

## 1. Identification

### Product Identification

**Product Identifier:** CSS V-Wrap™ C418B Bidirectional Fabrics  
**Recommended Use:** Simpson Strong-Tie® Bidirectional Carbon Fabrics are for use for structural reinforcement.  
**Use Restrictions:** None Known.

### Company Identification

**Company:** Simpson Strong-Tie Company Inc.  
**Address:** 5956 W. Las Positas Blvd.  
Pleasanton, CA 94588, USA  
**Phone:** 1-800-999-5099  
**Website:** [www.strongtie.com](http://www.strongtie.com)  
**Emergency:** 1-800-535-5053 (US/Canada)  
1-352-323-3500 (International)

For most current SDS, please visit our website at [www.strongtie.com/sds](http://www.strongtie.com/sds)

## 2. Hazard Identification

### General Information

CSS V-Wrap™ C418B Bidirectional Fabric is a lightweight, high strength fabric for use for structural reinforcement. It is a single component, solid product designed to be laminated with an epoxy resin, CSS V-Wrap™ 770/PF. The product has been assessed according to the Globally Harmonized System (GHS). This Safety Data Sheet covers hazards and responses for the safe use and handling of CSS V-Wrap™ C418B Bidirectional Fabrics. See the CSS V-Wrap™ 770/PF Safety Data Sheets for more information if using in accordance with this product.

### GHS Classification



Exclamation Point

Under normal conditions, carbon fabric is not expected to pose any health or safety hazards. However, the cutting or processing of carbon fabric may result in the formation of dust/particles that can pose health and safety hazards. Additionally, carbon fiber is electrically conductive, which can result in the short-circuiting of electrical equipment. Customers with sensitivities may experience mild skin irritation or sensitization when working with carbon fabrics. Other hazards will apply if field-laminating carbon fabric with CSS V-Wrap™ 770/PF. See the CSS V-Wrap™ 770/PF Safety Data Sheet for complete safety information. Ensure that good work practices and the necessary precautionary measures are taken to maintain safe use of the product.

### Hazards Not Otherwise Classified (HNOC)

The following potential health and safety hazards are associated with the creation of dust/particles due to the cutting and processing of carbon fabrics. These health hazards are expected to be due to the mechanically abrasive nature of the dust/particles, and are expected to only be temporarily irritating.

**Physical Hazards:** Not Classified

**Health Hazards:** Skin Corrosion/Irritation Category 3 H316: Causes mild skin irritation  
Serious Eye Damage/Irritation Category 2 H319: Causes serious eye irritation  
Sensitization, Skin Category 1 H317: May cause an allergic skin reaction  
STOT, Single Exposure Category 3 H335: May cause respiratory irritation

**Environmental Hazards:** Not Classified.

**OSHA Hazard:** Combustible Dust Can form explosive air-dust mixtures; avoid creating dust.

**Main Symptoms:** Irritation of eyes and skin. Symptoms include redness, itching, burning, tearing, swelling, and blurred vision. May cause rash/allergic reaction to the skin. May cause shortness of breath or other respiratory distress/irritation.

**Contains:** Carbon Fiber, Fiberglass, Polyester Veil, Polyester Yarn, Sizing

**Signal Word:** **WARNING!**

**Precautionary Statements:**

**Prevention:** Do not allow dust to build up on work surfaces.

P261: Avoid breathing dust.

P264: Wash hands thoroughly after handling.

P271: Use only outdoors or in a well-ventilated area.

P272: Contaminated clothing should not be allowed out of the workplace.

P280: Wear protective gloves/clothing/eye protection/face protection.

**Response:** IF ON SKIN: Wash with plenty of water.

	P333+P313: If skin irritation or rash occurs: Get medical advice/attention.
	P363: Wash contaminated clothing 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 advice/attention.
<b>Storage:</b>	P314: Get medical advice/attention if you feel unwell.
	P402: Store in a dry place.
	P403: Store in a well-ventilated place.
	P405: Store locked up.
<b>Disposal:</b>	P420: Store away from incompatible materials.
	P501: Dispose of contents/container in accordance with local/regional regulations.

**Supplemental Label Information:** None known.

### 3. Composition Information

#### General Information

This product is a mixture. Hazardous ingredients for each component are listed below. May include other nonhazardous ingredients. May include other trace ingredients, see Section 15.

#### List of abbreviations and symbols:

Classification: Global Harmonized System Classifications

*The full text for H-phrases is displayed in section 16 if not above. All concentrations are in percent by weight unless otherwise noted.*

#### Composition- All concentrations are in percent by weight unless otherwise indicated.

Chemical Name	Weight %	CAS Number	EC Number
Carbon Fiber	75-100	7440-44-0	231-153-3
<b>Classifications:</b> Eye Irrit. 2: H319, STOT SE 3: H335			
Fiberglass (continuous filament, non respirable)	< 15	65997-17-3	266-046-0
<b>Classifications :</b> None			
Polyester Veil	< 15	25083-59-9	---
<b>Classifications :</b> None			
Copolyamide Veil	< 15	N/A	N/A
<b>Classifications :</b> N/A			
Polyester Yarn	< 5	25083-59-9	---
<b>Classifications :</b> None			
Sizing	< 5	N/A	N/A
<b>Classifications :</b> N/A			

### 4. First-Aid Measures

#### General Information

Provide general supportive measures and treat symptomatically. Symptoms may be delayed. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. If exposed or concerned: Get medical advice/attention. Wash contaminated clothing before reuse.

#### Routes of Exposure

<b>Eye Contact:</b>	Flush eyes with plenty of cool water for at least 15 minutes while holding the eyes open. Remove contact lenses if present and easy to do. If you experience redness, burning, blurred vision, or swelling, <b>consult a physician immediately.</b>
<b>Skin Contact:</b>	Wash affected area with soap and water. Do not apply greases or ointments. If rash or irritation occurs <b>consult a physician.</b>
<b>Ingestion:</b>	Ingestion is unlikely. If swallowed, rinse mouth immediately. <b>Consult a physician.</b>
<b>Inhalation:</b>	Remove patient to fresh air. Give oxygen or artificial respiration if needed. If patient continues to experience difficulty breathing, <b>consult a physician.</b>

#### Most Important Symptoms

Irritant effects. Rash. Symptoms include redness, itching, burning, tearing, swelling, and blurred vision. May cause shortness of breath or coughing.

### 5. Fire-Fighting Measures

**Suitable Extinguishing Media:** Extinguish with foam, carbon dioxide, dry powder, or water fog.

**Additional Information:** This material is not expected to burn in a fire. If this product is present in a fire, fight fire based on the packaging material, surrounding material, etc. The sizing may burn off the fiber.

**Hazards during Fire-Fighting:**

Fiber or dust may glow in an oxygen-containing atmosphere above 662°F (350°C). When glowing, and during combustion, CO/CO<sub>2</sub> is generated. Additionally, there is the potential release of degradation products such as NH<sub>3</sub>, HCN and monomeric acrylonitrile. Irritating and toxic gases/fumes may be released during a fire.

**Fire-Fighting Procedures:**

Use standard fire-fighting procedures and consider the hazards of other involved materials. In case of fire and/or explosion do not breathe fumes. Self-contained breathing apparatus and full protective clothing must be worn. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply.

**Other Information:**

This product is not expected to burn. Do not incinerate carbon fibers since airborne fibers may cause electrical malfunctions.

**6. Accidental Release Measures****Personal Precautions**

Keep unnecessary personnel away. Wear appropriate personal protective equipment. Avoid inhalation of dusts.

**Clean-Up Methods**

This product is not expected to present a serious spill hazard. Carbon fibers may be slippery (in sheet form or if chopped or milled) and can pose a fall risk. If spilled, collect (sweep, vacuum, etc.) spilled material and either reuse or dispose of properly. Avoid processes that result in the creation of dust. In the case of the creation or spill of process dust, avoid dry sweeping. Use water spraying/flushing or ventilated or HEPA filtered vacuum cleaning system. If not possible, gently moisten dust before collection with shovel or broom. Dispose of in closed containers.

**Environmental Precautions**

Avoid release to the environment. Contact local authorities in case of spillage to drain/aquatic environment. Do not contaminate water. Avoid discharge into drains, water courses or onto the ground.

**7. Handling and Storage****Handling**

Mechanical ventilation or local exhaust ventilation is recommended. Wear appropriate personal protective equipment. When using, do not eat, drink or smoke. Do not breathe dust, mist, or vapor. Use only in well-ventilated places. Avoid contact with eyes, skin, and clothing. Wash thoroughly after handling. Wash contaminated clothing before reuse. Avoid dust formation. Observe good industrial hygiene practices. To obtain optimal performance from Simpson Strong-Tie products and to achieve maximum allowable design load, the products must be properly installed and used in accordance with the installation instructions and design limits provided by Simpson Strong-Tie.

**Storage**

Store in a closed container away from incompatible materials. Store in a cool, dry place out of direct sunlight.

**8. Exposure Controls / Personal Protection****Personal Protective Equipment****Protective Measure:**

Wear appropriate personal protective equipment.

**Eye Protection:**

Wear chemical splash goggles or safety glasses with side shield.

**Hand Protection:**

Wear chemical-resistant gloves such as: Nitrile, neoprene, butyl.

**Skin and Body Protection:**

Wear long sleeve shirts/long pants and other clothing as required to minimize contact.

**Respirator Protection:**

The use of a respirator is not required during normal use of this product. An approved respirator should be worn whenever workplace conditions warrant respirator use.

**General Hygiene:**

Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

**Engineering Controls**

Mechanical ventilation or local exhaust ventilation is recommended. Ventilation rates should be matched to conditions to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Provide eyewash station and emergency shower.

**Exposure Limits**

\*Under certain conditions this substance may be a nuisance dust.

Component	OSHA (PEL)	ACGIH (TLV)	NIOSH Pocket Guide
General Nuisance Dust	5 mg/m <sup>3</sup> (respirable) 15 mg/m <sup>3</sup> (total dust)	3 mg/m <sup>3</sup> (respirable) 10 mg/m <sup>3</sup> (total dust)	N/E

**9. Physical and Chemical Properties**

<b>Physical State:</b>	Solid	<b>Freezing/Melting Point:</b>	N/A
<b>Form:</b>	Continuous Fiber	<b>Boiling Point:</b>	N/A
<b>Color:</b>	Black	<b>Flash Point:</b>	N/A
<b>Odor:</b>	None	<b>Evaporation Rate:</b>	N/A
<b>Odor Threshold:</b>	N/A	<b>Specific Gravity:</b>	1.7-1.9
<b>pH:</b>	N/A	<b>VOC:</b>	N/A
<b>Flammability:</b>	N/A	<b>U/L Flammability:</b>	N/A
<b>Vapor Pressure:</b>	N/A	<b>Vapor Density:</b>	N/A
<b>Solubility:</b>	Insoluble	<b>Kow:</b>	N/A
<b>Decomposition:</b>	N/A	<b>Viscosity:</b>	N/A

**10. Physical and Chemical Properties**

<b>Reactivity:</b>	This product is stable and non-reactive under normal conditions.
<b>Chemical Stability:</b>	Stable under normal storage conditions.
<b>Condition to Avoid:</b>	None known.
<b>Substances to Avoid:</b>	Strong oxidizing agents such as fluorine.
<b>Hazardous Reactions:</b>	Hazardous polymerization will not occur.
<b>Decomposition Products:</b>	Not expected under normal conditions of processing and use. Thermal decomposition of sizing may begin to occur at high temperatures >248°F (>120°C) resulting in the release of small amounts of nitrogen oxides, carbon monoxide, organic compounds, and other potentially hazardous substances.

**11. Toxicological Information**

**Likely Routes of Exposure**

<b>Ingestion:</b>	May cause discomfort if swallowed.
<b>Inhalation:</b>	May cause respiratory tract irritation if dust is inhaled.
<b>Skin contact:</b>	May cause skin irritation or sensitization.
<b>Eye contact:</b>	May cause eye irritation. Particles can cause corneal abrasion.
<b>Symptoms:</b>	Rash, redness, itching, burning, tearing, swelling, and blurred vision. May cause shortness of breath or coughing.

**Information on Toxicological Effects**

**Acute Effects**

<b>Toxicity:</b>	Not expected to be acutely toxic.
<b>Skin corrosion/irritation:</b>	Prolonged contact may cause temporary irritation.
<b>Eye damage/eye irritation:</b>	Direct eye contact may cause temporary irritation.
<b>Respiratory sensitization:</b>	No data available.
<b>Skin sensitization:</b>	May cause an allergic skin reaction.
<b>Aspiration hazard:</b>	No data available.
<b>Specific target organ toxicity</b> <b>Single exposure:</b>	May cause respiratory irritation if dust is inhaled.

**Chronic Effects**

<b>Germ cell mutagenicity:</b>	No data available.
<b>Carcinogenicity:</b>	This product is not considered to be a carcinogen by IARC, NTP, ACGIH, or OSHA.
<b>Reproductive toxicity:</b>	No data available.
<b>Specific target organ toxicity</b> <b>Repeated exposure:</b>	No data available.

**Carcinogen / Reproductive Toxin / Mutagen Information**

Component	% In Blend (approx.)	IARC Monographs	NTP	ACGIH	Other
Synthetic Mineral Fibers	< 15	3	ANTICIPATED	---	---

IARC: 1- Carcinogenic 2- Possibly carcinogenic 3 – Not classifiable as to carcinogenicity 4 – Probably not carcinogenic

NTP: Known to be human carcinogen or Reasonably anticipated to be a human carcinogen

ACGIH – A1 – Confirmed carcinogen A2 – Suspected carcinogen A3 – Animal carcinogen A4 – Not classified A5 – Not suspected

CA65 – California Prop 65

**Further Information**

Toxicological, ecotoxicological, physical, and chemical properties may not have been fully investigated. Hazard data above is estimated based on best available information. Some workers with certain pre-existing medical conditions such as: asthma, allergies, or impaired pulmonary and/or liver functions, or who may be particularly susceptible to this material, may be affected by exposure to this material or processing dust.

**12. Ecological Information**

**General Information**

Information given is based on data on the components and the ecotoxicology of similar products. The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

**Supporting Data**

Component	Estimate
Bisphenol-A-(Epichlorohydrin) (Epoxy Resin) (CAS 25068-38-6)	
<b>Aquatic</b> , Fish, LC50	< 2 mg/l, 96 hours
<b>Aquatic</b> , Crustacea, EC50	> 2 mg/l, 48 hours
<b>Aquatic</b> , Algae, EC50	> 10 mg/l, 72 hours

**Persistence and degradability:** No data available.

**Bioaccumulative potential:** No data available for the product.

**Mobility in soil:** No data available.

**Other Adverse Effects**

No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption) are expected from this product.

**13. Disposal Considerations**

**Waste Disposal of Substance:** Do not allow material into sewers/water supplies. Do not contaminate ponds, waterways or ditches. Dispose of contents/container in accordance with local/regional/national/international regulations.

**Container Disposal:** Empty containers or liners may retain some product residues; follow label warnings even after container is emptied. Empty containers should be disposed of in accordance with local/regional/national/international regulations.

**14. Transportation Information**

**DOT:** CSS V-Wrap™ C418B Bidirectional Fabrics are not regulated for transport.

**IMDG/IATA:** CSS V-Wrap™ C418B Bidirectional Fabrics are not regulated for transport.

**Additional Information**

**Special precautions for user:** Read safety instructions, SDS and emergency procedures before handling.

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code:** Not Applicable.

This information does not cover all specific regulatory or operational requirements of this product. The classifications for transportation may vary by container volume or different regional or national regulations.

**15. Regulatory Information**

**United States**

**Federal Regulation:** This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

**TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D):** Not regulated.

**US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050):** Not listed.

**CERCLA Hazardous Substance List (40 CFR 302.4):** Not listed.

**Superfund Amendments and Reauthorization Act of 1986 (SARA)**

Hazard Categories:				
Immediate	Delayed	Fire	Pressure	Reactivity
Yes	No	No	No	No

**SARA 302 Extremely hazardous substance:** No

**SARA 311/312 Hazardous chemical:** Yes

**SARA 313 (TRI reporting):** Not regulated.

## California Proposition 65:

**WARNING:** This product can expose you to chemicals which are known to the State of California to cause cancer, reproductive harm, or other birth defects. For more information, go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

## Carcinogen / Reproductive Toxin / Mutagen Information

Component	% In Blend (approx.)	IARC Monographs	NTP	ACGIH	Other
Epichlorohydrin (CAS 106-89-8)*	Trace	2A	ANTICIPATED	A3	CA65 (Carcinogenic)
Phenylglycidyl Ether (CAS 122-60-1)*	Trace	2B	---	A3	CA65 (Carcinogenic)

IARC: 1- Carcinogenic 2- Possibly carcinogenic 3 - Not classifiable as to carcinogenicity 4 – Probably not carcinogenic  
 NTP: Known to be human carcinogen or Reasonably anticipated to be a human carcinogen  
 ACGIH – A1 – Confirmed carcinogen A2 – Suspected carcinogen A3 – Animal carcinogen A4 – Not classified A5 – Not suspected  
 CA65 – California Prop 65

## Canada

This product has been classified according to the hazard criteria of the HPR and the SDS contains all of the information required by the HPR.

## International

The product is classified and labeled in accordance with EC directives or respective national laws. This Safety Data Sheet complies with the requirements of Regulation (EC) No 1907/2006.

This product is not subject to or not applicable for any of the following International Regulations; **Stockholm Convention, Rotterdam Convention, Kyoto Protocol, Montreal Protocol, Basel Convention.**

## International Inventories

Canada	All components of this product are included on the Domestic Substances List (DSL) or Non-Domestic Substances List (NDSL).
United States & Puerto Rico	All components of this product are listed on the Toxic Substances Control Act (TSCA) Inventory or are not required to be listed.

## 16. Other Information

Date Prepared or Revised: April 2022

Supersedes: New

Contact Simpson Strong-Tie Environmental Health and Safety at [EHS@strongtie.com](mailto:EHS@strongtie.com).

## Abbreviations

ACGIH:	American Conference of Governmental Industrial Hygienists
CAS No.:	Chemical Abstract Service Registry Number
CERCLA:	Comprehensive Environmental Response, Compensation and Liability Act (U.S. EPA)
CPR:	Controlled Product Regulations (Canada)
DOT:	Department of Transportation (U.S.)
EPA:	Environmental Protection Agency (U.S.)
GHS:	Globally Harmonized System of Classification and Labeling of Chemicals
HEPA:	High-Efficiency Particulate Air
HMIS:	Hazardous Materials Identification System
IARC:	International Agency for Research on Cancer
IATA:	International Air Transport Association
IMDG:	International Maritime Dangerous Goods code
LPP:	Limité Permisable Ponderado (Chile)
NIOSH:	National Institute of Occupational Safety and Health (U.S.)
NFPA:	National Fire Protection Association (US)
NTP:	National Toxicology Program (US)
OSHA:	Occupational Safety and Health Administration (U.S.)
PEL:	Permissible Exposure Limit
SARA:	Superfund Amendments and Reauthorization Act (U.S. EPA)
SDS:	Safety Data Sheet
STEL:	Short Term Exposure Limit (15 minute Time Weighted Average)

# CSS V-Wrap™ C418B *Bidirectional Fabrics*

## SAFETY DATA SHEET

**SIMPSON**

**Strong-Tie**

**structural**  
TECHNOLOGIES

<b>STOT:</b>	Specific Target Organ Toxicity (GHS Classification)
<b>TLV:</b>	Threshold Limit Value
<b>TSCA:</b>	Toxic Substances Control Act (U.S.)
<b>TWA:</b>	Time Weighted Average (exposure for 8-hour workday)
<b>U.S.:</b>	United States
<b>VOC:</b>	Volatile Organic Compounds
<b>WHMIS:</b>	Canadian Workplace Hazardous Materials Information System

### Disclaimer

This Safety Data Sheet (SDS) is prepared by Simpson Strong-Tie Co. in compliance with the requirements of OSHA 29 CFR Part 1910.1200. The information it contains is offered in good faith as accurate as of the date of this SDS. This SDS is provided solely for the purpose of conveying health, safety, and environmental information. No warranty, expressed or implied, is given. Health and Safety precautions may not be adequate for all individuals and/or situations. It is the user's obligation to evaluate and use this product safely and to comply with all applicable laws and regulations.

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Internal

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