

# Tyzor® Catalysts for Polyols and Polymers

## Product Guide



### ABOUT DORF KETAL

Dorf Ketal Speciality Catalysts, LLC is the world's leading supplier of organometallic catalysts for polymer synthesis and esterification. Our Tyzor® Activate™ catalyst technology is the market leader in the production of PET, PBT and polycarbonates.

Tyzor® products are high-yield catalysts used in polymer synthesis for esterification, transesterification, Ziegler-Natta polymerization and condensation reactions that increase reaction rates with minimal side-reactions.

Tyzor® 9000, ET, TE, TPT and TnBT can act as Lewis Acid Catalysts.

POLYMER OR POLYOL	PRODUCT	APPLICATION NOTES
Polyester Polyol	Tyzor® TE	<b>Adipic acid / BDO systems</b> – Produces clear, colorless polyols and fastest reaction rates. – Provides higher reaction rates at low temperatures than other catalysts. – Provides good water stability and minimal hydrolysis reactions.
	Tyzor® 9000	<b>Phthalic acid / DEG systems</b> – Produces clear, colorless polyols. – Provides fast reaction rates with higher rates at lower temperatures.
	Tyzor® TE	<b>Phthalic acid / DEG systems</b> – Produces clear, colorless polyols. – Provides fast reaction rates with higher rates at lower temperatures. – Provides good water stability and minimal hydrolysis reactions.
	Tyzor® TnBT	<b>Adipic acid / BDO systems &amp; Phthalic acid / DEG systems</b> – Good reaction rates in polyester polyols. – Provides no water tolerance and is susceptible to hydrolysis that may increase maintenance downtime, slow reaction rates and produce haze.
Polyester Coatings	Tyzor® ACTivate™ 428	– Hydrolytically stable, fast-acting titanate catalyst. – Replaces organo-tin catalysts used to produce saturated polyester resins for coatings, including can coatings for food packaging.
PBT, PTT	Tyzor® TnBT	– Good reaction rates in PBT and PTT. – Provides no water tolerance and is susceptible to hydrolysis that may increase maintenance downtime, slow reaction rates and produce haze.
Polyolefin	Tyzor® TPT Tyzor® TnBT Tyzor® NPT	– Organotitanate products used in Ziegler-Natta polyolefin production processes. – Provide good selectivity for stereospecific polyolefin products.
Polycarbonate	Tyzor® ET	– High reaction rates in <b>diethyl carbonate systems</b> produce generally acceptable clarity and color.
	Tyzor® TPT	– Good overall reaction-rate performance and excellent clarity and color.
PET	Tyzor® ACTivate™ 422	– Excellent for <b>bottle and film resins</b> . – Hydrolytically stable titanate catalyst. – Produces high reaction rates, excellent clarity and low color. – Economic benefits for producer and converters.
	Tyzor® ACTivate™ 420	– Excellent for <b>specialty film resins</b> . – Hydrolytically stable titanate catalyst. – Produces high reaction rates, excellent clarity and low color. – Low alkali metal for quality films and higher clarity.

Dorf Ketal Speciality Catalysts LLC 11200 Westheimer Road – Suite 400 • Houston, Texas 77042 • USA  
 Tel: +1-713-343-2377 • E-mail: tyzor@dorketal.com • www.dorketal.com

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