

Vector Systems

Material Safety Data Sheet

Date of Issue: 08-16-2012

Thermoplastic Prepreg

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1- PRODUCT AND COMPANY IDENTIFICATION

Name of Product : DTP Carbon/Thermoplastic prepreg

Manufacturer Contact: Vector Systems LLC

Address: 1007 Eastwood Street, Holmen, WI 54636

Tel: 608-721-4191 Fax 608-526-9399

2- COMPOSITION / COMPONENT INFORMATION

Substance: Yes

Standard or Generic chemical name of component 1: Carbon fiber 20% to 80% by weight.

CAS number: 7440-44-0

Standard or Generic chemical name of component 2: Thermoplastic filaments 20% to 80% by weight.

The Thermoplastic Polymers used in the production of the prepreg are high molecular weight polymers. The CAS (Chemical Abstract Service) reference numbers are as follows.

<u>Polymer</u>	<u>CAS Number</u>
Polyetherimide	61128-46-9
Polyether ether ketone	29658-26-2
Polyphenylene Sulfide	26125-40-6
Polyamide 11	25035-04-5
Polyethylene terephthalate	25038-59-9

3- IDENTIFICATION OF RISKS

Main product risks: Electrically conductive material – may break into small particles

Health risks: Finely dispersed fiber may irritate skin, eyes and mucous membrane

Environmental risks: known as non-polluting product

4- FIRST AID

Measures to take in case of

- Accidental inhalation: Move the victim to fresh air – If symptoms persist call a physician.
- Contact with skin: Wash the affected area with soap and water. If skin irritation persists, consult a physician.
- Contact with eyes: Remove contact lenses if any – Rinse eyes with water for 15 minutes. If eye irritation persists, consult a physician
- Ingestion: No special measures are necessary, consult a physician if any symptoms occur.

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5- MEASURES IN CASE OF FIRE

Suitable extinguishing media

All usual extinguishing media as water, carbon dioxide (CO₂), foam, dry powder can be used. Do not use water, if fire is caused by an electrical short circuit. Use self containing breathing apparatus for fire fighting in closed rooms.

Special exposures hazards arising from the substance or preparation itself or combustion products: The packaging (plastic film, paper, cardboard, wood) and the polymers and additives are likely to burn. Combustion gases are basically carbon dioxide and water vapour. There may be small quantities of carbon monoxide, oxides of sulphur, aldehydes, reactive hydrocarbons and phosphorous compounds in small quantities, which make it necessary to use protective equipment in the event of a major fire.

6- MEASURES TO TAKE IN CASE OF ACCIDENTAL DISPERSION

Individual precautions: Wear appropriate PPA to reduce exposure to dust/particulates

Environmental precautions: Avoid worsening the dispersion. No special measures required, no dangerous materials are released

Cleaning methods: Take up mechanically or other suitable method to reduce the risk of fiber dispersion

Staff responsible for the task are advised to wear work attire a dust mask

7- HANDLING AND STORAGE

Handling (Technical measures): Material to be handled with care – Do not cut the Carbon fiber unnecessarily – Electrical conducting material, do not allow contact with electric current sources. Handling precautions: Avoid the dispersion of loose fibers – Handle the fiber in very well ventilated premises.

Storage (Technical measures): store the products in a clean and dry place, away from dust, in its original packaging.

Distance from incompatible material: N.A.

8- EXPOSURE CONTROL / INDIVIDUAL PROTECTION

Technical measures to reduce exposure: If dust is created and ventilation is inadequate, it is advised to wear a dust mask, eye protection, gloves and clean and dry work attire.

The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

Individual protection

Respiratory: Dust mask , breathing equipment is not required

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Hands: Adequate protective gloves The usual precautionary measures should be adhered to in handling the chemicals

Eyes: Protective goggles or Safety glasses

Skin and body: A protective cream for the skin may be useful.

9- PHYSICAL AND CHEMICAL PROPERTIES

Physical state: Solid

Form: Multifilament and monofilament woven fabric

Color: Black and white

Odor: Odorless

pH Concentration: N.A.

Specific temperature at physical state changes:

<u>Polymer</u>	<u>Temp C</u>
Polyetherimide	300
Polyether ether ketone	340
Polyphenylene Sulfide	280
Polyamide 11	190
Polyethylene terephthalate	180

Decomposition temperature:

<u>Polymer</u>	<u>Temp C</u>
Polyetherimide	525
Polyether ether ketone	575
Polyphenylene Sulfide	460
Polyamide 11	310
Polyethylene terephthalate	300

Inflammation point: N.A.

Self-Combusting point: N.A. product is not self igniting

Explosiveness Characteristics; N.A. product is not explosive

Steam Pressure: N.A.

Volumetric mass: 1.0 to 2.0 g/cm³

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Solubility: Insoluble in water

10-STABILITY AND REACTIVITY

Product Stability: Stable at normal conditions

Possible dangerous reactions in certain conditions: Not identified, No dangerous reaction known

Possible dangerous decomposition products: Carbon oxides, carbon monoxide and low-molecular-weight organic compounds depending on temperature and air supply.

11-TOXICOLOGICAL INFORMATION

Acute toxicity: Product presumed non toxic

Local effects: Possible irritation of mucous membrane, eyes and skin.

Long term toxicity: health injuries are not know or expected under normal use, not carcinogenic

12-ECOLOGICAL INFORMATION

Possible effects, behavior and evolution of the product with respect to the Environment: No known effects – non-polluting stable product

13-CONSIDERATIONS CONCERNING DISPOSAL

Recommended disposal methods: Dispose in a suitable place according National and local regulations. Incineration may cause Carbon fiber particles to be dispersed into the air which may damage electrical equipment.

Treatment of Waste and residue: Dispose of in a suitable place according to national and local regulations.

Treatment of soiled packaging: N.A.

Packaging materials can be taken for local recycling, recovery of waste disposal.

14-INFORMATION REGARDING TRANSPORTATION

Codes and classification of international regulations; N.A.

Specific transport conditions: N.A.

15-REGULATION INFORMATION

Warning related to danger and safety: N.A.

Not dangerous according to ADR/RID/IMDG/IATA

16-MISCELLANEOUS, NON LISTED INFORMATION

We believe that the information contained in this safety data sheet is correct to the best of our knowledge. However, the information contained in this sheet is not exhaustive. This safety data sheet does not anticipate all the circumstances in which the product may be

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used, nor all the physical and mental characteristics of each individual responsible for its transportation or transformation. For all additional information, Please contact our Quality Assurance Department.