

DuPont™ Tyzor® Organic Titanates

Product Information - Tyzor® CLA

Description

DuPont™ TYZOR® CLA is a reactive organic titanium chelate with triethanolamine and acetylacetonate as chelating agents, containing 23 % of free isopropanol. TYZOR® CLA is a yellow to amber organic flammable liquid. The main use

of TYZOR® CLA is for cross-linking in aqueous systems and metal corrosion protection. TYZOR® TE is soluble in or, miscible with many organic solvents or products. It is soluble with water.

Typical Properties of TYZOR® TE *

Property	Value	Unit
TiO ₂ content	15	%
Density (20 °C)	1.02	g/cm ³
Odor	Alcoholic	
Volatiles	23	%
Flash point	13	°C
Shelf Life	2	Years from Qualification

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

Reactions

TYZOR® CLA reacts with water under hydrolysis splitting off isopropanol and forming a reactive hydroxy titanium chelate. The chelate is stable in water for a time period dependent on the pH and temperature of the solution and concentration of organic alcohols. This chelate can form bonds with organic OH or COOH groups of for example polymers, carbohydrates (e.g. cellulose, starch, guar-gum). Strong gels are formed in aqueous systems by crosslinking. Thermal treatment (> 350 °C) TYZOR® CLA will decomposed to TiO₂ forming TiO₂ coatings.

Advantages

TYZOR® CLA is an important or essential constituent in many application fields effecting decisive product and processing advantages. Examples are:

Oil fracturing

crosslinking of guar-gum dispersions for high viscous aqueous gels in oil drilling application

Thixotropic Paints

Increased adhesion and crosslinking of carbohydrate coated latex particles for high viscous thixotropic paints

Water borne Paints

Increased adhesion and crosslinking of water borne paints e.g. acrylic paints

Processing

TYZOR® CLA is used as additive or in combination with other adjuvants for metal protection. TYZOR® CLA is added to the polymer / binder as last ingredient in concentrations of ca. 0.5 - 5 %. The time for gel formation depends on the type of carbohydrate/polymers: it occurs within < 1 min. through 1 hour.

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