



MATERIAL SAFETY DATA SHEET

MSDS004

SECTION I - PRODUCTION IDENTIFICATION

ZETEX® Z-SHIELD PRODUCTS

MANUFACTURER:

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Date: 01/14/13

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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 | ~80% |
| - Non-respirable filaments and particulate | | | >98% |
| - Respirable particulate | | | <1% |
| - Respirable particulate with fiber-like dimensions (glass shards) | | | <0.002% |
| Proprietary Coating | | | ~20% |

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.



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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, ZETEX® Z-SHIELD 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. ZETEX® Z-SHIELD 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 Z-Shield coating will decompose releasing minor quantities of oxides of carbon and nitrogen. These decomposition products are 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 |
| Proprietary Coating | 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



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As manufactured, the continuous filament fiber glass in this product is non-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: | >~1400°F (760°C) |
| FREEZING POINT: | Not Applicable |
| SPECIFIC GRAVITY RANGE (H ₂ O=1): | 2.6 |
| pH: | Not Applicable |
| VISCOSITY: | Not Applicable |
| SOLUBILITY IN WATER: | Insoluble |
| PERCENT VOLATILE BY VOLUME: | None |
| 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: | White woven fabric with a colored rubbery coating and no odor. |

SECTION X - REACTIVITY DATA

| | |
|----------------------|--|
| STABILITY: | Stable |
| CONDITIONS TO AVOID: | None known |
| INCOMPATIBILITY: | Avoid contact with strong oxidizing agents |

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 coating. In a sustained fire, the coating 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® Z-SHIELD 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.



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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 |



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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

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NSR STATUS (CANADA): Each ingredient is on the DSL (Domestic substance list)

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

ZETEX® Z-SHIELD 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)

ZETEX® Z-SHIELD 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 we assume no liability from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes.