

## MATERIAL SAFETY DATA SHEET

### SECTION 1            CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**PRODUCT NAME OR NUMBER:**    **REFRASIL TEXTILE PRODUCTS FYT100-Z YARN**

High Temperature Insulation; Nominal Fiber Diameter: 9 microns

MANUFACTURER: HITCO Carbon Composites, Inc.

ADDRESS: 1600 W. 135th Street, Gardena, CA 90249

GENERAL ASSISTANCE: (310) 527-0700

24-HOUR EMERGENCY ASSISTANCE: CHEMTREC Assist: (800) 424-9300

DATE OF PREPARATION OR LAST CHANGE: April 27, 2006

### SECTION 2            COMPOSITION/INFORMATION ON INGREDIENTS

<u>CHEMICAL/ COMMON NAME</u>	<u>C.A.S. NUMBER</u>	<u>% BY WEIGHT</u>	<u>EXPOSURE GUIDELINES</u>
Amorphous Silica Fiber	7631-86-9	96-99	PEL    6 mg/m <sup>3</sup> (Total dust) 3 mg/m <sup>3</sup> (Respiratory fraction) TLV    10 mg/m <sup>3</sup> (Nuisance dust)
Polytetrafluoroethylene	9002-84-0	1-3	None Established

### SECTION 3            HEALTH HAZARD IDENTIFICATION

#### PRIMARY ROUTES OF ENTRY

EYE:                            Dust or particles from machining or grinding may cause mechanical irritation.

SKIN:                            Abrasive action of the dust or fibers may cause irritation.

INGESTION:                    Not a normal route of exposure. However, ingestion in sufficient quantities may cause gastrointestinal tract irritation.

INHALATION:                 Not a normal route of exposure. However, inhalation of airborne dust and particles may cause transient irritation of the upper respiratory tract. Effects may include coughing, nasal congestion, or sore throat.

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**CARCINOGEN  
LISTINGS:**

IARC has determined that there is inadequate evidence for the carcinogenicity of glass filaments in humans and experimental animals. (IARC Group – 3).

IRAC has determined that there is inadequate evidence for the carcinogenicity of Polytetrafluoroethylene in humans and experimental animals. (IARC Group – 3).

### **SECTION 4            FIRST AID MEASURES**

#### EMERGENCY/FIRST AID PROCEDURES

**EYE:** Flush eyes with large amounts of water for 15 minutes. Eyelids should be held away from the eyeball to ensure thorough rinsing. Seek medical attention if irritation persists.

**SKIN:** Wash gently with soap and water to remove dust and fibers.

**INGESTION:** Drink extra water to assist natural elimination. Seek medical attention if gastrointestinal irritation persists or other symptoms such as nausea, vomiting, or abdominal pain occur.

**INHALATION:** Move to fresh air. Drink water to clear throat and blow nose to remove fibers. Get medical attention if necessary.

### **SECTION 5            FIRE FIGHTING MEASURES**

**EXTINGUISHING MEDIA:** Use extinguishing agent suitable for type of surrounding fire.

**SPECIAL FIRE FIGHTING INSTRUCTIONS:**

Irritating and toxic substances may be emitted upon thermal decomposition. Exposed fire fighters should wear NIOSH approved self-contained breathing apparatus with full face mask and full protective equipment.

**FLASH POINT:** NA

**FLAMMABILITY LIMITS:** NA

**LOWER EXPLOSIVE LIMIT:** ND

**UPPER EXPLOSIVE LIMIT:** ND

**AUTO IGNITION TEMPERATURE:** ND

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**SECTION 6            ACCIDENTAL RELEASE MEASURES**

**ACTION TO TAKE FOR SPILLS/LEAKS**

NA

**NOTIFICATION INFORMATION**

There are no specific reporting requirements for release of this material as supplied under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendment and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements for the release of this material at the local, regional or state level.

**SECTION 7            HANDLING AND STORAGE**

**HANDLING AND STORAGE PROCEDURES**

No special handling or storage procedures required.

**SECTION 8            EXPOSURE CONTROLS/PERSONAL PROTECTION**

**ENGINEERING CONTROLS/WORK PRACTICES**

**VENTILATION:**

Control airborne concentrations below the exposure guidelines specified by the Occupational Safety and Health Administration (OSHA) or other local, state, and federal regulations.

**PERSONAL PROTECTIVE EQUIPMENT/PROTECTIVE MEASURES**

**RESPIRATORY PROTECTION:** Respiratory protection is not normally necessary.

**PROTECTIVE CLOTHING:** Protective clothing is not normally necessary.

**EYE PROTECTION:** Eye protection is not normally necessary.

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### **SECTION 9            PHYSICAL AND CHEMICAL PROPERTIES**

PHYSICAL STATE: Solid

COLOR: White

SPECIFIC GRAVITY (water=1): 2.10

VAPOR PRESSURE: NA

VAPOR DENSITY (air=1): NA

MELTING POINT: < 1593 °C (< 2900 °F)

BOILING POINT: NA

EVAPORATION RATE (water=1): NA

% VOLATILE BY VOLUME: NA

SOLUBILITY IN WATER: NA

pH: NA

### **SECTION 10           STABILITY AND REACTIVITY**

STABILITY:

Stable under normal conditions of use. Thermal decomposition products may be hazardous.

INCOMPATIBILITY:

Incompatible with fluorine, oxygen difluoride, chlorine bifluoride and alkalis.

HAZARDOUS DECOMPOSITION PRODUCTS:

Thermal decomposition of coating may include toxic and corrosive fumes of carbon monoxide and carbon dioxide, hydrogen fluoride, carbonyl fluoride, perfluoroisobutylene, and other perfluoro-compounds.

HAZARDOUS POLYMERIZATION: NA

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### **SECTION 11 DISPOSAL CONSIDERATION**

#### WASTE DISPOSAL METHOD

The transportation, storage, treatment, and disposal of this waste material must be conducted in compliance with all applicable Federal, state, and local regulations.

### **SECTION 12 TRANSPORTATION INFORMATION**

#### DOT INFORMATION

HAZARD CLASS: NA

PROPER SHIPPING NAME: NA

LABELS REQUIRED: NA

PLACARDS REQUIRED: NA

BILL OF LADING DESCRIPTION: Product Name

UN/NA CODE: NA

### **SECTION 13 REGULATORY INFORMATION**

All components of this product are listed on the Toxic Substances Control Act (TSCA) inventory. All components of this product are listed on the Canadian Domestic Substances List (DSL) Inventory.

The Canadian Workplace Hazardous Materials Information System (WHMIS) Other Toxic Effects category applies to this product.

#### SARA TITLE III INFORMATION

This product is not classified under the hazard categories of the Superfund Amendments and Reauthorization Act (SARA) Section 311/312 (40 CFR 370).

This product does not contain toxic chemicals (in excess of the applicable de minimis concentration) that are subject to the annual toxic chemical release reporting requirements of SARA Section 313 (40 CFR 372).

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### SECTION 14            OTHER APPLICABLE INFORMATION

Product which has been in service at elevated temperatures (greater than 1800°F) may undergo partial conversion to cristobalite, a form of crystalline silica which, in inhaled in sufficient quantity, can cause severe respiratory disease ("Pneumoconiosis"). The amount of cristobalite present will depend on the temperature and length of service. Cristobalite (inhaled) is classified as carcinogenic to humans (IARC, Group 1).

The OSHA permissible exposure limit (PEL) for cristobalite is 0.05 mg/m<sup>3</sup> as the respirable fraction of particulate matter. The ACGIH threshold limit value (TLV) for respirable quantities of cristobalite is 0.05 mg/m<sup>3</sup>.

REVISION DATE:    April 27, 2006

SUPERSEDES:        December 31, 1990, December 7, 1995, November 3, 1997, January 7, 2000,  
March 3, 2005

NOTICE TO USERS: The information presented herein is based on data considered to be accurate as of the date of preparation of this Material Data Safety Sheet. However, no warranty or representation, express or implied, is made as to the accuracy or completeness of the foregoing data and safety information, nor is any authorization given or implied to practice any patented invention without a license. In addition, no responsibility can be assumed by vender for any damage or injury resulting from abnormal use, from any failure to adhere to recommended practices, or from any hazards inherent in the nature of the product.