

**MATERIAL SAFETY DATA SHEET****SECTION 1 — PRODUCT IDENTIFICATION****Product identifier:** GLASS-CARBON**Product code:** n/av**Product use:** Reinforcements for various resin systems.**Supplier / Manufacturer name and address:**

Saint-Gobain BTI  
 43 Bibber Parkway  
 Brunswick, Maine 0401  
 Phone #: 1-888-284-2667

**Emergency Telephone #:** n/av**SECTION 2 — CHEMICAL COMPOSITION/HAZARDOUS INGREDIENTS**

<b><u>Ingredients</u></b>	<b><u>CAS #</u></b>	<b><u>% (weight)</u></b>	<b><u>OSHA PEL</u></b>	<b><u>ACGIH TLV</u></b>
Glass, fibrous	n/av	10-98*	n/av	n/av
Carbon continuous filament (polyacrylonitrile based)	7440-44-0	10-98*	n/av	n/av
Organic polymer solids (cured)	n/av	1-2	n/av	n/av

\* - the concentration of ingredients 1 and 2 varies with each style

**SECTION 3 — HAZARDS IDENTIFICATION**

\*\*\*POTENTIAL HEALTH EFFECTS\*\*\*

**Primary route(s) of entry:** No significant health hazards expected. This product has been evaluated and does not require any hazard warnings on the label under OSHA criteria. Handling and/or processing of this material may generate airborne fibers and particles, which can cause mechanical irritation of the eyes, skin, nose and throat.

**Signs and symptoms of short-term (acute) exposure:***Inhalation:* No significant health hazards expected, other than possible mechanical irritation.*Skin contact:* No significant health hazards identified. Particle or fibers may cause slight discomfort similar to rubbing sand against the skin.*Eye contact:* No significant health hazards identified. Particle or fibers may cause slight discomfort similar to getting dust in the eye.*Ingestion:* No significant health hazards identified.**Effects of long-term (chronic) exposure:** None currently known. .**Other important hazards:** None.**SECTION 4 — FIRST AID MEASURES****Inhalation:** If irritation persists, remove to non-contaminated area. Seek medical attention.**Skin contact:** Wash exposed skin with soap and water.

**Eye contact:** Flush eyes with plenty of water. Get medical attention if irritation persists.

**Ingestion:** If large amount is swallowed, get medical attention.

#### SECTION 5 — FIRE FIGHTING MEASURES

**Fire hazards/conditions of flammability:** Not flammable. Fibers are electronically conductive and may cause short circuits which results in damage to or malfunctioning electrical equipment. All forms of electrical equipment, enclosures, and circuits in or near areas where fibers are used or handled should be properly protected against the infiltration of or contact with airborne particles or filaments.

**Flash point (Method):** n/ap

**Lower flammable limit (% by volume):** n/ap

**Upper flammable limit (% by volume):** n/ap

**Explosion data:** n/ap

*Sensitivity to mechanical impact:* None.

*Sensitivity to static discharge:* None.

**Oxidizing properties:** None.

**Auto-ignition temperature:** None.

**Suitable extinguishing media:** Agents approved for Class A hazards (e.g. foam, steam) or water fog.

**Special fire-fighting procedures/equipment:** Fire fighters should wear full bunker gear, including a positive pressure self-contained breathing apparatus.

**Hazardous combustion products:** None identified.

#### SECTION 6 — ACCIDENTAL RELEASE MEASURES

**Personal precautions:** Wear protective equipment. Keep airborne dust concentrations below regulated levels.

**Environmental precautions:** Dispose in accordance with government regulations. Keep debris minimal by locating waste disposal equipment near work area.

**Spill response/Cleanup:** Use vacuuming or wet sweeping methods instead of dry sweeping. Avoid producing dust.

**Prohibited materials:** No data.

#### SECTION 7 — HANDLING AND STORAGE

**Safe handling procedures:** Minimize dust generation and accumulation.

**Storage requirements:** No special requirements.

**Incompatible materials:** None known.

**Special packaging materials:** No data.

#### SECTION 8 — EXPOSURE CONTROLS AND PERSONAL PROTECTION

**Ventilation and engineering controls:** No special controls are necessary. Local exhaust ventilation may be necessary for some operations.

**Respiratory protection:** If ventilation is inadequate, use NIOSH certified respirator that will protect against dust/mist. Currently no health standards exist for employee exposure to carbon fibers. In 1977 NIOSH proposed that their recommended standard for fibrous glass be applied to other man-made fibers. NIOSH recommends an exposure limit of 3.0 fibers/cc for fibers less than 3.5 microns in diameter and length greater than 10 microns.

**Protective gloves:** Temporary mechanical skin irritation may occur when handling or processing carbon fibers. Gloves are recommended.

**Eye protection:** None required, however, use of eye protection is good industrial practice. Use dust goggles if high dust concentration is generated.

**Other protective equipment:** Temporary mechanical skin irritation may occur when handling or processing carbon fibers. Long sleeve garments with tight-fitting cuffs and use of barrier creams or talcum provide additional protection to the skin. Processes which cause excessive filament breakage such as chopping increase potential for skin irritation.

**Permissible exposure levels:** Currently no health standards exist for employee exposure to carbon fibers. In 1977 NIOSH proposed that their recommended standard for fibrous glass be applied to other man-made fibers. NIOSH recommends an exposure limit of 3.0 fibers/cc for fibers less than 3.5 microns in diameter and length greater than 10 microns.

**SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES**

**Physical form, color and odor:** Black fibers assembled into fabric of varying weights and thickness. No odor.

**Odor threshold:** None.

**pH:** Not determined.

**Boiling point:** Glass: > 571.1°C (1600°F) Carbon: Not determined

**Melting/freezing point:** Glass: > 871.1°C (1600°F) Carbon: 3600°C (6512°F)

**Vapour pressure:** Does not have vapour pressure.

**Solubility in water:** Glass: Small Carbon: Negligible.

**Coefficient of oil/water distribution:** None.

**Specific gravity or relative density (water = 1):** 1.7-2.6

**Vapour density:** Not determined.

**Volatile organic compounds (VOC's):** Not volatile.

**Evaporation rate:** n/ap

**SECTION 10 — REACTIVITY AND STABILITY DATA**

**Stability and reactivity:** Stable.

**Conditions to avoid:** None known.

**Materials to avoid:** None known.

**Hazardous decomposition products:** None known.

**SECTION 11 — TOXICOLOGICAL INFORMATION**

**LD<sub>50</sub>:** n/av

**LC<sub>50</sub>:** n/av

**Routes of exposure:** Inhalation, eye and skin contact.

**Other toxicity data:** Specific toxicity tests have not been conducted on this product. The evaluation is based on information from similar products, technical literature and professional experience. Dense dust generated by the handling and/or processing of this material may be irritating to the eyes, skin, nose and throat. Studies indicate that airborne carbon fibers, in general, are not considered respirable. A typical carbon fiber may be characterized as having a large diameter (5 to 7 microns) in addition to great length (>100 microns). Fibers with diameters >3.5 microns are not considered respirable.

**Toxicological data:** n/av

**Carcinogenicity:** No component of this product present at levels greater than 0.1% is identified as a carcinogen by the NTP, OSAH, or IARC.

**Teratogenicity, mutagenicity, other reproductive effects:** No adequate data to classify.

**Sensitization to material:** No data.

**Conditions aggravated by exposure:** None known.

**Synergistic materials:** None known.

**SECTION 12 — ECOLOGICAL INFORMATION**

**Important environmental characteristics:** Ecological testing has not been conducted on this product.

**Aquatic toxicity:** No data.

**SECTION 13 — WASTE DISPOSAL**

**Handling for disposal:** The waste material of this product is not expected to be hazardous. Landfill waste material. Do not incinerate carbon fibers since airborne fibers may cause electrical malfunctions. Any disposal practices must be in compliance with federal, state and local laws and regulations. Contact local or state environmental agencies for specific requirements.

**SECTION 14 — TRANSPORTATION INFORMATION**

**Transportation of Dangerous Goods (TDG) information:**

*Shipping description:* Not regulated.

**49 CFR information:**

*Shipping description:* Not regulated.

**International Dangerous Goods information:**

*IMO:* Not regulated.

*ICAO:* Not regulated.

**Other information:** None.

**SECTION 15 — REGULATORY INFORMATION**

**WHMIS information:** Exempt.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and this MSDS contains all the information required by the CPR.

**CEPA information:** Exempt.

**TSCA information:** Exempt

**SECTION 16 — OTHER INFORMATION**

**Prepared by:** Saint-Gobain BTI

**Telephone number:** (207) 729-7792

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