

DESCRIPTION

Tyzor® TPT-15B and Tyzor® TPT-20B are mixtures of highly reactive Tyzor® TPT and Tyzor® TnBT organic alkoxy titanates. They are clear, colorless-to-yellowish liquids that are very sensitive to moisture. Unlike Tyzor® TPT, which freezes at 19 °C (66.2 °F), these products have pour points below -30 °C (-22 °F), yet they offer similar reactivity.

APPLICATIONS

REACTION CATALYST

Tyzor® TPT-15B and Tyzor® TPT-20B are effective Lewis acid catalysts for esterification, transesterification, condensation and addition reactions, and they also are useful as Ziegler-Natta catalysts for polymerizations. Typical reaction products include, (meth)acrylic esters, polyester, plasticizers, various esters and polyurethanes. Tyzor® TPT-15B and Tyzor® TPT-20B can be stored and used at relatively low temperatures. They are low in toxicity, eliminate by-products and increase yields. They are easy to work with and can be used at low concentrations.

COATINGS

Glass, metals, fillers and pigments can be treated with Tyzor® TPT-15B and Tyzor® TPT-20B to increase surface hardness, promote adhesion and improve resistance to heat, chemicals, corrosion and scratches. They also can be used to add coloring effects, enhance light reflection or iridescence.

PAINT ADDITIVES

Tyzor® TPT-15B and Tyzor® TPT-20B can serve as binders and adhesion promoters, and they cross-link functional polymers or other binders in paints.

TiO₂ PIGMENTS AND FILMS

Micro- or nano-scale TiO₂ pigments can be formed with Tyzor® TPT-15B or Tyzor® TPT-20B, and they also can be used to create polymeric TiO₂ surface films via pyrolytic or hydrolytic processes. In sol-gel applications with other metal alkoxides, total or partial hydrolysis of Tyzor® TPT-15B or Tyzor® TPT-20B yields metal oxide systems for binders or coatings.

HOW TO USE

Tyzor® TPT-15B and Tyzor® TPT-20B are usually formulated with other ingredients in catalysis, cross-linking or paint applications, and they are typically added last to prevent undesired pre-reactions with water or other system components. For adhesion-promotion or surface-modification, they are often applied as primers from dilute solution.

TYPICAL PROPERTIES

PROPERTY	TYPICAL VALUE	
	TPT-15B	TPT-20B
TiO ₂ , %, approx.	27.5	27.1
Active content, wt. %, approx.	100	
Color	Colorless to pale yellow	
Density @ 20 °C (68 °F), g/cm ³ (lb/gal), approx.	0.97 (8.10)	
Viscosity @ 20 °C (68 °F), mPa, approx.	20	
Freezing point, °C (°F), approx.	-30 (-22)	
Boiling point, @ 10mm Hg, °C (°F), approx.	220 (428)	
Flash point °C (°F)	42 (107.6)	
Refractive index	1.5	
Solubility	Miscible in most organic solvents. Decomposes in water.	

SAFETY AND HANDLING	Please refer to the current Material Safety Data Sheet for safety, handling and toxicity information.
TYPICAL SHELF LIFE	2 years



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