

Benetex[®] OB-EP

Optical Brightener, Fluorescent Whitening Agent

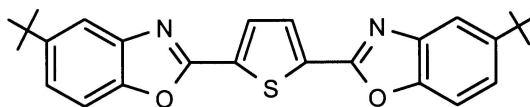
Introduction: Benetex[®] OB-EP is a water emulsifiable, chemically stable fluorescent whitener that provides brighter looking colors. It is used to offset the yellowness of a polymer and to yield a whiter appearance. Optical brighteners create brilliance by absorbing UV light, modifying the wavelength of the light and then emitting the light in a fluorescent fashion. Benetex[®] OB-EP can also be used as a tracer in various applications and as an optical brightener in aqueous based coatings, printing inks, and dyes.

Material Description: Emulsifiable Fluorescent Whitening Agent

Chemical Name: 2,2'-(2,5-thiophenediyl)bis(5-tert-butylbenzoxazole) (Active Ingredient in proprietary Formulation)

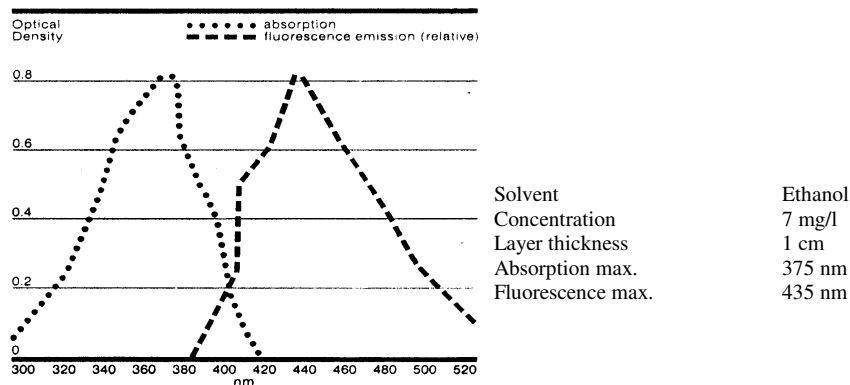
CAS #: 7128-64-5 (Active Ingredient)

Chemical Structure:



Physical Properties:	Appearance:	Clear Straw colored liquid
	Molecular Weight:	N/A
	Flash point:	>200°F
	Specific Gravity (H ₂ O = 1):	1.05 – 1.1
	Boiling point:	Not Available
	Vapor Pressure:	Not Determined
	Vapor Density:	Not Determined
	Solubility:	Emulsifies in Water
	pH:	N/A
	% Transmittance:	450nm – 90% Min
	(Active Ingredient)	500nm – 93% Min

Absorption Spectrum: Extinction and Fluorescence Emission Curves (Active Ingredient in powdered form)



Applications: **Coatings** – Benetex[®] OB-EP provides an excellent means to determine coverage of either conventional or UV cure aqueous coatings. Small amounts act as a tracer which, when viewed under a black light, indicate whether or not uniform coating coverage has been achieved. This is especially useful for clear coatings where coverage can be difficult to determine by conventional means. Benetex[®] OB-EP can also be used to offset the yellowness of coatings to yield a whiter appearance.

Printing Inks - Benetex[®] OB-EP may be used in aqueous printing inks to facilitate the quick identification of security bonds, and also as a safeguard against forgeries (bank notes). Benetex[®] OB-EP may also be combined with dispersible dyes/pigments to produce particularly bright shades. The effect is especially pronounced in pastel shades.

Main applications - Include aqueous clear coatings, paints, and printing inks.

Advantages:

- Brilliant, bluish white effect that compensates for yellowing
- Good light fastness
- Exceptional whitening properties
- Water dispersible
- Useful as a tracer in clear coatings
- In combination with dyes and pigments, produces particularly bright shades

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 concentrations in aqueous coatings range between 0.25% and 5.0% depending on substrate, processing conditions, and long-term stability requirements. If Benetex[®] OB-EP is used in combination with an UVA the loading levels must be increased. Exact loading must be determined by compositions of the specific polymer system.

Packaging: Benetex[®] OB-EP is available in liquid form in 35-gallon (250-lb) plastic drums.

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.

FDA Regulation: See the Benetex[®] OB for the FDA approvals for the dry powder.

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