

**DORF****Tyzor® TEAZ****Organic Zirconate****DESCRIPTION**

Tyzor® TEAZ, a 100% active ethanolamine zirconium complex, is a yellow to brown organic liquid.

**FUNCTIONALITY**

Tyzor® TEAZ reacts with water by hydrolysis to form a reactive hydroxy zirconium chelate. The chelate is stable in water for extended periods. The original or hydrated chelate can form complexes with organic -OH or -COOH groups. When reacted in this way with multifunctional polymers such as carbohydrates (e.g. cellulose, starch, guar derivatives), strong gels may be formed by crosslinking. The product can act as an adhesion promoter to oxidized surfaces by a similar mechanism.

Tyzor® TEAZ can also act as a Lewis Acid catalyst in processes such as esterification, transesterification, condensation, addition, etc.

**APPLICATIONS**

Reaction Catalyst	Tyzor® TEAZ is an effective 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 byproduct. Benefits are moderate reaction rates, high yield, easy work-up, low toxicity, and low catalyst concentration.
Oil well fracturing fluids	Tyzor® TEAZ is an effective crosslinker for dispersions of guar and its derivatives to form high viscosity aqueous gels used in oil well fracturing applications.
Thixotropic Paints	Tyzor® TEAZ acts as a crosslinker of carbohydrate-coated latex particles for high viscous thixotropic paints
Water borne Paints	Tyzor® TEAZ can be used to crosslink binders in water borne paints such as acrylic paints.

**HOW TO USE**

Tyzor® TEAZ is usually formulated with other ingredients in catalysis, crosslinking, or paint applications. The zirconate is usually added as the last ingredient to prevent undesired pre-reactions with water or other components. When used in oil well fracturing fluids application, the time for gel formation depends on the type of polymer, temperature, pH, brine strength, zirconate concentration, etc.

**TYPICAL PROPERTIES****PROPERTY****TYPICAL VALUE**

ZrO <sub>2</sub> Content	ca. 17.9%
Active Content	ca. 100 %
Color	Yellow to Brown
Density (20°C)	ca. 1.34 g/ml
Viscosity (20°C)	ca. 50,000 mPa*s
Flash Point	> 100 °C
Refractive Index	ca. 1.53
Solubility in Solvents	Miscible in most organic solvents
Solubility in Water	Miscible

**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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