TOYOBO TOYOBO MC Corporation

Product Name PBO fiber ZYLON
First issue : Aug. 10, 2000
Revised : Oct. 3, 2025
MSDS No. M0716F

MATERIAL SAFETY DATA SHEET

1 PRODUCT AND COMPANY IDENTIFICATION

Product Name	PBO fiber ZYLON®
SUPPLIER	
Name	TOYOBO MC Corporation
Address	Osaka Umeda Twin Towers South, 1-13-1 Umeda, Kita-ku, Osaka 530-8230 JAPAN
Telephone No.	+81-6-6348-3130
Fax No.	+81-6-6348-3413
Recommended use	Woven fabric, Knitted fabric, Felt, Rope&Cable, FRP, FRR, etc
Restrictions on use	Medical product

2 HAZARDS IDENTIFICATION

Most Important Hazards	Few adverse human health effects are anticipated.
Specific Hazards	Since it is high strength, the fiber can severely cut fingers or skin. Decomposes and emits toxic fumes at higher than 600℃.
GHS Classification	Not classified

3 COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Product (substance/mixture)	Article
Chemical Name	Poly[Benz(1,2-D:5,4-D')bisoxazole-2,6-diyl-1,4-phenylen]
Synonym	1,4-benzenedicarboxylic acid, polymer with 4,6-diamino-1, 3-benzenediol dihydrochloride
CAS No.	60857-81-0
Components Contributing to the Hazard	Substances classified as hazardous are less than 1%.
GHS Classification	Not classified

4 FIRST-AID MEASURES

Inhalation	Remove to fresh air if effect occurs. Consult a physician.
Skin Contact	Wash off in running water or shower.
Eye Contact	Flush eyes with plenty of water. If irritation persists, seek medical attention.
Ingestion	Induce vomiting. If indisposition continues, seek medical attention.

5 FIRE-FIGHTING MEASURES

Extinguishing Media	Water, Foam, Dry Chemical
Specific Hazards	Decomposes and emits toxic fumes such as hydrogen cyanide under fire or in environments above 600℃.
Protection of Firefighters	Wear self-contained breathing apparatus and protective clothing at large scale fires.

6 ACCIDENTAL RELEASE MEASURES

Personal Precautions	Can severely cut or even sever fingers when entangled.
Environmental Precautions	May entangle and injure wild animals.
Methods for Cleaning up	Sweep up with a vacuum cleaner or a broom.

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7 HANDLING AND STORAGE

HANDLING

Technical Measures	When cutting or handling short fibers, minimize the generation of fine fibrils. When fine fibrils are being generated, use with a local exhaust system. To avoid damage to equipment or injury to personnel, equipment used to process high strength fiber should have fail-safe mechanisms in case of entanglement.
Precautions	Good ventilation is needed at work area. If dust exposure causes eye discomfort, use chemical goggles.
Safe Handling Advice	Since high strength fiber can severely cut or even sever fingers, avoid touching a moving thread line. Avoid entanglement in a moving thread line as bodily injury may result.

STORAGE

Technical Measures	No special measures needed.
Storage Conditions	To maintain the mechanical properties, the fiber is to be stored free from exposure to light, high temperature and humidity.
Incompatible Products	None
Packaging Materials	To maintain the mechanical properties, store in light-proof package.

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING MEASURES Good ventilation should be sufficient for most conditions. A local exhaust system may be necessary for some operations.

PERSONAL PROTECTIVE EQUIPMENT

Respiratory Protection	When cutting or mechanically working this material, wear an approved high-efficiency particulate respirator.
Hand Protection	In order to prevent skin-abrasion or friction-burn, put on heat-resistant gloves.
Eye Protection	Use safety glasses. If dust exposure causes eye discomfort, use chemical goggles.
Skin and Body Protection	In order to prevent skin-abrasion or friction-burn, protective clothing should be worn.

9 PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Solid (long fibers)
Color	Golden yellow to reddish brown
Odor	None
pH	Not applicable
Boiling Point	Not applicable
Melting Point	Not applicable
Decomposition Temperature	600℃ and above
Flash Point	600℃ and above
Explosion Temperature	None at ambient temperature
Density	1.54 to 1.56 g/cm^3
Solubility	Insoluble in Water. Partially soluble in aqueous strong acid.

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10 STABILITY AND REACTIVITY

Stability	Stable
Possible Hazardous Reactions	None
Conditions to Avoid	Avoid open fire, heated environment at over 600℃.
Hazardous Decomposition Products	Hydrogen cyanide during incineration.

11 TOXICOLOGICAL INFORMATION

Acute Toxicity	Not available
Local Effects	
Inhalation	Fibrils could be inhaled and may cause respiratory irritation.
Skin Contact	Fibers may cause slight irritation especially at clothing binding points.
Eye Contact	Could cause mechanical irritation upon eye contact.
Subchronic Toxicity	Data on other types of fibers suggest that repeated excessive inhalation exposures to air borne fibrils may cause respiratory irritation and lung effects / injury.
Specific Effects	
Carcinogenicity	Lung injury and tumors have been observed in laboratory animals exposed to respirable fibrils of another structurally similar material for two years.
Mutagenicity	Negative

12 ECOLOGICAL INFORMATION

Mobility	Unlikely to move in environment.
Persistence/Degradability	Persists for a long time in the environment.
Bioaccumulation	Unlikely to occur.

13 DISPOSAL CONSIDERATIONS

Waste from Residues	Dispose of in accordance with all applicable local and national laws and regulations.
Contaminated Packaging	Dispose in the same way as the material.

14 TRANSPORTATION INFORMATION

International Regulations	
UN Classification Number	Not classified Follow all of the laws and regulations in your country
Specific Precautions	Do not drop, overturn, or destroy containers for heavy load. To prevent packages from breaking, keep dry and handle with care.

15 REGULATORY INFORMATION

Follow all of the laws and regulations in your country.
This falls under industrial waste and waste plastics in Japan.

16 OTHER INFORMATION

Notice	The information in this MSDS, to the best of our knowledge, is accurate and correct. However, TOYOBO makes no warranty and assumes no liability whatsoever in connection with any use of this information. The MSDS is subject to revision as new information becomes available.

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