HEALTH AND SAFETY DATA SHEET
CARBON FIBRE
Woven, Unidirectional and Multiaxial Carbon Fibre Products

1. IDENTIFICATION OF SUBSTANCE

Trade name: Woven, Unidirectional and Multiaxial Carbon Fibre Products
Supplier: PRF Composite Materials
3 Upton Road
Poole, Dorset
BH17 7AA
England

Tel: +44 01202 680022
Fax: +44 01202 680077

After hours no: 07785 501851

2. HAZARD IDENTIFICATION

Classification: This product is not considered to be hazardous in the sense of the orders of 04/20/1994 and 11/9/2004 (modified)

Hazards that do not directly lead to a classification:
- Carbon fibre is an electricity conducting material, it may break up into fine particles.
- Finely dispersed carbon fibre may irritate skin, eyes and mucous membranes.
- Carbon fibre dust may cause electrical short-circuits when contacted to electrical devices.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous components or hazardous complex substances: This product including its components is not considered to be hazardous in the sense of the orders of 04/20/1994 and 11/9/2004 (modified).

Other substances that are not considered to be dangerous to health and environment

<table>
<thead>
<tr>
<th>Name</th>
<th>CAS No.</th>
<th>Content %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fibre or carbon fibre fabric (PAN-based)</td>
<td>7440-44-0</td>
<td>&gt;98</td>
</tr>
<tr>
<td>Partially cured epoxy resin</td>
<td>Registered</td>
<td>&lt;2</td>
</tr>
</tbody>
</table>

IMPORTANT NOTICE
All statements, technical information and recommendations offered are only for consideration and evaluation. Whilst they are believed to be accurate they are not guaranteed and are provided without warranty of any kind. No undertaking is given that the goods/products supplied are fit for any particular purpose and the buyer/user should rely upon its own tests to establish the suitability of the goods/products for its particular purpose. The buyer/user shall ensure all risks and liabilities in connection therewith.
# 4. FIRST AID MEASURES

<table>
<thead>
<tr>
<th>Description</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inhalation:</td>
<td>Move the victim to fresh air. If symptoms develop, seek medical treatment.</td>
</tr>
<tr>
<td>Eye contact:</td>
<td>In case of contact with eyes rinse thoroughly with plenty of water and seek medical advice.</td>
</tr>
<tr>
<td>Skin contact:</td>
<td>Thoroughly wash skin with soap and water. If skin irritation persists, seek medical treatment.</td>
</tr>
<tr>
<td>Ingestion:</td>
<td>Rinse out mouth and give water to the victim if conscious, but do not make him/her vomit. In case of vomiting, do not let the victim swallow the vomit. Do not give anything to ingest to unconscious or convulsing victim. Provide medical care.</td>
</tr>
</tbody>
</table>

# 5. FIRE FIGHTING MEASURES

<table>
<thead>
<tr>
<th>Suitable extinguishing media:</th>
<th>Use foam, dry powder, carbon dioxide or water-mist.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extinguishing media that must not be used:</td>
<td>Full water jet.</td>
</tr>
<tr>
<td>Dangerous combustible products and related risks:</td>
<td>Emission of toxic gases: nitrogen oxide, carbon monoxide. Risk of formation of toxic pyrolysis products such as not combusted hydrocarbons.</td>
</tr>
<tr>
<td>Special protective equipment for fire-fighters:</td>
<td>Do not inhale explosion and/or combustion gases. Wear high-pressure self-respiratory protection apparatus.</td>
</tr>
<tr>
<td>Additional information</td>
<td>When the product is burnt, fine carbon fibre particles may be produced. They may cause electrical short-circuits when contacted to electrical devices. Fire residues and contaminated fire-fighting water must be disposed of in accordance with the local regulations.</td>
</tr>
</tbody>
</table>

# 6. ACCIDENTAL RELEASE MEASURES

<table>
<thead>
<tr>
<th>Personal precautions:</th>
<th>Not applicable.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environmental precautions:</td>
<td>Avoid worsening the dispersion</td>
</tr>
<tr>
<td>Precautions when handling dispersed substances:</td>
<td>Because fine particles may be dispersed, it is advised to wear a dust mark with P3 type filter</td>
</tr>
<tr>
<td>Methods for cleaning up:</td>
<td>Take up mechanically. Dispose of absorbed material in accordance within the regulations.</td>
</tr>
</tbody>
</table>

# 7. HANDLING AND STORAGE

| Handling: | No special measures necessary if used correctly. Keep away from sources of ignitions – refrain from smoking. Dust can form an explosive mixture with air. Carbon fibre is conductive; do not allow contact with electric current sources. |
| Precautions for safe handling: | No special measures necessary. Do not store together with oxidizing agents. |
| Storage: | Store in a dry place. Recommended storage temperature: <50°C, relative humidity: <85%. |
8. EXPOSURE CONTROLS/PERSONAL PROTECTION

<table>
<thead>
<tr>
<th>Range (%)</th>
<th>Substance / WEL: Workplace exposure limit</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt;95</td>
<td>Carbon fibre on basis polyacrylonitrile (Carbon) / -ppm, 0.5 mg/m³, fibres/ml (respirable fibres)</td>
</tr>
</tbody>
</table>

**Respiratory protection:** Breathing apparatus in the event of high concentrations. Short term: filter apparatus, filter P3

**Hand protection:** Always wear protective gloves conform to EN 374-1/2/3 and EN 420 when handling the product.

**Eye protection:** Wear protective goggles or dustproof goggles

**Skin protection:** Use barrier skin cream

**Hygiene measures:** Wash hands before breaks and after work.

9. PHYSICAL AND CHEMICAL PROPERTIES

**Physical properties:**

- **Form:** Fibre
- **Colour:** Black
- **Odour:** Odourless
- **pH value:** NA
- **Boiling point:** NA
- **Melting point:** NA
- **Flash point:** NA
- **Flammability:** NA
- **Self-combusting point:** NA
- **Explosiveness:** NA
- **Vapour pressure:** NA
- **Oxidizing Properties**
  - No
- **Density:** 1.7 – 2.0 g/ml
- **Bartition Coefficient (n-octanol/water):** Not determined.
- **Viscosity:** NA
- **Evaporation Speed:** NA
- **Melting Point:** ca. 3500°C
- **Autoignition Temperature:** NA
- **Decomposition Temperature:** > 650 (in air), preparation > 290

**Solubility (solubility and solvents):**

- **Water:** immiscible
- **Others:** Sizing agent soluble in chlorinated solvents, acetone, DMF
10. STABILITY AND REACTIVITY

Stability: Stable but possible dangerous reactions. Accumulation of fine dust may entail the risk of a dust explosion in the presence of air.

Conditions to avoid: Excess heat.

Materials to avoid: Oxidizing agents, strong acids and bases

Dangerous decomposition products: Emission of nitrogen oxides and carbon monoxide.

11. TOXICOLOGICAL INFORMATION

Exposure risks:

Ingestion: Possible irritation of throat.

Inhalation: Possible irritation of respiratory apparatus.

Skin contact: May cause irritations.

Contact with eyes: May cause irritations.

12. ECOLOGICAL INFORMATION

Environmental exposure from substances of this preparation is limited due to the physical form of the product.

Carbon fibre is an electricity conducting material. It may cause short-circuits on contact with electrical devices, especially when loose fibres are dispersed in the area.

Do not incinerate the product.

13. DISPOSAL CONSIDERATIONS

Product: Coordinate disposal with local authorities if necessary.

Contaminated packaging: Uncontaminated packaging may be taken for recycling. Packaging that cannot be cleaned should be disposed of as for product.

Waste no. (recommended): 160306 061399

14. TRANSPORT INFORMATION

Classification according to ADR: NO DANGEROUS GOODS

Classification according to IMDG: NOT CLASSIFIED AS “DANGEROUS GOODS"

Classification according to IATA: NOT CLASSIFIED AS “DANGEROUS GOODS"
15. **REGULATORY INFORMATION**

<table>
<thead>
<tr>
<th>Exposure scenario:</th>
<th>not determined</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemical safety report:</td>
<td>not determined.</td>
</tr>
<tr>
<td>Information on EU labelling</td>
<td>The product is labelled in accordance with EC directives. Contains epoxy-containing compounds. Contains isocyanates. Observe manufacturer’s instructions.</td>
</tr>
<tr>
<td>Special labelling:</td>
<td>Contains: Reaction product: bisphenol-A-(epichlorhydrin) Epoxy resin (number average molecular weight ≤ 700. May produce an allergic reaction.</td>
</tr>
<tr>
<td>Symbols:</td>
<td>NA</td>
</tr>
<tr>
<td>R-phrases:</td>
<td>None</td>
</tr>
<tr>
<td>S-phrases:</td>
<td>None</td>
</tr>
</tbody>
</table>

16. **OTHER INFORMATION**

Conforms to Regulation (EC) No. 1907/2006 (REACH), Annex II

**NOTICE**

The information provided herein was believed by PRF Composite Materials (“PRF”) to be accurate at the time of preparation or prepared from sources believed to be reliable, but it is the responsibility of the user to investigate and understand other pertinent sources of information, to comply with all laws and procedures applicable to the safe handling and use of the product and to determine the suitability of the product for its intended use. All products supplied by PRF are subject to PRF’s terms and conditions of sale. PRF MAKES NO WARRANTY, EXPRESS OR IMPLIED, CONCERNING THE PRODUCT OR THE MERCHANTABILITY OR FITNESS THEREOF FOR ANY PURPOSE OR CONCERNING THE ACCURACY OF ANY INFORMATION PROVIDED BY PRF, except that the product shall conform to PRF’s specifications. Nothing contained herein constitutes an offer for the sale of any product.