

Para-Aramid woven Fabric

1. IDENTIFICATION OF THE SUBSTANCE OR PREPARATION AND THE COMPANY/UNDERTAKING

Product label name Poly-paraphenyleneterephthalamide	
Supplier MB Fibreglass 17 & 20 Abbey Business Park Mill Road, Newtownabbey BT36 7EE Tel: 02890 861992 (office hours only)	
E-mail address of person responsible for safety data sheet sales@mbfg.co.uk	
Emergency telephone Tel: 02890 861992 (Office Hours Only)	
Intended use Strength member in cables, Ballistic protection material, Elastomer reinforcement, Composites, protective apparel	
Date of last issue / Revision # 2007-05-31 / 1.04	

2. HAZARDS IDENTIFICATION

No health risks have so far become known in those cases where this fiber product has been handled and processed properly.

3. COMPOSITION/INFORMATION ON INGREDIENTS

This product is to be considered as a preparation in conformance to EC directives			
Information on hazardous ingredients			
Chemical description Poly-paraphenyleneterephthalamide			
Composition / information on ingredients			
Number	% w/w	CAS-number	Chemical name
1	50 - 100	026125-61-1	Poly-(para-phenylene-terephthalamide)

	Annex-1 number	EC-number	Symbol(s)	Risk-phrase(s)
1	Polymer			

Other information Additives: Absorbed water <8% , Sodium sulphate <3%, Fiber finish <1.2%, Water-blocking agents <5% (only Twaron type(s) 1052, 1002), PTFE <40% (only Twaron type(s) 1030 and 1031), Silicone oil <22% (only Twaron type(s) 1030), Medical white oil <10% (only Twaron type(s) 1031), Modified polyester resin <7% (only Twaron type(s) 1484, 1486 and 1488), Epoxy composition <0.4% (only Twaron type(s) 1014, 1015 and 1016), Fiber finish of Sodium and potassium salt(s) of Carboxylic acids <7% (only Twaron type(s) 2255), Polyether-polyurethane <7% (only Twaron type(s) 1684, 1686 and 1688) Fiber finish. The fiber product itself is not toxic. It may, however, contain up to 1,2% of a fiber finish. If the product is intended for special applications, e.g. in the food industry, please consult the manufacturer prior to application. So far no impairment of health has become known in cases where the product has been used for its intended application.. In cases where the product is heat-treated at temperatures of between 130 and 190 °C, the applied fiber finish may evaporate or decompose. If water is used for further treatment, the waste water generated by the process must be treated in a water purification plant in compliance with local regulations. Residual solvents: none.

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Fibers and yarns are generally provided with finishes to facilitate processing. If necessary, these finishes, and also coning oils or sizing agents, can generally be removed in an aqueous medium.

4. FIRST AID MEASURES

Symptoms and effects

Dust may be irritating to the respiratory tract and cause symptoms of bronchitis.

First aid

General

In all cases of doubt, or when symptoms persist, seek medical attention.

Inhalation

During the processing and application of the fibers, small amounts of dust (including dust particles of respirable size) may be given off.

A health risk caused by the inhalation of Twaron dust particles does not exist if our safety instructions are observed. Fiber fly, dust and decomposition products of the fiber finishes must be avoided by ensuring adequate extraction and ventilation.

Factory safety regulations must be strictly observed.

Persons who have been exposed to excessive quantities of fiber dust or fly should immediately go outside into the fresh air. They should seek medical attention if coughing or other symptoms develop

Skin

Suitable protective clothing should be worn in order to avoid possible skin irritation (slight skin irritation has been observed in isolated cases). If skin irritation does occur, wash thoroughly with soap and water. Seek medical attention if the irritation persists

Eye

Rinse thoroughly with plenty of water. Eyelids should be held away from the eyeball to ensure thorough rinsing. Seek medical advice if irritation develops.

Ingestion

Rinse mouth, give water to drink.

Advice to physician

No specific recommendations.

5. FIRE-FIGHTING MEASURES

Extinguishing media

All extinguishing products are allowed.

Unsuitable extinguishing media

Water, if the fire was caused by an electrical short circuit.

Hazardous decomposition/ combustion products

Depending on temperature and air supply, conflagration gases may contain: Carbon dioxide, carbon monoxide, organic compounds of low-molecular weight and hydrogen cyanide in low concentration.

Decomposition products are roughly comparable with those of wool.

Protective equipment

Wear self contained breathing apparatus.

Fire and explosion hazard

Do not inhale explosion or combustion vapours.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions

Do not breathe dust. For personal protection see Section 8.

Environmental precautions

No special measures required.

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Methods for cleaning up

Prior to cleaning up, study the sections "Fire-fighting measures" and "Handling and storage". Use suitable "personal protective equipment" when cleaning up.

7. HANDLING AND STORAGE

Handling

The usual precautions for handling chemicals should be observed.

Fire and explosion prevention

Avoid dust generation.

Storage requirements

Store in a dry place.

Other information

All bobbins, storage cartons and bales must be stored in compliance with relevant regulations and in accordance with good handling and storage practice.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering controls

Use extraction and ventilation equipment to reduce the occurrence of fiber fly, fiber dust and decomposition products of the finish.

Personal protection

Respiratory

In case of insufficient ventilation wear adequate respiratory protection (respirator with filter P2). This is required in cases where a maximum concentration of 1 RFP/ml of air is exceeded.

Hand

Wear protective gloves.

Eye

safety glasses.

Generally not required when manually handling yarn. Wear safety glasses with side shields in the vicinity of rapidly rotating yarn processing equipment.

Skin and body

Yarns which are processed at high speeds can cause abrasions and cuts. It is therefore advisable to avoid skin contact with these potential sources of injury.

Poly-(para-phenylene-terephthalamide)

Time Weighted Average (TWA)

0.5 fibers / ml

Respirabel dust

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

filament yarn, spinning fiber, staple fiber, cut fiber

Colour

yellow

Odour

odourless

Melting point/range

does not melt

Flash point

not determined

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Flammability not determined
Oxidising properties not relevant
Vapour pressure not applicable
Density 1440 kg/m ³
Bulk density not applicable
Solubility in water negligible
Solubility in other solvents not determined
Partition coefficient n-octanol/water not determined
Relative vapour density (air=1) not relevant
Viscosity not applicable
Autoignition temperature not determined

10. STABILITY AND REACTIVITY

Conditions to avoid
Temperatures of over 500 °C will cause decomposition of the products and molecular disintegration. Strong bases and acids will cause chemical decomposition (hydrolysis) of the molecules if allowed to react for a relatively long duration
Stability Stable under recommended storage and handling conditions (see section 7).
Incompatibles Aromatic polyamides react with strong oxidising agents. If allowed to act on the fibers for a relatively long time, UV light will cause a darkening of their inherent yellow colour and will also adversely affect their strength.
Decomposition Carbon dioxide, carbon monoxide (CO). Diverse organic compounds of low molecular weight, which were analysed by Akzo Nobel Research. (Literature: Dr. Kunnes, 01.08.1988 Simulation des Brandverhaltens von Twaron). Hydrogen cyanide.
Other information Polymerization does not occur

11. TOXICOLOGICAL INFORMATION

<p>The fiber product (polymer) is non-toxic. Usually the fibers are treated with about 1% finish. All additives are non-toxic according to the safety datasheets of their manufacturers. The following information does not relate to the intact fibers but only to respirable, fiber-shaped particulates (RFP), which may be found in small numbers in the workplace atmosphere due to abrasive processing. RFP are fragments with diameters of less than 3 µm, lengths up to 100 µm and a length/diameter ratio of at least 3:1. Short term and subchronic (3 months) inhalation studies in rats and hamsters with an extended follow-up of up to nine months have demonstrated that p-Aramid RFP are not biopersistent. Long p-Aramid RFP are quickly transversely broken into smaller fragments and then removed from the lung. However, extremely high amounts of inhaled p-Aramid RFP may inhibit the clearance mechanism. 25 RFP/ml of air has been established as the "no observed adverse effect level" in subchronic study. Inhalation of high concentrations of RFP causes pulmonary inflammation in rats and hamsters and overload phenomena in rats. Lifelong exposure to concentrations of 100 and 400 RFP/ml caused pulmonary fibrosis in rats. The fibrosis was largely reversible after cessation of exposure.</p>

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No malignant tumors resulted from the lifelong inhalation tests in rats. Instead, proliferative cystic tissue changes were observed in rats after exposure to particulates. They occur mainly in (female) rats and have never been observed in human beings. These cysts were subject of scientific debate for an extended period of time, but current consensus holds that they are not malignant and that their occurrence in animals has no relevance to humans .

Intraperitoneal injections of excessive amounts of p-Aramid RFP caused only a non significant increase in the observed number of mesotheliomas. The validity of the intraperitoneal test for the prediction of carcinogenicity is questionable. Slight skin irritation has been observed in isolated cases (See also Section 4).

In the event that the product is to be used in special areas of application, e.g. food industry or the medical/surgical sector, please consult us beforehand.

12. ECOLOGICAL INFORMATION

The fiber product (polymer) is ecologically safe. In cases where the product is heat-treated at temperatures of over 120°C, the applied fiber finish may evaporate or decompose.

If water is used for further treatment, the waste water generated by the process must be treated in a water purification plant in compliance with local regulations. If necessary, these finishes can generally be removed in an aqueous medium.

13. DISPOSAL CONSIDERATIONS

Product

The fiber product must be disposed of in the same way as non-hazardous industrial waste in an authorized waste disposal facility and in compliance with local regulations.

Contaminated packaging

No specific recommendations.

14. TRANSPORT INFORMATION

Land transport

Class

not restricted

Classification Code

not relevant / not relevant

RID class

not restricted

Hazard Identification No.

none

Substance Identification No.

none

TREM-Card or ERG number

not relevant

UN number

none

Proper Shipping Name

not relevant

Sea transport (IMDG-code/ IMO)

Class

not restricted

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Packing group none
UN number none
EMS not relevant
Marine pollutant no
Proper Shipping Name not relevant

<i>Air transport (ICAO-TI/ IATA-DGR)</i>	
UN number none	
Class not restricted	
Packing group not restricted	
Proper Shipping Name not relevant	

15. REGULATORY INFORMATION

Product label name Poly-paraphenyleneterephthalamide
Labelling according to EC directives
EC-number The fiber product is not hazardous within the meaning of national and international regulations/provisions

R(isk) phrase(s)	
Code	Description
none	none

S(afety) phrase(s)	
Code	Description
none	none

16. OTHER INFORMATION

R-phrase information		
Chemical name	R(isk) phrase(s)	
Poly-(para-phenylene-terephthalamide)		

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History	
Other information	<p>The information given in this Safety Datasheet for Man-made Fibers refers exclusively to the fiber product described herein. It covers neither its use in combination with any other material/preparation/product nor its use in any process.</p> <p>The purpose of this Safety Datasheet for Man-made Fibers is to make adequate and correct information available to commercial users of man-made fibers for the protection of human beings and the environment. The information given in this Safety Datasheet for Man-made Fibers reflects the standard of knowledge of the party completing the sheet at the time of printing. It is not a contractual guarantee of product properties.</p>
Date of printing/ pdf file generated	2007-10-08
Revision	1.04
Composed by	Dr. P. Thomas J. Roos
Changes were made in section	1, 2, 3
<p><small>This information only concerns the above mentioned product and does not need to be valid if used with other product(s) or in any process. The information is to our best present knowledge correct and complete and is given in good faith but without warranty. It remains the user's own responsibility to make sure that the information is appropriate and complete for his special use of this product.</small></p>	