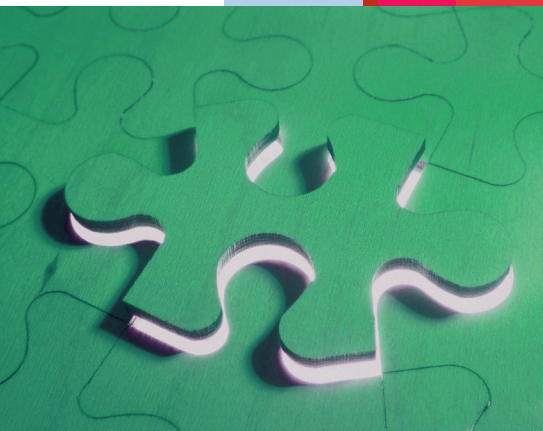


DuPont™ Tyzor®

ORGANIC TITANATES

Product Information for Tyzor® TPT



Description

DuPont™ Tyzor® TPT (tetra-isopropyl titanate) is a highly reactive organic alkoxy titanate with 100% active content. It is a clear, colorless to yellowish liquid that is very sensitive to moisture. With a freezing point of approximately 19°C (66°F), Tyzor® TPT may crystallize at low temperatures. If crystallization occurs, the product can be readily re-dissolved by warming and agitation.

Typical Properties* of Tyzor® TPT

Property	Value	Unit
TiO ₂ Content	ca. 28.1	%
Active Content	ca. 100	%
Color	Colorless to Pale Yellow	
Molecular Weight	284	g/mol
Density (20°C)	ca. 0.95	g/mL
Viscosity (20°C)	ca. 3.5	mPa·s
Freezing Point	ca. 19	°C
Boiling Point (at 10 mmHg)	ca. 232	°C
Flash Point**	ca. 56	°C
Solubility in Solvents	Miscible in most organic solvents	
Solubility in Water	Decomposes quickly	

* This table gives typical properties. DuPont does not make any expressed or implied warranty that this product will continue to have these typical properties.

** Flash point may be lower after exposure to moisture.

Functionality

Tyzor® TPT acts as a Lewis acid catalyst in processes such as esterification, transesterification, condensation and addition. It can also be used to effect adhesion promotion and cross-linking of polymers, or to form polymeric titanium dioxide layers used as a binder or coating.



The miracles of science™

Applications

Reaction catalyst

DuPont™ Tyzor® TPT is used as a Lewis acid catalyst for esterification, transesterification, condensation and addition reactions, or as a Ziegler-Natta catalyst for polymerizations. Typical reaction products include, (meth)acrylic esters, polyester, plasticizer, various esters and polyurethanes. The benefits of using Tyzor® TPT include: elimination of by-products; increased yield; easy work-up; low catalyst concentration; and low toxicity.

Coatings

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

Paint additive

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

TiO₂ pigments and films

Micro- or nano-scale TiO₂ pigments can be formed from Tyzor® TPT. It can also be used to create a polymeric TiO₂ film on surfaces via pyrolytic or hydrolytic processes.

Use

Tyzor® TPT is usually formulated with other ingredients in catalysis, cross-linking, 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® TPT can 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® TPT, typically in combination with other metal alkoxides, yields metal oxide systems via a sol-gel process for use as a binder or coating.

Put Tyzor® to Work for You

The broad range of Tyzor® organic titanates and zirconates allows you to select the optimum grade to meet your specific needs, enabling you to produce superior quality products for a wide variety of applications and market segments.

And, with warehouses in every region and an integrated global network of highly trained sales and technical service professionals available to assist you, it is easy and convenient to put Tyzor® to work in your application anywhere in the world.

Contact Information

For more information about the extensive line of DuPont™ Tyzor® organic titanates and zirconates, please contact:

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Wilmington, Delaware
Pricing and Orders: 800-441-9508
Technical Support: 800-255-4596
Fax: 302-992-2695

South America

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