

DESCRIPTION

Tyzor® 223 is a zirconium chelate with approximately 31% active ingredient in mixed alcohol solution. It is a clear, slightly viscous, light-to-medium yellow liquid that is not affected by freezing and thawing.

Tyzor® 223 reacts with water by hydrolysis to form a reactive hydroxy zirconium chelate that is stable in water for extended periods. The original or hydrated chelate bonds with organic -OH or -COOH groups to form strong gels by cross-linking many polymeric materials and carbohydrates such as cellulose, starch and guar. Tyzor® 223 reacts similarly as an adhesion promoter on -OH functionalized surfaces.

APPLICATIONS

OIL WELL FRACTURING FLUIDS

Tyzor® 223 is an effective delayed cross-linker that forms high-viscosity aqueous gels in dispersions of guar and its derivatives used in oil and gas well fracturing applications.

INKS, PAINTS & COATINGS

Tyzor® 223 cross-links polymers and binders in solvent-borne and water-borne coatings and printing inks, improving film strength, adhesion promotion, rheology control and corrosion resistance. Surface modification of pigments may also be achieved. Tyzor® 223 is compatible with water, offers low color generation and works well over a wide pH range.

HOW TO USE

Tyzor® 223 typically is the last ingredient added to the polymer or binder in cross-linking reactions. Gel formation time depends on polymer type, temperature, pH, brine strength, zirconate concentration and other variables. Temperature curing may be required for activation.

TYPICAL PROPERTIES

PROPERTY	TYPICAL VALUE
ZrO ₂ , wt. %, approximate	5.58
Zr, wt. %	4.13
Active content, wt. %, approximate	31
Color	Yellow
Solvent	Alcohol mixture
Specific gravity @ at 25 °C (77 °F), approx.	0.96
Boiling point @10mm Hg, °C (°F)	97 (206.6)
Flash Point °C (°F), approximate	23 (73.4)
Solubility	Miscible

PACKAGING AND SHIPPING Not regulated for transportation by US DOT

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



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