

Tinopal® OB

Technical DataSheet | Supplied by BASF

Tinopal® OB by BASF is a 2,5-thiophenediylbis(5-tert-butyl-1,3-benzoxazole). It is a high molecular weight optical brightener / fluorescent whitening agent of the thiophenediyl benzoxazole class. Tinopal® OB features excellent resistance to heat, exceptional whitening properties, good light fastness and low volatility. It has a brilliant bluish cast, is readily soluble in organic solvents and features good compatibility in various substrates. Suitable for the optical brightening of polymers at all stages of processing. It is highly effective in polymer substrates such as engineering plastics such as polyesters, polycarbonate, polyamides and acrylics, thermoplastic polyurethane, polyvinylchloride, styrene homo- and copolymers, polyolefins and other organic substrates. Main applications include synthetic leather, fibers, molded articles, films and sheets as well as packaging applications. The use levels range between 0.0005-0.0010 % in unpigmented polyolefins and 0.005-0.100 % in other plastics.

Product Type	Optical Brighteners / Whitening Agents
Chemical Composition	2,5-thiophenediylbis(5-tert-butyl-1,3-benzoxazole)
CAS Number	7128-64-5
Physical Form	Powder
Appearance	Yellow, Greenish
Product Status	COMMERCIAL
Applications/ Recommended for	PVC TPE and TPV > TPU (or TPE-U) PC Other Thermoplastic > Other Polyester PA, Nylon Fibers/ Textiles/ Carpets > Fibers Packaging Mechanical/ physical performance > Thermal resistance Safety, regulation & environment > Low volatiles Visual aspect & aesthetics > Whitening / brightening

Tinopal® OB Properties

Property	Value & Unit	Test Condition	Test Method
Melting Point	196 - 202 °C		
Flash Point	> 350 °C		

Vapor Pressure	2.6x 10 ⁻⁸ Pa	At 25°C
Molecular Weight	430.6 g/mol	
Volatility	280 °C	At Pure Substance. TGA. Heating Rate in Air. 20°C/min. 1.0% Wt Loss
Volatility	310 °C	At Pure Substance. TGA. Heating Rate in Air. 20°C/min. 2.0% Wt Loss
Specific Gravity	1.26	At 20°C
Bulk Density	0.30 - 0.40 g/ml	
Angle of Repose	48 - 55 °	
Volatility	325 °C	At Pure Substance. TGA. Heating Rate in Air. 20°C/min. 5.0% Wt Loss

Solubility	Element	Test Condition	Test Method
Soluble in	Organic Solvent		
Soluble in	Acetone (At 20°C, 0.5%)		
Soluble in	Chloroform (At 20°C, 14%)		
Soluble in	Methanol (At 20°C, <0.1%)		
Soluble in	Water (At 20°C, <0.01%)		
Soluble in	n-Hexane (At 20°C, 0.2%)		
Soluble in	Ethyl Acetate (At 20°C, 1%)		

Compatibility with other products

Find products that are predicted to be compatible with Tinopal® OB.

This list of compatible products is generated out of estimated HSP values. A practical determination of these HSP values would provide higher certainty.

[Learn more about Hansen Solubility Parameters \(HSP\) and their use in predictive formulation](#)

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