

MATERIAL SAFETY DATA SHEET

SECTION 1 CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME OR NUMBER: REFRASIL TEXTILE PRODUCTS 2221 CLOTH AND SLIT TAPE

High Temperature Insulation; Nominal Fiber 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: March 27, 2012

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	87-94	PEL 6 mg/m ³ (Total dust) 3 mg/m ³ (Respirable fraction) TLV 10 mg/m ³ (Nuisance dust)
Chromium (3+) Oxide	1308-38-9	1-3	PEL 0.5 mg/m ³ as Cr TLV 0.5 mg/m ³ as Cr
A proprietary polymeric coating*	None	5-10	None Established

*Identity, CAS Number and/or composition are trade secrets.

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.

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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.

CARCINOGEN LISTINGS:

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

IARC has determined that there is inadequate evidence for the carcinogenicity of Chromium [III] compounds 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/MSHA approved self-contained breathing apparatus.

FLASH POINT: NA

FLAMMABILITY LIMITS: NA

NA = Not Applicable
ND = Not Determined

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LOWER EXPLOSIVE LIMIT: ND

UPPER EXPLOSIVE LIMIT: ND

AUTO IGNITION TEMPERATURE: ND

SECTION 6 ACCIDENTAL RELEASE MEASURES

ACTION TO TAKE FOR SPILLS/LEAKS

NA

NOTIFICATION INFORMATION:

There are no specific reporting requirements for the 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 storage procedures required.

Wear dust mask, eye protection, and gloves during cutting operations.

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.

NA = Not Applicable
ND = Not Determined

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EYE PROTECTION: Eye protection is not normally necessary.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE: Solid

COLOR: Green

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:

Thermal decomposition products may be hazardous and may include carbon monoxide, carbon dioxide, and other noxious vapors.

HAZARDOUS POLYMERIZATION: NA

NA = Not Applicable
ND = Not Determined

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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.

This product contains chromium (3+), a substance regulated as a hazardous air pollutant under Section 12 of the Clean Air Act Amendments of 1990.

SARA TITLE III INFORMATION

This product contains chromium which is a regulated pollutant pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42 with reference to Appendix D Tables II-V).

CALIFORNIA PROPOSITION 65 INFORMATION

This product may contain Chromium (VI), a chemical subject to the State of California Proposition 65,

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the Safe Drinking Water and Toxic Enforcement Act of 1986.

SECTION 14 OTHER APPLICABLE INFORMATION

Product which has been in service at elevated temperatures (greater than 1800⁰F) 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: March 27, 2012

SUPERSEDES: January 28, 1987, October 29, 1990, December 1, 1995, November 7, 1997,
January 26, 2000, March 5, 2003, April 26, 2006, March 18, 2009

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.