



# MATERIAL SAFETY DATA SHEET

## Chemtrec 24-Hour Emergency Telephone

Domestic North America (800)424-9300  
International (800)527-3887

## 1. Product and Supplier Identification

**Product Name:** Orca 13 oz. Warp Unidirectional Fabric / Carbon Fiber

**Product Number:** 17TC13U24-12, 17TC13U24-2.25

**Date of Prep:** 01/20/2011

**Product Type:** Carbon Fiber (Graphite Fiber) Resin Sizing / Mixture

**Supplier:** Orca Composites  
24 S. Idaho St  
Seattle, Wa 98134  
(206)782-0660

## 2. Composition/Information On Ingredients

Hazardous Component		% (w/w)	CAS Number
A	Carbon Fiber (Carbon)	98%	7440-44-0
B	Resin Sizing	2%	Proprietary

Note: Though the main content of carbon fiber is carbon, 0-2% of oxygen and 0-7% of nitrogen are contained.

This product is not classified as a Hazardous Chemical as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

## 3. Hazards Identification

### EMERGENCY OVERVIEW:

**APPEARANCE AND ODOR:** Black fibers woven into fabrics of varying weight, width and thickness, depending on the style, with and without sizing, with no distinctive odor.

**STATEMENT OF HAZARD:** Warning! May cause temporary mechanical irritation of the eyes, skin or upper respiratory tract.

If sized, vapor or fumes generated from heating or curing this product may cause eye and respiratory tract irritation.

Carbon fibers or dust are electrically conductive and may create electrical short-circuits which could result in damage to and malfunction of electrical equipment and/or personal injury.

### PRIMARY ROUTES OF EXPOSURE:

Eye--Yes Skin--Yes Inhalation--Yes Ingestion--No

### HMIS RATING:

Health--1 Flammability--0 Reactivity--0 Special--None

## 17TC13U24-12 – Orca 13 oz. Warp Unidirectional Fabric / Carbon Fiber

### POTENTIAL HEALTH EFFECTS:

**EYE:** Contact may cause mechanical irritation to the eyes. If sized, vapor or fumes from exposure of this product to elevated temperatures may cause irritation to the eyes. Dust from machining, grinding or sawing the cured product may cause mechanical irritation.

**SKIN:** Contact may cause mechanical irritation to the skin and possible dermatitis. Dust from machining, grinding or sawing the cured product may cause mechanical irritation.

**INHALATION:** May cause mechanical irritation to the upper respiratory tract. If sized, vapor or fumes from exposure of this product to elevated temperatures may cause irritation to the respiratory tract. Dust from machining, grinding or sawing the cured product may cause mechanical irritation.

Ingestion: Ingestion unlikely under normal conditions of use. If any of this product or the cured product dust is swallowed, seek medical attention immediately.

**MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE:** Preexisting eye, skin or respiratory disorders may be aggravated by exposure to this product or to the dust from machining, grinding or sawing the cured product.

**CARCINOGENIC INFORMATION:** None of the components present in this material at concentrations equal to or greater than 0.1 % are listed or regulated by IARC, NTP, OSHA or ACGIH as a carcinogen.

### Other: OSHA(PEL) ACGIH (TLV)

Exposure limits for cured product dust as [Particulates Not Otherwise 15 mg/m<sup>3</sup> (Total) 10 mg/m<sup>3</sup> (Inhalable)

Regulated (PNOR) by OSHA or 5 mg/m<sup>3</sup> (Respirable) 3 mg/m<sup>3</sup> (Respirable)

Specified (PNOS) by ACGIH]:

## 4. First Aid Measures

**EYE:** In case of eye contact, immediately flush eyes with large amounts of water for at least 15 minutes, keeping the eyelids open. Get medical attention immediately.

**SKIN:** In case of contact that causes irritation, immediately wash skin with soap and room temperature to cool running water. Use a washcloth to help remove the fibers. To avoid further irritation, do not rub or scratch irritated areas. Rubbing or scratching may force fibers into the skin. Get medical attention immediately, if the irritation persists.

**INHALATION:** If large amounts of dust, fiber, fumes or vapor are inhaled, remove to fresh air. If not breathing, give artificial respiration, preferably mouth-to-mouth. If breathing is difficult, qualified personnel may administer oxygen. Get medical attention immediately.

**INGESTION:** Ingestion of this product or the dust from it is unlikely. If swallowed, get medical attention immediately.

## 5. Fire Fighting Measures

**FLASH POINT/METHOD OF DETERMINATION:** Not determined

**MEANS OF EXTINCTION:** In case of fire use water mist, foam, dry powder, CO<sub>2</sub>. For small fires use dry chemical powder, carbon dioxide or dry sand.

**SPECIFIC FIRE-FIGHTING MEASURES:** Apply water from safe distance to cool and protect surrounding area.

**PROTECTION OF FIRE-FIGHTERS:** Since gas, such as carbon monoxide can generate combustion, fire fighters should wear suitable protection. Avoid exposure through use of a self-contained, positive-pressure breathing apparatus.

## 6. Accidental Release Measures

**PROCEDURES IN CASE OF ACCIDENTAL RELEASE OR LEAKAGE:** Avoid contact with skin, eyes or clothing (See Section 8). Clean up material, put into a suitable container and dispose of properly (See Section 13).

## 7. Handling and Storage

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

## 8. Exposure Controls, Personal Protection

**EYE/FACE PROTECTION:** Avoid eye contact. Wear safety glasses with side shields, as necessary, when using this product or when machining, grinding or sawing the cured product.

**SKIN PROTECTION:** Protective clothing such as a loose fitting long sleeved shirt that covers to the base of the neck, long pants and gloves, as necessary to prevent irritation. Skin irritation is known to occur primarily at pressure points such as around the neck, wrist, waist and between the fingers.

**RESPIRATORY PROTECTION:** Not ordinarily required. If sized and sufficient vapor or fumes are being generated during heating or curing of this product, use a NIOSH approved organic vapor respirator. If sufficient dust or fibers are generated during use or when machining, grinding or sawing the cured product, use a NIOSH approved dust respirator.

**VENTILATION:** Use local exhaust sufficient to control vapor, fumes, fibers or dust generated. If exhaust ventilation is not available or is inadequate, use a NIOSH approved respirator, as appropriate.

**GENERAL HYGIENE RECOMMENDATIONS:** Before eating, drinking, smoking or using toilet facilities, wash face and hands thoroughly with soap and water. Remove any contaminated clothing and laundry before reuse. Use vacuum equipment to remove fibers and dust from clothing and work areas. Compressed air is not recommended.

## 9. Physical and Chemical Properties

**Appearance and Odor:** Black fibers woven into fabrics of varying weight, width and thickness, depending on the style, with and without sizing, with no distinctive odor.

**Melting Point (F/C):** 6512°F/3600°C

**Specific Gravity (Water=1):** 1.6-2.0

**pH of Undiluted Product:** Not determined

**Volatile [Percent (%) by Weight]:** 0

**Percent (%) VOC:** Not determined

**Solubility in Water:** Negligible

## 10. Stability and Reactivity

**STABILITY/INSTABILITY:** This material is stable. Hazardous decomposition and polymerization will not occur. Resin sizing sometimes changes under environmental conditions.

**REACTIVITY:** Oxidization may occur at 240°C or higher and may become come red in color.

**INCOMPATIBILITY:** A strong oxide

**DECOMPOSITION PRODUCTS:** CO, CO<sub>2</sub>, NO and other non-confirmed poisonous gasses are thought to be generated by combustion. Do not inhale.

**HAZARDOUS POLYMERIZATION:** Will not occur under proper conditions of use. Rapid heating of the product in bulk may produce an uncontrolled exothermic reaction that may char and decompose the sizing system, if appropriate, generating unidentified gases and vapors that may be toxic. Avoid inhalation.

## 11. Toxicological Information

**ACUTE TOXICITY:** None

LD50=2800mg/kg – through mouth of rat

LD50=5000mg/kg – through skin of rat

**EFFECTS ON SKIN, EYES AND OTHER:** Contact with dust can cause skit irritation

**ALLERGERC OR SENSITIZING EFFECTS:** Long term and repeated contact can cause irritation

**CHRONIC OR LONG TERM TOXICITY:** N/A

**CARCINOGENIC EFFECTS:** IARC Possibly carcinogenic to humans

**MUTAGENIC EFFECTS:** Since the content of Bisphenol A epoxy resin is 1% or less. N/A

**TERATOGENIC EFFECTS:** N/A

**OTHER:** No silicosis case is reported on inhalation test with mouse.

## 12. Ecological Information

No ecological data has been determined.

### 13. Disposal Considerations

Material for disposal should be placed in appropriate sealed containers to avoid potential human and environmental exposure. 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 U.S., 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.

### 14. Transport Information

**DOT Non-Bulk:** NOT REGULATED  
**DOT Bulk:** NOT REGULATED  
**IMDG:** NOT REGULATED  
**ICAO/IATA:** NOT REGULATED

This information is not intended to convey all specific regulatory or operational requirement/information relating to this product. Additional transportation system information can be obtained through an authorized sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

### 15. Regulatory Information

**TSCA: Carbon (Carbon Fiber): 7440-44-0**  
**CAS: Carbon 7440-44-0 / Carbon Fiber 308063-67-4**

**SARA Title III:** Section 302/304 Extremely Hazardous Substance: None  
Section 311 Hazardous Categorization: None  
Section 313 Toxic Chemicals: None

**CERCLA Section 102(a) Hazardous Substance:** None

**RCRA Information:**

Currently, the product is not listed in federal hazardous waste regulations 40 CFR, Part 261.33, paragraphs (e) or (f), i.e. chemical products that are considered hazardous if they become wastes. State or local hazardous waste regulations may also apply if they are different from the federal regulation. 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.

**WHMIS (Canada):** Classification: None

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

Ingredient Disclosure List: None

**California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65):**

Warning! The state of California has determined that the following listed component chemicals in this product may cause cancer, birth defects or other reproductive harm: None

**U.S., EPA, TSCA Information:** This product is an article as defined by TSCA and is not required to be listed in the TSCA inventory.

**Ozone Depletion Information:** This product does not contain or is not manufactured with ozone depleting substances as identified in Title VI, Clean Air Act "Stratospheric Ozone Protection" and the regulations set forth in 40 CFR, Part 82.

## 16. Other Information

Additional information on this product may be obtained by calling your sales or customer service contact. Ask for a product brochure.

**HMIS Rating:** Health – 1 / Flammability – 0 / Physical Hazard – 0

**Preparation Date:** January 27, 2011

**Prepared by:** Orca Composites

**Comments:** This Material Safety Data Sheet was prepared using information provided by Orca Composites and Fiberlay Inc.

**Revisions:** None

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