

DORF

Tyzor® GBA and GBO

Organic Titanates

DESCRIPTION

Tyzor® GBA and Tyzor® GBO are specialty grades of titanium chelates. These products contain a mixture of alcohols to keep the products liquid even at low storage temperatures. Tyzor® GBA and GBO are yellow to red colored organic liquids.

FUNCTIONALITY

Tyzor® GBA and Tyzor® GBO can effect adhesion promotion, crosslinking of various functional polymers, and formation of polymeric titanium dioxide layers as binder or coating.

These products can also act as Lewis acid catalysts in applications such as esterification, transesterification, condensation, addition etc.

APPLICATIONS

Printing inks	Tyzor® GBA and Tyzor® GBO are excellent cross-linkers and adhesion promoters in solvent based printing inks (e.g. based on nitrocellulose) to improve the drying rate, solvent resistance, heat resistance, and adhesion to substrates.
Coatings	Glass, metals, fillers, and pigments can be treated with Tyzor® GBA and Tyzor® GBO to give increased surface hardness, adhesion promotion, scratch resistance, coloring effects, heat and light reflection, iridescence, and corrosion resistance.
Paint Additives	Tyzor® GBA and GBO can be used as an additive in paints to cross-link -OH and -COOH functional polymers or binders, promote adhesion, or act as a binder itself.
Catalysis	These products catalyze esterification and transesterification for various esters and polyesters, polycondensation, and addition reactions for polyurethanes. Benefits include elimination of by products, high yield, easy work-up, and low catalyst concentration.

HOW TO USE

Tyzor® GBA and Tyzor® GBO can be applied as additives, as coating primers, or in sol-gel systems as the base material.

As additives, these titanates are often added as the last ingredient to prevent undesired pre-reactions with water or other formulation components. For cross-linking reactions, they are typically added to the polymer or binder.

As primers, Tyzor® GBA and Tyzor® GBO are generally applied to the substrate at very low concentration in a dry organic solvent.

In sol-gel applications, total or partial hydrolysis of Tyzor® titanium acetylacetonates, typically in combination with other metal alkoxides, affords metal oxides for use as a binder or coating.

TYPICAL PROPERTIES	PROPERTY	TYPICAL VALUE	
		GBA	GBO
	TiO ₂ , %	16.4	12.7
	Active Content, %	75	60
	Color	Orange to Red	
	Solvent	Isopropanol, Butanol, Methanol	
	Specific Gravity	1.02	0.95
	Viscosity, cps	60	<10
	Pour point, °C	-42	< -42
	Boiling Point, °C	70	70
	Flash point, °C	12	12
	Solubility in Solvents	Miscible in Most Organic Solvents	
	Solubility in Water	Decompose	

**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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