

DESCRIPTION

Tyzor® BTM is a highly reactive organic alkoxy titanate with 100 % active content. Tyzor® BTM is a clear colorless to pale yellow liquid that is very sensitive to moisture.

FUNCTIONALITY

Tyzor® BTM acts as a Lewis acid catalyst in processes such as esterification, transesterification, condensation, addition, etc. It is also a useful catalyst in olefin polymerization (Ziegler-Natta) reactions.

Tyzor® BTM can effect adhesion promotion and cross-linking of polymers, or form polymeric titanium dioxide layers used as a binder or coating.

APPLICATIONS**Reaction Catalyst**

Tyzor® BTM is used as a catalyst for esterification, transesterification, condensation, and addition reactions. Typical reaction products include, (meth)acrylic esters, polyester, plasticizer, various esters, polyurethanes, etc. The benefits of using Tyzor® BTM include elimination of by-products, increased yield, easy work-up, low catalyst concentration, and low toxicity.

Polymerization

Tyzor® BTM is used as a Ziegler-Natta catalyst in the synthesis of polyolefins, such as polyethylene, polypropylene, etc.

Coatings

Glass, metals, fillers, and pigments can be treated with Tyzor® BTM to give increased surface hardness, adhesion promotion, coloring effects, heat and light reflection, iridescence, and corrosion resistance.

Paint Additive

Tyzor® BTM can be used as an additive in paints to cross-link –OH functional polymers or binders, promote adhesion, or act as a binder itself.

TiO₂ Pigment and Films

Micro- or nano-scale TiO₂ pigments can be formed from Tyzor® BTM. It can also be used to create a polymeric TiO₂ film on surfaces via pyrolytic or hydrolytic (e.g. sol-gel) processes.

HOW TO USE

Tyzor® BTM is usually formulated with the other ingredients in catalysis, crosslinking, or paint applications. The titanate is often added as the last ingredient to prevent undesired pre-reactions with water or other components. For adhesion promotion or surface modification applications, Tyzor® BTM may also be applied as a primer from dilute solution.

In coating applications, thin, polymeric TiO₂ layers may be formed by thermal or hydrolytic processes.

In sol-gel applications, total or partial hydrolysis of Tyzor® BTM, often in combination with other metal alkoxides, affords metal oxide systems for use as binder or coating.

TYPICAL PROPERTIES	PROPERTY	TYPICAL VALUE	ASTM METHOD
	Ti Content	ca. 14 %	
	Active Content	ca. 100 %	
	Molecular Weight	340 g/mol	
	Color	Yellow	
	Specific Gravity (25°C)	0.99	
	Viscosity (25°C)	ca. 65 cp	
	Pour Point	ca. -70 °C	
	Boiling Point	ca. 246 °C	
	Flash Point**	ca. 47 °C	
	Refractive Index	ca. 1.493	
	Solubility in Solvents	Miscible in most organic solvents	
	Solubility in Water	Decomposes Quickly	
GLOBAL REGISTRATION INFORMATION	Please refer to "Tyzor Global Registration Information" Bulletin		
SAFETY and HANDLING	For specific safety, handling and toxicity information, please refer to the current Material Safety Data Sheet.		
TYPICAL SHELF LIFE	2 years		

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