

Comfil

Safety Data Sheet

Date of issue: 28.12.2006

Hybrid Yarn Comfil® - C

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1. COMPANY – PRODUCT IDENTIFICATION

MANUFACTURER: **Comfil ApS**
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PRODUCT IDENTIFICATION:

HYBRID YARN COMFIL® – C (Continuous Filament)

2. COMPOSITION – INFORMATION ON CONSTITUENT PARTS

COMFIL® - C Hybrid Yarn is a product based on a mixture of carbon fiber filament yarn and thermoplastics filaments

Components:	Weight %
Carbon fiber filament yarn	30-80%
Thermoplastics filaments	20-70%

Carbon filament yarn is composed of
Carbon fiber on basis polyacrylonitrile
Alkylimidazolium ethosulphat

> 95% (Polymer; EINECS/ELINCS CAS: 308063-67-4)
< 5% (Symbol/R-phr.:N-Xn-22-38-41-51/53)

The **Thermoplastics polymers** used for commingling with the glass filaments are high molecular weight polymers. The CAS (Chemical Abstract Service) reference numbers are respectively, for polypropylene (PP): 9003-07-0, for polyethylene terephthalate (PET): 25038-59-9 and polybutylene terephthalate (PBT): 26062-94-2.

3. HAZARD IDENTIFICATION

COMFIL® – C Hybrid Yarn products made of continuous strands of Carbon fiber filament yarn are not significantly hazardous.

Hazards identified are:

- Mechanical irritation (itching)
- The formation of respirable dust and non respirable filaments
- Extremely rare possibilities of allergy.

4. FIRST AID MEASURES

General information

Immediate medical attention is not required

Inhalation

Move to fresh air. If symptoms persist, call a physician.

Skin contact

Wash off with plenty of warm water. Use a mild soap if available. If skin irritation persists, consult a physician.

Eye contact

Remove contact lenses. Rinse immediately with plenty of water, also under the eyelids, for at least 10 minutes. If eye irritations continues, consult a physician.

Ingestion

No special measures are necessary.

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5. FIRE-FIGHTING MEASURES

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 selfcontaining 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.

Further information

Fire residues and contaminated firefighting water must be disposed of in accordance with the local regulations.

6. ACCIDENTAL SPILLAGE

Personal precautions

Ensure adequate ventilation

Environmental precautions

No special environmental precautions required.

Methods for cleaning up/taking up

Disposed of absorbed material in accordance with the regulations. Take up mechanically.

7. HANDLING & STORAGE

Handling (Technical measures / Precautions / Safe handling advice) :

Take measures to prevent the build up of electrostatic charge.

Avoid dust formation

Storage (Technical measures / Storage conditions):

No special measures necessary. Recommended storage temperature: < 50°C, relative humidity: < 85°C

Incompatible material:

Not relevant

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Occupational exposure controls

Exposure Limit Values

OSHA 15mg/m³ (total dust.), 5 mg/m³ (respirable dust)

ACGIH 5mg/ m³ TWA (inhalable fraction), 1fibre/cm³ (respirable fractions)

UK, IRL OEL 5 mg/m³ TWA (inhalable dust), 2fibres/cm³ (respirable fraction)

Additional advice on system design:

Ensure adequate ventilation, especially in confined areas.

Personal protection equipment:

Respiratory protection

Breathing apparatus in the event of high concentrations. Short term: filter apparatus, Filter P1.

Hand protection

Butyl rubber, > 120 min (EN374)

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Eye protection

Safety glasses

Skin and body protection

Lightweight protective clothing

Hygiene measures

General industrial hygiene practice. Regular cleaning of equipment, work area and clothing.

Environmental exposure controls

No special environmental precautions required.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state:	Solid
Form:	Continuous filaments
Colour:	Black
Odour:	none

Specific temperature at which changes in physical state occur:

Melting point: for carbon fibre: 3500°C. Polymers melt at the under mentioned temperatures but COMFIL® -C Hybrid Yarn does not melt but changes in physical state will occur.

Polyethylene	approx. 135°C
Polypropylene	approx. 160°C
Polyethylene terephthalate	approx. 260°C
Polybutylene terephthalate	approx. 225°C
LPET	approx. 180°C

Decomposition temperature: the polymers begin to decompose at 280°C for PP, 300°C for PET and 300°C for PBT

Flash point: not applicable

Explosive properties: not applicable

Density: depends on the carbon fibre content by weight (density: 1.7 g/ml) and of the polymer (specific gravity: 0.9–1.4 g/cm³ according to the product)

Solubility: insoluble in water

10. STABILITY AND REACTIVITY

Stability

Stable at normal conditions. Hazardous polymerisation does not occur.

Conditions/Materials to avoid

Strong oxidation agents as well as strong acids and caustic.

Hazardous decomposition products

Carbon oxides, carbon monoxide and low-molecular-weight organic compounds depending on temperature and air supply.

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11. TOXICOLOGICAL INFORMATION

Acute Toxicity:	not relevant
Local effects:	may cause eye/skin irritation or irritation of respiratory tract.
Long term toxicity:	health injuries are not know or expected under normal use not carcinogenic (NTP, IARC, OSHA)

12. ECOLOGICAL INFORMATION

Carbon fibre is not soluble in water

The polymers, by virtue of their molecular weight and their nature, are without ecotoxicological effects.

Size and additives are organic materials slowly and only partial dissolved by natural agents like water. Their low concentration, and their very low solubility, leads to the conclusion that COMFIL®-C Hybrid Yarn is without ecotoxicological effects.

If subsequent processing involves the use of water, the waste water should be given the appropriate treatment in a purifying plan, in line with local regulations.

13. DISPOSAL CONSIDERATIONS

Depending on local regulations COMFIL®-C Hybrid Yarn waste can either be considered as inert waste or as common industrial waste. As such it can be landfilled, in compliance with local regulations.

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

14. TRANSPORT INFORMATION

COMFIL®-C Hybrid Yarn products are not considered as hazardous goods by transport regulations. They are not part of the hazardous classes listen in the international regulations.

They do no need special procedures under any regulation. For international transport in Europe by (ADR, RID, ADNR), sea (OMI) or air (OAC/IATA or to the US (DOT) or Canada (TDG), they are not shown as a risk category nor qualified by a UNO number or a packing group.

15. REGULATORY INFORMATION

COMFIL®-C Hybrid Yarn products do not require hazardous product labelling. They are articles and for this reason they have not to be listed in most of the countries, for instance in the list EINECS in Europe, ELINCS, TSCA for the US, DSL and NDSL for Canada.

General hygiene and work safety regulations apply.

16. OTHER INFORMATION

The information provided in this Safet Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. It is intended only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text. It is recommended that supplementary information be requested if an unusual application of hybrid yarn is intended.