOID:	None known

INCOMPATIBILITY: Strong oxidizing agents, Hydrofluoric acid

HAZARDOUS DECOMPOSITION OR BYPRODUCTS:

Fiberglass will not burn, but smoking of the product may occur at approximately 400-500°F (200-260°C) due to decomposition of the sizing or binder. In a sustained fire, the binders will decompose releasing minor quantities of decomposition products believed to be insufficient to be harmful. See Section V for decomposition products.

HAZARDOUS POLYMERIZATION: Will not occur

SECTION XI - TOXICOLOGICAL INFORMATION

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

<u>INGREDIENT</u>	<u>ACGIH</u>	<u>IARC</u>	<u>NTP</u>	<u>OSHA</u>	<u>97/69/EC</u>
Continuous Filament Fiber Glass including - Non-respirable glass particulate - Respirable glass particulate - Respirable particulate with fiber-like dimensions (glass shards)	A4	3	No	No	No
Size	No	No	No	No	No

ACGIH: A4 Not Classifiable as a Human Carcinogen
 IARC: 3 Not Classifiable with respect to Human Carcinogenicity

The International Agency for Research on Cancer (IARC) in June, 1987 categorized fiber glass 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 American Conference of Governmental Industrial Hygienists (ACGIH) A4 classification, not classifiable as a human carcinogen, for respirable continuous filament glass fiber is based on inadequate data in terms of its carcinogenicity in humans and/or animals.

For respirable continuous filament glass fiber, a TLV-TWA of 1 fiber/cc was adopted to protect workers against mechanical irritation. The TLV-TWA of 5 mg/m³ was adopted for non-respirable glass filament fiber, measured as inhalable dust, to prevent mechanical irritation of the upper respiratory tract

Products that are chopped, crushed or severely mechanically processed during manufacture or use may contain a very small amount of respirable glass fiber-like fragments. NIOSH defines “respirable fibers” as greater than 5 microns in length and less than 3 microns in diameter with an aspect ratio

of $\geq 5:1$ (Length-to-width ratio).

There are no known chronic health effects connected with long-term use or contact with ZETEX® UNTREATED PRODUCTS.

EPIDEMIOLOGY STUDIES: Two major studies, one in the US performed by the University of Pittsburgh and one in Europe performed by the International Agency for Research on Cancer showed no increase in lung cancer or respiratory disease among people working in fiber glass production facilities. An additional smaller study performed in Canada also did not show an association between exposure of workers to fiber glass and respiratory cancer.

SECTION XII - ECOLOGICAL INFORMATION

Fiberglass is generally considered to be an inert solid waste. This material is not expected to cause harm to animals, plants or fish. No Special precautions are needed in case of a release or spill.

SECTION XIII – DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD: Waste material must be disposed of in accordance with federal, state, provincial and local environmental control regulations. Dispose of as any other innocuous material. Product is not a hazardous waste under RCRA 40 CFR 261.

SECTION XIV - TRANSPORTATION INFORMATION

DOT SHIPPING NAMES:	Not regulated
HAZARD CLASS OR DIVISION:	None
SECONDARY:	None
IDENTIFICATION NUMBER:	None
PACKING GROUP:	None
LABEL(S) REQUIRED (if not excepted):	None
SPECIAL PROVISIONS:	None
PACKAGE EXCEPTIONS:	None
NON-BULK PACKAGING:	None
BULK PACKAGING:	None
EPA HAZARDOUS SUBSTANCES:	None
REPORTABLE QUANTITY:	Not Applicable
QUANTITY LIMITATIONS:	
PASSENGER AIRCRAFT:	None
CARGO AIRCRAFT:	None
MARINE POLLUTANTS:	None
FREIGHT DESCRIPTION:	None
HAZARDOUS MATERIAL SHIPPING DESCRIPTION:	None

TRANSPORTATION OF DANGEROUS GOODS – CANADA

DOT SHIPPING NAMES:	Not regulated
TDG HAZARD CLASSIFICATION	
PRIMARY:	None
SECONDARY:	None
IMO CLASSIFICATION:	None
ICAO/IATA CLASSIFICATION:	None
PRODUCT IDENTIFICATION NUMBER:	None
PACKING GROUP:	None
CONTROL TEMPERATURE:	None
EMERGENCY TEMPERATURE:	None
SCHEDULE XII QUANTITY RESTRICTIONS:	None
REPORTABLE QUANTITY FOR US SHIPMENTS:	None
IATA PACKAGING INSTRUCTIONS	
PASSENGER/CARGO:	None
CARGO ONLY:	None
LIMITED QUANTITY:	None
MAXIMUM NET QUANTITY PER PACKAGE	
PASSENGER/CARGO:	None
CARGO ONLY:	None
LIMITED QUANTITY:	None
SPECIAL PROVISIONS:	None

SECTION XV - REGULATORY INFORMATION

TSCA STATUS: Each ingredient is on the Inventory.

SARA TITLE III**Hazard Categories:**

Acute Health:	Yes
Chronic Health:	No
Fire Hazard:	No
Pressure Hazard:	No
Reactive Hazard:	No

Reportable Ingredients:

Section 302/304:	None
Section 313:	None

CERCLA HAZARDOUS SUBSTANCE: Not listed

CALIFORNIA PROPOSITION 65

Chemical	CAS Number	Concentration Parts Per Billion (PPB) Maximum
1,4-Dioxane	123-91-1	< 5.0
Acetaldehyde	75-07-0	< 5.0
Ethylene Oxide	75-21-8	< 5.0
Formaldehyde	50-00-0	< 12.1

CLEAN AIR ACT: No ingredient is listed
NSR STATUS (CANADA): Each ingredient is on the DSL (Domestic substance list)

WHMIS (CANADA) STATUS: Not Controlled
WHMIS Classification(s): None

Z-TUFF™ SILICONE COATED PRODUCTS are considered articles, therefore are exempt from the following requirements:

USA: TSCA – Toxic Substances Control Act
EUROPE: EINECS – European Inventory of Existing Commercial Chemical Substances
CANADA: DSL – Domestic Substance List
AUSTRALIA: AICS – Australian Inventory of Chemical Substances
KOREA: ECL (KECI) – Korean Existing Chemical Inventory
JAPAN: MITI (ENCS) – Existing and New Chemical Substances
PHILIPPINES: PICCS – Philippines Inventory of Chemicals and Chemical Substances

SECTION XVI – OTHER INFORMATION

HMIS AND NFPA HAZARD RATINGS

<u>HMIS Rating</u>	<u>NFPA Rating</u>
Health (acute): 1	Health: 1
Flammability: 0	Flammability: 0
Reactivity: 0	Reactivity: 0
Personal Protection: *	Unusual Hazards: None

* Personal protective equipment requirements must be supplied by the user depending upon use.

OZONE-DEPLETING CHEMICALS (CFCs)

Z-TUFF™ SILICONE COATED 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.

The information herein is given in good faith, but no warranty, expressed or implied is made and