



## SAFETY DATA SHEET

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### 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

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**PRODUCT NAME(S):** FC-C160UC (ALL SIZES) C160 Unicarbon  
**PRODUCT USE:** Fiberglass Textile Reinforcement  
**DISTRIBUTOR:** Northern Composites LLC  
102 Tide Mill Road.  
Hampton, NH 03842

**FOR MORE INFORMATION CALL:**  
(Monday-Friday, 9:00am-5:00pm)  
Quality Assurance Department: (603) 926-1910

**IN CASE OF EMERGENCY CALL:**  
(800) 424-9300 CHEMTREC

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### 2. HAZARDS IDENTIFICATION

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**Classification:** This product as-sold is NOT classified as a hazardous chemical as defined by the OSHA Hazard Communication Standard 29 CFR 1910.1200.

**GHS Label Elements:** This product as-sold is NOT classified as a hazardous chemical as defined by the OSHA Hazard Communication Standard 29 CFR 1910.1200.

**Precautionary Statement:** This product as-sold is NOT classified as a hazardous chemical as defined by the OSHA Hazard Communication Standard 29 CFR 1910.1200.

**Hazards Not Otherwise Classified:** Not Applicable

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### 3. COMPOSITION/INFORMATION ON INGREDIENTS

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**Substance/Mixture:** PAN based carbon fabric-fiber in non-airborne state Axial textile fabric- fiber reinforcement in uncured form, thermoplastic surface binder

Ingredient Name	CAS Number	Weight %
Carbon Fiber	7440-44-0	> 98%
Epoxy Resin	25068-38-6	< 1.2%

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### 4. FIRST AID MEASURES

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**Description of Necessary First Aid Measures:**

**Inhalation:** If there is inhalation exposure to the fibers of this product, remove source of exposure and move victim to fresh air. If not breathing give artificial respiration. If there is breathing difficulty get immediate medical attention.

**Skin Contact:** Wash fibers off of skin with water and soap. If fibers are imbedded in the skin, remove with tweezers. Discard clothing that may contain imbedded fibers. Get medical attention if exposure results in adverse effects

**Eye Contact:** Immediately flush with a continuous water stream for at least 15 minutes. Washing immediately after exposure is expected to be effective in preventing damage to the eyes. Get medical attention.

**Ingestion:** Not expected to occur since ingestion is not a likely route of exposure for this product. If ingestion does occur, do not induce vomiting. Nothing by mouth if unconscious. Get immediate medical attention.

**Most Important Symptoms/Effects, Acute and Delayed:**

**Potential Acute Health Effects:**

- Inhalation:** Inhalation exposure to respirable fibers of this product is not expected to occur under normal industrial conditions. Under very limited circumstances, however, exposure to respirable fibers of this product can occur and may result in respiratory tract irritation.
- Skin Contact:** May cause skin irritation. Mechanical irritation may occur from carbon fiber abrading or becoming imbedded in the skin. Dermal sensitization may occur from exposure to sizing present on the carbon fiber
- Eye Contact:** Fragments of this product may cause mechanical eye irritation. Chemical irritation may occur from exposure to sizing present on the carbon fiber.
- Ingestion:** Not expected to occur during industrial activities since ingestion is not a relevant route of exposure.

**Over-Exposure Signs/Symptoms:**

- Inhalation:** None known
- Skin Contact:** None known
- Eye Contact:** None known
- Ingestion:** None known

**Indication of Immediate Medical Attention and Special Treatment Needed, If Necessary**

- Notes to Physician:** None
- Specific Treatments:** None Required

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**5. FIRE FIGHTING MEASURES**

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This material is not expected to burn in a fire. If this product is present in a fire, fight fire based on the presence of combustible materials, i.e., packaging material and the sizing may burn off the fiber.

- Suitable Extinguishing Media:** Water Spray, Carbon Dioxide (CO2), Dry Chemical, Foam
- Hazardous Thermal Decomposition Products:** Fiber or dust may glow in an oxygen-containing atmosphere above 350°C. When glowing, and during combustion CO/CO2 is generated as well as the potential release of degradation products such as NH3, HCN and small amounts of nitrogen oxides, carbon monoxide, organic compounds, and other potentially hazardous substances.
- Precautions for Fire-Fighters:** As in any fire, wear a self-contained breathing apparatus pressure demand (MSHA/NIOSH approved or equivalent) and full protective gear. Fight fires from a safe distance or protected areas. Fire hoses with fog nozzles may be used for controlling fires but care must be exercised not to spread flaming. Water may not always be effective for large fires.
- UNUSUAL FIRE AND EXPLOSION HAZARDS:** Under high heat (> 350 °C), this product may react with oxygen to give off carbon oxides and other decomposition products.
- OTHER INFORMATION:** This product is not expected to burn. Do not incinerate carbon fibers since airborne fibers may cause electrical malfunctions. See Section 13 – Disposal Considerations for additional information.

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**6. ACCIDENTAL RELEASE MEASURES**

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- Personal Precautions, Protective Equipment, and Emergency Procedures:** Use proper PPE to protect eyes, skin and clothing. See Section 8 for controls and PPE details.
- Methods and Materials for Containment and Cleaning Up:** In case of spill, collect (e.g., sweep up, vacuum, etc.) spilled material and dispose of in accordance with Federal, State & Local regulation. Carbon fibers may be slippery if spilled posing an accident risk. Wear personal protective equipment as described in Section 8 during cleanup activities.
- ENVIRONMENTAL PRECAUTIONS:** Prevent product from entering drains. Do not contaminate surface water.

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## 7. HANDLING AND STORAGE

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<b>Precautions for Safe Handling:</b>	Wear appropriate protective equipment as described in Section 8 during handling activities. Wash hands with soap and water after handling.
<b>Conditions for Safe Storage, Including Any Incompatibilities:</b>	Store in a cool, dry place. Carbon fiber is stable against acid and alkaline, but the sizing agent may degenerate.

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## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

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<b>RESPIRATORY PROTECTION</b>	Normal use and processing of this product are not expected to generate carbon fiber dust. Respirable fibers of this product under certain very limited circumstances can be generated. In such circumstances, HEPA respiratory protection should be used to prevent exposure
<b>EYE PROTECTION</b>	Wear safety goggles or glasses when handling or processing this product in any form.
<b>SKIN / HAND PROTECTION</b>	Latex gloves should be worn when handling this product. Rinse and remove gloves after use, and wash hand thoroughly with soap and water. Gloves should be removed and replaced if there are any signs of degradation or breakthrough. Wear protective clothing to minimize the potential for skin contact. Discard any clothing that has become contaminated.
<b>OTHER PROTECTIVE CLOTHING OR EQUIPMENT</b>	An emergency shower should be readily accessible. Hand washing and a safety eyewash station should be in facility storing or using this material.
<b>WORK HYGIENIC PRACTICES</b>	Use in well ventilated area. Practice safe workplace habits

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

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<b>Physical State:</b>	Solid continuous fiber
<b>Color:</b>	Black
<b>Odor:</b>	None
<b>Odor Threshold:</b>	None
<b>pH:</b>	Not Applicable
<b>Melting Point:</b>	Not Applicable
<b>Boiling Point:</b>	Not applicable
<b>Flash Point:</b>	Does not flash
<b>Evaporation Rate:</b>	Not applicable
<b>Flammability:</b>	Not applicable
<b>Explosive Limits:</b>	Not applicable
<b>Vapor Pressure:</b>	Not applicable
<b>Vapor Density:</b>	Not applicable
<b>Specific Gravity:</b>	Carbon - 1.75 – 1.85 Thermoplastic approx. 1.35
<b>Solubility:</b>	Insoluble
<b>Auto-Ignition Temperature:</b>	Not applicable

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## 10. STABILITY AND REACTIVITY

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<b>Reactivity:</b>	<b>CARBON FIBER</b> is highly conductive and can cause electrical components to malfunction.
<b>Chemical Stability:</b>	Stable under recommended storage conditions
<b>Possibility of Hazardous Reactions:</b>	<b>Fiber:</b> Under high heat (> 350 °C), this product may react with oxygen to give off carbon oxides and other decomposition products, NH <sub>3</sub> , HCN and monomeric acrylonitrile. <b>Size/resin:</b> temperatures > 350 °C can result in the release of small amounts of nitrogen oxides, carbon monoxide, organic compounds, and other potentially hazardous substances.
<b>Conditions to Avoid:</b>	<b>Do not incinerate</b> carbon fibers since airborne fibers may cause electrical malfunctions. Avoid high heat in oxygen atmosphere. See below decomposition products.
<b>Incompatible Materials:</b>	Carbon fiber is stable against acid and alkaline, but the sizing agent may degenerate
<b>Hazardous Decomposition Products:</b>	Not expected under normal conditions of processing and use. <b>Thermal decomposition of sizing</b> may begin to occur at high temperatures (> 350 °C) resulting in the release of small amounts of nitrogen oxides, carbon monoxide, organic compounds, and other potentially hazardous substances. <b>Thermal decomposition of Carbon Fiber</b> is not expected under normal conditions of processing and use. Under high heat (> 350 °C), this product may react with oxygen to give off carbon oxides and other decomposition products, like NH <sub>3</sub> , and HCN
<b>HAZARDOUS POLYMERIZATION:</b>	Will not occur

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## 11. TOXICOLOGICAL INFORMATION

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**TOXICOLOGICAL INFORMATION:** OSHA and ACGIH have not established air contaminant limits for carbon fibers. Under certain conditions, this substance may be a nuisance dust. OSHA has an established standard for particulates not otherwise regulated (nuisance dust) set at 5 mg/m<sup>3</sup> (respirable fraction) and 15 mg/m<sup>3</sup> (total dust). ACGIH has established an exposure value of 3 mg/m<sup>3</sup> (respirable fraction) and 10 mg/m<sup>3</sup> (inhalable fraction) for particulates not otherwise classified.

### ACUTE TOXICITY

#### ORAL/ DERMAL/ INHALATION/SKIN:

**ORAL (LD50):** NO DATA AVAILABLE

**SKIN (LD50):** NO DATA AVAILABLE

**IRRITATION EYE:** CAUSES IRRITATION

**SKIN:** IRRITATION TO SKIN AND MUCOUS MEMBRANES

**SENSITIZATION:** SENSITIZATION POSSIBLE THROUGH SKIN CONTACT.

### SYMPTOMS RELATED TO THE PHYSICAL, CHEMICAL AND TOXICOLOGICAL CHARACTERISTICS;

**SKIN:** REDDENING OF SKIN OR SIGNS OF RASH. DRY CRACKING SKIN.

### DELAYED AND IMMEDIATE EFFECTS AND ALSO CHRONIC EFFECTS FROM SHORT- AND LONGTERM EXPOSURE:

**SUBCHRONIC TOXICITY:** Two sub-chronic inhalation tests in rats exposed to carbon fibers have been conducted. In one test, rats were exposed to fibers for 16 weeks. Pulmonary function tests performed on the test animals before necropsy did not show any significant or consistent changes. The only pulmonary finding related to exposure was the occurrence of phagocytosis by alveolar macrophages. No inflammation or fibrosis was observed. In the second study, rats were also exposed to carbon fibers for 16 weeks. Based on clinical signs, no effects due to exposure were observed. Histopathological evaluation revealed non-fibrous particles in the pulmonary lymphoid clearance system and in alveolar macrophages. There were no signs of fibrosis.

**REPRODUCTIVE TOXICITY:** NO DATA ARE AVAILABLE.

**TERATOGENICITY (birth defects):** NO DATA ARE AVAILABLE.

**MUTAGENICITY:** Several in vitro mutagenicity tests have been performed on carbon fibers. Carbon fibers have been found to be negative in the gene mutation assay in bacteria (Ames test), did not cause sister chromatid exchanges in Chinese hamster ovary (CHO) cells, and did not cause unscheduled DNA synthesis in rat liver cells or forward mutations in studies with CHO cells.

**CHRONIC EFFECTS/CARCINOGENICITY:** NO DATA ARE AVAILABLE

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**12. ECOLOGICAL INFORMATION**

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**ECOTOXICITY (AQUATIC AND TERRESTRIAL):** No data available  
**PERSISTENCE AND DEGRADABILITY:** No data available  
**BIOACCUMULATIVE POTENTIAL:** No data available  
**MOBILITY IN SOIL:** No data available  
**OTHER ADVERSE EFFECTS:** No data available

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**13. DISPOSAL CONSIDERATIONS**

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Do not incinerate carbon fibers since airborne fibers may cause electrical malfunctions. Any disposal practices must be in compliance with federal, state, and local requirements.

**RCRA Classification:** If discarded in its manufactured form, this product is not expected to be a characteristic or specifically listed hazardous waste under RCRA. However, it is the responsibility of the user to determine at the time of disposal whether a material containing the product or derived from the product should be classified as a hazardous waste.

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**14. TRANSPORT INFORMATION**

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**US DOT HAZARD CLASS (CFR 49):** Not regulated  
**US DOT ID NUMBER:** Not applicable.  
**TRANSPORTATION OF DANGEROUS GOODS:** Not applicable.  
**IATA:** Not applicable.  
**INTERNATIONAL MARITIME DANGEROUS GOODS:** Not applicable.

Not classified as dangerous goods according to the national and international regulations on the transport of dangerous goods.  
For additional information on shipping regulations affecting this material, contact the information number found on the first page.

**SPECIAL PRECAUTIONS WHICH A USER NEEDS TO BE AWARE OF OR NEEDS TO COMPLY WITH IN CONNECTION WITH TRANSPORT OR CONVEYANCE EITHER WITHIN OR OUTSIDE THEIR PREMISES:**

If carbon fiber is in an accident where it is being incinerated, carbon fibers may become airborne fibers and may cause electrical malfunctions. See Section 10 for details on hazardous decomposition and or byproducts.

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**15. REGULATORY INFORMATION**

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**REGULATORY STATUS:** This product, as well as its impurities, may trigger specific reporting, recordkeeping, and testing requirements under TSCA, EPCRA/SARA III, RCRA, CERCLA, CAA, SDWA, and CWA.

**CALIFORNIA PROPOSITION 65:** This product contains the following substances known to the State of California to cause cancer, birth defects or reproductive harm

CAS No.	Component	By wt. of epoxy resin
106-89-8	Epichlorohydrin	< 10 ppm

**EPCRA/SARA TITLE III SECTION 313:** This compound contains no toxic chemicals at or above the de-minimus threshold subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR 372.

**EU:** Status under Registration Evaluation Authorization of Chemicals EU regulation (EC) No 1907/2006 (REACH)

Continuous Carbon Fiber and cut Carbon Fibers are considered to be articles under REACH and therefore do not require pre-registration or registration. This material does not contain chemicals designated as "CMR" toxins under REACH. Carbon fiber size code "A" is in compliance with EU No. 1272/2013.

The maximum concentration of BPA present is 0.15 ppm.

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**16. OTHER INFORMATION**

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**CURRENT ISSUE DATE:** July 11, 2019  
**PREVIOUS ISSUE DATE:** N/A

**CHANGES TO MSDS FROM PREVIOUS ISSUE DATE ARE DUE TO THE FOLLOWING:**

**OTHER INFORMATION:** None

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