

MATERIAL SAFETY DATA SHEET

SECTION 1 CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME OR NUMBER: **REFRASIL TEXTILE PRODUCTS BULK FIBERS RBF
(FORMERLY F200)**

High Temperature Insulation; Nominal Continuous Filament Diameter: 9 to 13 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 26, 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 ³ (Total dust) 3 mg/m ³ (Respiratory fraction) TLV 10 mg/m ³ (Nuisance dust) |
| Aluminum Oxide | 1344-28-1 | 1-4 | PEL 10 mg/m ³ (Total dust); 5 mg/m ³ (Respiratory fraction) TLV 10 mg/m ³ (Nuisance dust) |

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.

MATERIAL SAFETY DATA SHEET

CARCINOGEN

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

The evidence does not support Aluminum Oxide as a carcinogen.

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: NA

FLASH POINT: NA

FLAMMABILITY LIMITS: NA

LOWER EXPLOSIVE LIMIT: ND

UPPER EXPLOSIVE LIMIT: ND

AUTO IGNITION TEMPERATURE: NA

MATERIAL SAFETY DATA SHEET

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.

MATERIAL SAFETY DATA SHEET

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.

INCOMPATIBILITY:

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

HAZARDOUS DECOMPOSITION PRODUCTS: NA

HAZARDOUS POLYMERIZATION: NA

MATERIAL SAFETY DATA SHEET

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 contains 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).

| <u>Component</u> | <u>CAS Number</u> | <u>Maximum %</u> |
|------------------|-------------------|------------------|
| Aluminum Oxide | 1344-28-1 | 4 |

NA = Not Applicable
ND = Not Determined

MATERIAL SAFETY DATA SHEET

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, if 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/m³ as the respirable fraction of particulate matter. The ACGIH threshold limit value (TLV) for respirable quantities of cristobalite is 0.05 mg/m³.

REVISION DATE: April 27, 2006

SUPERSEDES: September 11, 1997, November 7, 1997, April 21, 1999, January 6, 2000,
April 5, 2001, 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.