

- a division of Integrated Traffic Systems USA





TI-ORG™

Titanates

Titanates are organic compounds that contain titanium dioxide group.

Potassium titanates are used in applications instead of asbestos because they can be very fibrous depending on chemical process during their production. They are an alternative fiber-like material to replace asbestos; they have good wear and tear stability, act as noise buffer and have a high melting point of around 1300°C. Zirconium titanates have a variety of applications ranging from use in wireless communication to effective acid-base bifunctional catalyst and as temperature pigments in chemical industry. ZrO₂ and TiO₂ based oxides can also be used in think film and optics applications as well as for composites and sensor production. They can be used in the microwave frequency region as a temperature-stable low loss di-electric material.

Classic Applications



Your Preferred Supplier Of High-Quality Chemicals

Industry	Application	
Construction	Internal walls as replacement for asbestos in sheet-rock	
Pigments	Additive	
Coatings	Additive	

Usage

TI-ORG[™] is usually formulated with other ingredients in catalysis, cross linking or paint applications.

It is often added last to avoid undesired pre-reactions with water or other components. Time required for cross-linking or gel formation depends on formulation ingredients, temperature, pH, titanate concentration and other factors.

Introduction

TI-ORGTM is a tri-ethanolamine titanium complex with 80% active ingredient in alcohol solvent.

TI-ORGTM reacts with water by hydrolysis to form a reactive hydroxy titanium chelate that is stable in water for extended periods. The original or hydrated chelate bonds with

organic - OH or - COOH group to form strong gels by cross-linking many polymeric materials and carbohydrates such as cellulose, starch and guar. TI-ORG $^{\text{TM}}$ reacts similarly as an adhesion promoter on functionalized surfaces, and also acts as a Lew is acid catalyst in processes such as esterification, transesterification, condensation and addition.

Application

Reaction Catalysts

TI-ORG[™] acts as a Lewis acid catalyst for esterification, transesterification, condensation and addition reactions. It is especially well suited to direct esterification processes due to its excellent compatibility with the water by product. Benefits include moderate reaction rates, highyield, easy workup, low toxicity and low catalyst concentration.

Oil Well Fracturing Fluids

TI-ORG[™] is an effective cross-linker that forms high-viscosity aqueous gels in dispersions of guar and its derivatives used in oil and gas well fracturing applications.

Thixotropic Paints

TI-ORG[™] is an effective crosslinking agent for carbohydrate-coated latex particles in highly viscous thixotropic paints.

Waterborne Paints

 $TI\text{-}ORG^{TM}$ is an effective crosslinking agent for the pigments and binders in a crylics and other waterborne paints.

TEST	UNIT	SPECIFICATIONS
TiO ₂ wt.	wt. %	13.69
	approx	
Ti	wt. %	Min 94.0%
Active content	wt. %	80
	approx	
Color	_	Light Yellow
Molecularweight	g/mol	327
Specific gravity @25°C (77°F)	approx	1.06
Viscosity @25°C (77°F)	mPa•s,	350
	approx	
Pourpoint	°C (°F)	-47 (-52.6)
Boilingpoint @3mm Hg	°C (°F)	85 (185)
Flashpoint	°C (°F)	16 (60.8)
	approx	
Solvent	_	Alcohol

Packaging

Regulated for transportation by USDOT

Safety & Handling

Please refer to the current Material Safety Data Sheet for detailed safety, handling and toxicity information.

Typical Shelf Life

2 years





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Integrated Chemical Specialties comprises a competent team of professionals who strive hard to ensure the highest level of quality and service in our business. It is our goal to deliver every product meeting the quality and consistency that our customers expect, irrespective of its origin. Our specialty chemicals are used in a variety of applications and industries. We offer customized solutions through formulated products and excellent technical support.

We consider ourselves a versatile and customer centric company that works closely with its customers to provide them the products they need. Our dedication and motivation have made us who we are today, as that also shapes our future

At Integrated Chemical Specialties, we believe building solid partnerships with our customer is critical to our success. We as a company endeavor to follow the right path, which will allow us to continue meeting new challenges and exceeding expectations.

YOUR **SAFETY** OUR **CONCERN**

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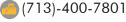




5850 San Felipe Street,

5th Floor, Houston, TX - 77056

(713)-337-0152



info@itsusainc.com

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