

# SAFETY DATA SHEET

**SDS IDENTIFICATION NAME:** V-Wrap HM Carbon Fiber Fabric (High Modulus)  
Product Group: V-Wrap C200HM, V-Wrap C400HM, & V-Wrap C220B

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**DATE:** 10/08/2015

## SECTION I: MATERIAL AND MANUFACTURER IDENTIFICATION

**MANUFACTURER:**  
STRUCTURAL TECHNOLOGIES, LLC  
10150 Old Columbia Road  
Columbia, MD 21046

**EMERGENCY TELEPHONE NUMBER:**  
800-424-9300  
**INFORMATION TELEPHONE NUMBER:**  
410-859-6539

**CHEMICAL FAMILY:** Carbon Fiber

## SECTION II: HAZARD(S) IDENTIFICATION

**EMERGENCY OVERVIEW:** No unusual conditions are expected from this product.

**APPEARANCE AND ODOR:** Resin-coated black carbon fibers woven into fabric of varying weight and thickness, depending on the style, with no distinctive odor.

**STATEMENTS OF HAZARD:**

**CARBON MATERIAL IS ELECTRICALLY CONDUCTIVE. ELECTRICAL SYSTEMS SHOULD BE PROTECTED FROM EXPOSURE TO AIRBORNE FIBER.**

**DUST PARTICLES ASSOCIATED WITH THIS PRODUCT MAY CAUSE IRRITATION OF THE SKIN, EYES, OR UPPER RESPIRATORY TRACT.**

**PRIMARY ROUTES OF EXPOSURE:**

EYES--YES                      SKIN CONTACT--YES                      INHALATION--NO                      INGESTION--NO

**HMIS RATING:**

CARBON:	HEALTH--1	FLAMMABILITY--0	REACTIVITY--0	SPECIAL--NONE
GLASS:	HEALTH--2	FLAMMABILITY--1	REACTIVITY--0	SPECIAL--NONE
SIZING:	HEALTH--1	FLAMMABILITY--1	REACTIVITY--0	SPECIAL--NONE

**POTENTIAL HEALTH EFFECTS:**

EYES: Low hazard. May cause temporary irritation.

SKIN: Low hazard for usual industrial or commercial production. No effects expected under normal use.

INHALATION: In some cases – see Section VII. No effects expected under normal use.

INGESTION: Ingestion unlikely under normal use. May cause gastrointestinal irritation.

**SIGNS AND SYMPTOMS OF EXPOSURE:** Possible Rash.

**MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE:** None known

## SECTION III: COMPOSITION/INFORMATION ON INGREDIENTS

This document is prepared pursuant to the OSHA Hazard Communication Standard (29 CFR 1910.1200).

MATERIAL OR COMPONENT	CAS NUMBER	% BY WEIGHT	OSHA(PEL)	ACGIH(TLV)
CARBON FIBER	7440-44-0	92-96	15 mg/m <sup>3</sup> (Total) 5 mg/m <sup>3</sup> (Respirable)	15 mg/m <sup>3</sup> (Total) 3 mg/m <sup>3</sup> (Respirable)
EPOXY SIZING	25068-38-6	2-4	Not Determined	Not Determined

**SECTION IV: FIRST AID MEASURES**

**SKIN CONTACT:** To relieve skin irritation, wash with soap and water. Avoid rubbing or scratching.

**EYE CONTACT:** Flush eyes with water. Avoid rubbing or scratching.

**INHALATION:** Remove to fresh air. Treat any irritation symptomatically, contact a physician.

**INGESTION:** Ingestion very unlikely.

**SECTION V: FIRE FIGHTING MEASURES**

**FLASH POINT/METHOD OF DETERMINATION:** N/A. Not Flammable

**FLAMMABILITY LIMITS:** N/A

**AUTOIGNITION TEMPERATURE:** N/A

**EXTINGUISHING MEDIA:** Normal firefighting procedures. Carbon dioxide, dry chemical, water spray.

**SPECIAL FIREFIGHTING PROCEDURES:** N/A

**USUAL FIRE AND EXPLOSION HAZARDS:** Carbon fiber may be released in a fire situation, and the fibers are sufficiently conductive to cause severe electrical problems. Burning normally stops when ignition source is removed. Pulp and dust may continue to smolder once ignited. Carbon fiber dust does not present an explosion hazard.

**SECTION VI: ACCIDENTAL RELEASE MEASURES**

**PROCEDURES IN CASE OF ACCIDENTAL RELEASE OR LEAKAGE:** N/A.

**SPILL/RELEASE AND CLEANUP PROCEDURES:** In case of spill, collect (e.g., sweep up, vacuum, etc.) spilled material and either reuse or dispose of properly. Chopped or milled carbon fibers may be slippery if spilled posing an accident risk. Wear personal protective equipment as described in Section 8 during cleanup activities.

**SECTION VII: HANDLING AND STORAGE**

**PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:** Store in a cool, dry place. Maintain seal against contamination from dirt and moisture.

**OTHER PRECAUTIONS:** Protect all electrical equipment, in or near areas in which fiber is handled or used, from contact with airborne particles and filaments to avoid possible damage caused by electrical shorts. Airborne particles and filaments should be controlled so as to minimize (1) skin irritation, (2) electrical shorts in switch gear, etc. due to conductivity of fiber.

**SECTION VIII: EXPOSURE CONTROLS/PERSONAL PROTECTION**

**EYE/FACE PROTECTION:** Wear safety goggles or glasses when handling or processing this product in any form.

**PROTECTIVE GLOVES:** 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.

**PROTECTIVE CLOTHING:** Wear protective clothing to minimize the potential for skin contact. An emergency shower should be readily accessible. Discard any clothing that has become contaminated.

**SKIN PROTECTION:** Recommended disposable protective garments to eliminate possible skin irritation. Clothing should protect the base of the neck, legs and arms. Protective gloves (rubber).

**RESPIRATORY PROTECTION:** 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.

**VENTILATION:** Adequate ventilation should be provided at points where product is handled. Skin contact should be minimized through process design or protected with the use of protective clothing, eye protection and work gloves.

**GENERAL HYGIENE RECOMMENDATIONS:** Before eating, drinking, smoking or using toilet facilities, wash face and hands thoroughly with soap and water.

## SECTION IX: PHYSICAL & CHEMICAL PROPERTIES

<b>APPEARANCE AND ODOR:</b>	Black, odorless
<b>BOILING POINT (° F/° C):</b>	N/A
<b>MELTING POINT (° F/° C):</b>	N/A
<b>SPECIFIC GRAVITY (WATER=1):</b>	1.75-1.85
<b>VAPOR PRESSURE (MM Hg.):</b>	N/A
<b>VAPOR DENSITY (AIR-1):</b>	N/A
<b>% VOLATILE (BY WEIGHT):</b>	<0.2
<b>EVAPORATION RATE (Butyl Acetate = 1):</b>	N/A
<b>SOLUBILITY IN WATER:</b>	Negligible (Dispersible)

## SECTION X: STABILITY AND REACTIVITY

**STABILITY:** Stable under normal handling and storage conditions.

**INCOMPATIBLE MATERIALS:** Do not expose to strong oxidizing agents such as fluorine. Carbon fiber can react violently with such compounds. Exposure to electrical equipment and circuitry. Avoid contact with strong oxidizing agents.

**PRODUCTS EVOLVED FROM HEAT OF COMBUSTION OR DECOMPOSITION:** Oxides of carbon and nitrogen. Sizing may boil off as a fume which should be vented.

**HAZARDOUS POYMERIZATIONS:** Will not occur under normal conditions of use.

## SECTION XI: TOXICOLOGICAL INFORMATION

**MATERIAL OR COMPONENT TOXICITY DATA:** N/A

## SECTION XII: ECOLOGICAL INFORMATION

No ecological data has been determined.

## SECTION XIII: DISPOSAL CONSIDERATIONS

**WASTE DISPOSAL METHODS:** Industrially approved landfill. It is the responsibility of the generator to comply with all federal, state, provincial and local laws and regulations. We recommend that you contact an appropriate waste disposal contractor and environmental agency for relevant laws and regulations. Under the US, Resource Conservation and Recovery Act (RCRA), it is the responsibility of the user of the product to determine at the time of disposal, whether the product meets relevant waste classification and to assure proper disposal.

**SECTION XIV: TRANSPORTATION INFORMATION****DOT AND IATA:**

PROPER SHIPPING NAME	Not Applicable
HAZARD CLASS	Not Applicable
UN/NA	Not Applicable
DOT HAZARDOUS SUBSTANCE	Not Applicable
LABEL REQUIRED	Not Applicable

**SECTION XV: REGULATORY INFORMATION**

**SARA TITLE III SECTION 313:** This compound contains no toxic chemicals at or above the de minimis 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.

**CHEMICAL LISTS:** This product contains epichlorohydrin and phenyl glycidyl ether at maximum levels of 2 ppm and 6 ppm, respectively. These chemicals are identified on several state chemical lists.

**ALL MATERIALS OR COMPONENTS OF THIS PRODUCT ARE EITHER LISTED OR ARE NOT REQUIRED TO BE LISTED IN THE EPA TSCA INVENTORY**

This product does not contain any components regulated under these sections of the EPA.

**SECTION XVI: OTHER INFORMATION**

**SPECIAL PRECAUTIONS:** Empty containers will retain some of the product residue. When handling or disposing of them, follow all label warnings, other instructions and waste disposal procedures.

**EXPLANATION AND DISCLAIMER:** Wherever such words or phrases as "hazardous," "toxic," "carcinogen," etc. appear herein, they are used as defined or described under state employee right-to-know laws, Federal OSHA laws or the or the direct sources for these laws such as the International Agency for Research on Cancer (ISRC), the National Toxicology Program (NTP), etc. The use of such words or phrases should not be taken to mean that we deem or imply any substance or exposure to be toxic, hazardous or otherwise harmful. ANY EXPOSURE CAN ONLY BE UNDERSTOOD WITHIN THE ENTIRE CONTEXT OF ITS OCCURRENCE, WHICH INCLUDES SUCH FACTORS AS THE SUBSTANCE'S CHARACTERISTICS AS DEFINED IN THE MSDS, AMOUNT AND DURATION OF EXPOSURES, OTHER CHEMICALS PRESENT AND PREEXISTING INDIVIDUAL DIFFERENCES IN RESPONSE TO THE EXPOSURE.

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