



**FIELD-APPLIED COMPOSITE SYSTEMS LLC**  
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## **SAFETY DATA SHEET**

### **C-2 Carbon Woven Fabric**

#### **SECTION 1: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION**

**PRODUCT NAME:** C-2 Carbon Woven Fabric  
**MFR'S NAME:** Field-Applied Composite Systems LLC, 925 North Todd Avenue, Azusa CA 91702  
**EMERGENCY PHONE:** 800.424.9300 (CHEMTREC)      **GENERAL INFORMATION:** 626.633.0294  
**USE OF THE SUBSTANCE:** Standard carbon fabric used with PowerSleeve™ and AquaWrap™ Resin systems to repair piping and other infrastructure items.

#### **SECTION 2: HAZARDS IDENTIFICATION**

**OSHA/HCS status:** Not considered hazardous. However, proper handling measures are important to observe and are covered herein.

**GHS Label Elements:**  
**Hazard Pictograms:**



**Signal Word:** None

**Hazard Statements and GHS Classifications:**

H315	Causes skin irritation (due to dust creation/skin contact).	Not Categorized
H320	Causes serious eye irritation (due to dust creation).	Not Categorized

**Precautionary Statements:**

**Prevention:** P261: Avoid breathing dust.  
P264: Wash hands thoroughly after handling.  
P270: Do not eat, drink or smoke when using this product.  
P280: Wear protective clothing, gloves and eye protection.

**Responses:** P301+P313+P331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Seek medical attention if irritation occurs and persists.  
P302+P352+P333+P313: IF ON SKIN: Rinse skin with water/shower and wash with plenty of soap and water. If skin irritation or rash occurs, get medical attention.  
P362+P364: Take off contaminated clothing and wash it before reuse.  
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P337+P313: If eye irritation persists, get medical attention.  
P304+P340+P313 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Get medical attention if irritation persists.  
P391: Collect spillage.

**Storage:** P403+P233: Store in a well-ventilated place. Keep containers tightly closed.

**Disposal:** P501: Dispose of contents and containers in accordance with all local, regional and international regulations.

**Other Hazards:** None known. Exposure may aggravate pre-existing skin, eye, or respiratory conditions.

### SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

**Substance/Mixture:** Mixture.

CHEMICAL NAME	CAS NUMBER	CONTENT
Carbon Fiber	7440-44-0	80-100%
Polyester Yarn/Veil	25038-59-9	0-20%
Sizing (organic surface binder)	N/A	0-5%

**Occupational Exposure Limits, if available, are listed in Section 8.**

### SECTION 4: FIRST AID MEASURES

#### **Description of necessary first aid measures:**

**General** Get medical attention immediately for any person who is having trouble or not breathing, or any unconscious person. Provide oxygen or artificial respiration to a person if they have trouble breathing. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Place an unconscious person in a recovery position, maintain an open airway and loosen tight clothing. Heal

**Inhalation** Remove victim to fresh air and keep warm and at rest in a position comfortable for breathing. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours. Get medical attention if irritation persists.

**Skin Contact** Remove contaminated clothing and shoes. Wash the affected area with plenty of soap and water. Launder clothing before reuse. Get medical attention if irritation persists.

**Eye Contact** Flush eyes with plenty of water, occasionally lifting the upper and lower eyelids and rolling eyes in a circular motion. Check for and remove any contact lenses. Continue to rinse for at least 15 minutes, or longer if there is any indication that material remains in the eye. Get medical attention if irritation persists.

**Ingestion** Wash out mouth with water. Remove dentures, if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. DO NOT induce vomiting. Get medical attention.

#### **Most Important Symptoms/Effects, Acute and Long –Term:**

##### **Potential Acute Health Effects:**

**Inhalation** Dustin high concentrations may irritate respiratory system. Exposure to decomposition products may cause a health hazard.

**Skin Contact** May cause skin irritation.

**Eye Contact** Irritating and may cause redness and pain.

**Ingestion** May cause discomfort if swallowed.

##### **Overexposure Signs/Symptoms:**

**Inhalation** Allergic or asthma-like difficulty in breathing.

**Skin Contact** Adverse symptoms may include the following: Irritation and/or Redness.

**Eye Contact** Adverse symptoms may include the following: Pain or Irritation. Watering. Redness.

**Ingestion** No specific data.

#### **Indication of Immediate Medical Attention and/or Special Treatment needed:**

**Notes to Physician** Treat symptomatically.

**Specific Treatments** No specific treatment(s).

**See also Toxicological Information in Section 11.**

## SECTION 5: FIRE FIGHTING MEASURES

**Extinguishing Media** Dry chemicals, foam or carbon dioxide.

**Unsuitable Media** Full water jet.

**Specific Hazards** Material is not considered a fire or explosion hazard and will not burn. Material may smoke due to sizing and polyester content.

### **National Fire Protection Association (USA):**

**Labeling:** Health: 1 Fire: 1 Reactivity: 0

### **Hazardous Thermal Decomposition Products**

Oxides of carbon and/or nitrogen may be emitted due to exposure to fire. See **Section 10** for additional information.

### **Special Protective Actions for Fire Fighters**

Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

### **Special Protective Equipment for Fire Fighters**

Fire fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in a positive pressure mode during the attack phase of firefighting operations.

## SECTION 6: ACCIDENTAL RELEASE MEASURES

### **Personal Precautions, Protective Equipment and Emergency Procedures**

Keep unauthorized persons away. Provide adequate ventilation and avoid breathing dust. Put on appropriate personal protective equipment (see **Section 8**). If spilled in an enclosed area, ventilate area or use SCBA.

### **Environmental Precautions**

No special precautions are necessary.

### **Methods and Materials for Containment and Cleaning Up (Small or Large Spill)**

Dust particles will settle out of the air. Vacuum area to remove particles. Pick up larger pieces and dispose of as solid waste in accordance with local, state or national regulations. Use vacuum or wet sweeping methods instead of dry sweeping.

## SECTION 7: HANDLING AND STORAGE

### **Precautions for Safe Handling/Personal Hygiene**

Use appropriate personal protective equipment as per **Section 8**. Keep in the original container or an approved alternative; keep containers closed when not in use. Do not reuse containers without cleaning carefully with soap and water.

Avoid creating dust. Eating, drinking and/or smoking should be prohibited where this material is being used. Workers should remove contaminated clothing/protective equipment and wash hands and face and before entering eating areas and eating, drinking and/or smoking.

### **Conditions for Safe Storage, including any Incompatibilities**

Store in sealed original containers, or approved alternatives, when not in use in a dry, well-ventilated area. Protect containers from direct sunlight in a dry, cool and well ventilated area around 25°C (~77°F) and 85% relative humidity for best performance.

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

### **Control Parameters**

**Occupational Exposure Limits:**

<b>CHEMICAL NAME</b>	<b>CAS NUMBER</b>	<b>ACGIH TWA</b>	<b>NIOSH PEL (TWA)</b>
Carbon Fiber	7440-44-0	2 mg/m <sup>3</sup>	15 mg/m <sup>3</sup> total dust

**Appropriate Engineering Controls**

Good general ventilation should be sufficient to control worker exposure to any airborne contaminants. If working in enclosed spaces, provide additional local ventilation. Fibers are electrically conductive. Airborne fibers/dust can short-circuit electrical equipment.

**Exposure controls****Respiratory Protection**

If necessary, a properly-fitted vapor mask/respirator complying with an approved standard (NIOSH N95) should be used.

**Hand Protection**

Impervious gloves (such as nitrile rubber of .35mm thickness or similar) should be worn when handling this material. Contaminated gloves should be disposed of properly.

**Body Protection**

Long-sleeved shirts and long pants or lab coats are recommended. Contaminated clothing should be washed separately from other clothes before reuse. Footwear appropriate for the work being performed should be worn and cleaned carefully if contaminated, before reuse.

**Eye/Face Protection**

Safety eyewear and face shields appropriate for the work being performed should be used. Ordinarily, this means a minimum of safety eyewear or splash goggles.

**General**

Use good laboratory/workplace procedures. Do not eat, drink or smoke during use.

<b>SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES</b>
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<b>Physical State:</b>	Solid	<b>Color:</b>	Black
<b>Odor:</b>	None	<b>Odor Threshold:</b>	N/A
<b>pH</b>	N/A	<b>Melting Point:</b>	>3,500°C (>6,300°F)
<b>Boiling Point:</b>	N/A	<b>Flash Point:</b>	N/A
<b>Evaporation Rate:</b>	N/A	<b>Vapor Pressure/Density:</b>	N/A
<b>Relative Density</b>	N/A	<b>Viscosity:</b>	N/A
<b>Auto-Ignition Temp.</b>	N/A	<b>Decomposition Temp.</b>	>650°C (1,200°F)
<b>Upper/Lower Flammability or Explosive Limits</b>		N/A	
<b>Solubility:</b> Insoluble.			
<b>VOC Content:</b> None.			

<b>SECTION 10: STABILITY AND REACTIVITY</b>
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**Reactivity:** Hazardous reactions will not occur under normal conditions.

**Chemical Stability:** This product is stable under normal conditions.

**Possibility of Hazardous Reactions:** N/A

**Conditions to Avoid:** Avoid excessive heat for prolonged periods, sunlight.

**Incompatible Materials:** Strong oxidizers.

**Hazardous Decomposition Products:** Thermal decomposition may produce smoke, small traces of oxides of carbon and nitrogen, and other products of incomplete combustion.

### SECTION 11: TOXICOLOGICAL INFORMATION

There are no known health effects from the long-term use or contact with non-respirable, continuous filament carbon fibers as manufactured and as directed for use in this application.

### SECTION 12: ECOLOGICAL INFORMATION

**Toxicity:**  
All components. Oral LD<sub>50</sub> (Rat) N/Ag Dermal LD<sub>50</sub> (Rabbit) N/A

**Persistence and Degradability:**  
**CHEMICAL NAME** All components **OECD Derived from OECD 301F (Biodegradation Test)-28 Days**  
Not tested, but expected to be low based on similar substances.

**Bioaccumulative Potential:**  
No information is available.

**Mobility in Soil:** All components **Soil/Water Partition Coefficient (K<sub>oc</sub>)**  
No information available.

**Other Adverse Effects/Information:** No other information is available.

### SECTION 13: DISPOSAL CONSIDERATIONS

Dispose of unused contents in accordance with national and local regulations.

### SECTION 14: TRANSPORTATION INFORMATION

**UN No's:** N/A-not regulated  
**DOT/TDG/UN Proper Shipping Name:** None assigned.(non-regulated)  
**Hazard Classes:** N/A-not regulated.  
**Hazard Labels:** N/A-not regulated.  
**Pack Groups:** N/A-not regulated.  
**Environmental Hazards:** **Marine Pollutant:** No. **Hazardous Substance (USA):** No.  
**Special Precautions for User:** No information is available.  
**Transporting in Bulk per Annex II of MARPOL73/78 and IBC:** No information is available.  
**Label for Conveyance:** N/A-not regulated.

### SECTION 15: REGULATORY INFORMATION

#### International and US Inventory Lists

<b>Canada Inventory (DSL)</b>	All components listed or exempt	<b>EU-ELINCS</b>	All components listed or exempt.
<b>Canada Inventory (NDSL)</b>	All components listed or exempt	<b>EU-EINECS</b>	All components listed or exempt.
<b>US Toxic Substances Control Act (TSCA)</b>	All components listed or exempt.	<b>REACH, Annex XIV and Annex XVII</b>	All components listed or exempt.

**Substances of Very High Concern:** N/A-none.

**SARA:** Section 311/312: No hazards noted.  
Section 313: Hazardous if respirable, which should not occur in this application.

**OSHA:** 29 CFR 1910.1200: Considered hazardous if respirable, which should not occur in this application.

**WHMIS:** No information available.

**HMIS Ratings:** Not Rated.

**Other Information:** N/A

<b>SECTION 16: OTHER INFORMATION</b>
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**ABBREVIATIONS:**

ACGIH: American Conference of Governmental Industrial Hygienists  
ADR/RID: European dangerous goods transport, road and rail, regulations  
CAS: Chemical Abstract Service Registry  
DOT: Department of Transportation (U.S.)  
GHS: Globally Harmonized System of Classification and Labeling of Chemicals  
IATA: International Air Transport Association  
ICAO: International Civil Aviation Organization  
IMDG: International Maritime Dangerous Goods code  
OEL: Occupational Exposure Limits  
OSHA: Occupational Safety and Health Administration (U.S.)  
PEL: Permissible Exposure Limit  
SDS: Safety Data Sheet  
STEL: Short Term Exposure Limit (15 minute Time Weighted Average)  
TDG: Canadian Transportation of Dangerous Goods Act and Regulations  
TPQ: Threshold Planning Quantity  
RQ: Reportable Quantity  
UN: United Nations  
U.S.: United States  
N/A: Not available or not applicable.

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