



Benetex® OB-1

Optical Brightener, Fluorescent Whitening Agent

Introduction: Benetex® OB-1 is a heat resistant and chemically stable fluorescent whitener that increases whiteness and provides brighter looking colors. It is used to offset the yellowness of a polymer and to yield a whiter appearance. Optical brighteners create brilliance by a fluorescence process involving absorption of invisible UV light and emission of visible blue light. Benetex® OB-1 is especially useful in polyester and nylon fibers, as well as in high temperature engineering plastics.

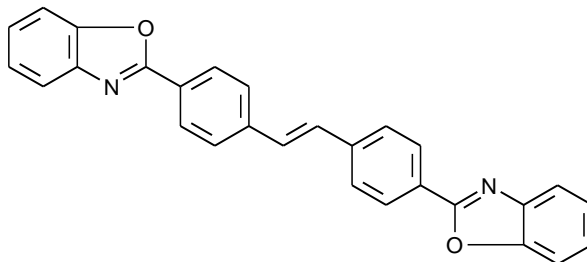
Material Description: Fluorescent Whitening Agent

Chemical Name: 2,2'-(1,2-ethenediyl)bis(4,1-phenylene)bisbenzoxazole

Empirical Formula: C₂₈H₁₈N₂O₂

CAS #: 1533-45-5

Chemical Structure:



Physical Properties:

Appearance:	Yellowish powder
Molecular Weight:	414.4
Melting Range:	≥359°C
Assay:	99% Min
Specific Gravity (20°C)	1.39
Decomposition Temperature	>400°C

Solubility at 25°C (percent by weight):

Solvent	Solubility
Acetone	<0.01%
Chloroform	<0.01%
<i>n</i> -Hexane	<0.01%
Methanol	<0.01%
Water	<0.02 mg/L

Applications: Benetex® OB-1 is recommended to increase the whiteness of polyester and polyamide fibers as well as high temperature engineering plastics, including polycarbonates, polyesters, and polyamides (nylon). The product can also be used in styrenic and acrylic polymers.

Advantages:

- Brilliant, neutral white cast that compensates for yellowing
- Low volatility and excellent heat resistant make the product ideal for use in fibers and in engineering plastics processed at high temperatures
- In combination with dyes, produces particularly bright shades
- Good light fastness

Loading

Instructions: The loading data and results are based on laboratory work (and field-testing) under controlled conditions and do not necessarily indicate the result that the buyer or user will attain. For this reason we strongly recommend testing of your own system under the actual conditions of processing and end-use prior to full scale testing. The recommended loading levels range between 100 and 1000 ppm depending on substrate, processing conditions, and long-term stability requirements. Benetex® OB-1 can also be used alone or with a variety of blends including ultraviolet light absorbers (UVA). If Benetex® OB-1 is used in combination with a UVA the loading levels must be increased. Exact loading must be determined by compositions of the specific polymer system.

Due to the high melting point of the product (359°C), care must be taken to ensure complete dispersion when Benetex® OB-1 is used in polymers processed at lower temperatures such as styrenics and acrylics.

Packaging: Benetex® OB-1 is available in powder form in a 25 kg (55.1 pound) fiber drum, net weight, with an inner PE liner.

Storage: This product may be stored up to one year in a sealed container. Containers should be stored in a cool, dry area. Extended storage at elevated temperatures or exposure to direct heat or sunlight could reduce product life. Keep containers sealed when not in use.

Toxicity & Safety:

This material is not intended for use in products for which prolonged contact with mucous membranes or abraded skin, or implantation within the human body is specially intended, unless the finished product has been tested in accordance with the Food and Drug Administration and/or other applicable safety testing requirements. Because of wide range of such potential uses, Mayzo, Inc. is not able to recommend this material as safe and effective for such uses and assumes no liability for any such uses. Read and understand the Material Safety Data Sheet before using or handling this product.

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