

Polymer Add (Thailand) Co.,Ltd.

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TRIMETHYLOLPROPANE TRIBENZOATE is an **aromatic polyester plasticizer and specialty ester** made by esterifying trimethylolpropane with benzoic acid. It is a **solid or high-melting powder/flake** depending on grade and is used where high performance, low volatility, and good compatibility are needed.

Commercial Uses

1. Plasticizers in Polymer & Resin Systems

Trimethylolpropane Tribenzoate is widely used as a **secondary or specialty plasticizer** in:

Abs (Acrylonitrile Butadiene Styrene)	Epoxy
Hips (High Impact Polystyrene)	Polyester
Pvc (Flexible Pvc)	Pvc (Semi-Rigid Pvc)
PVC / EVA Blends	PVC / NBR Blends
PVC / ABS Blendspolyolefin Compounds	SAN (Styrene Acrylonitrile)
Thermoset Resin Systems	Uv-Curable Systems

Benefits of using trimethylolpropane tribenzoate in Plasticizers in Polymer & Resin Systems.

Enhances processability	Improves flexibility
Improves mechanical properties	Low to medium dosage requirement.
Maintain dimensional stability.	Reduces internal stresses and improves toughness.
Retain heat resistance	Used as a reactive or reactive-like plasticizer.

2. Coatings, Inks & Adhesives

Industrial coatings & lacquers	Improves flow, gloss, and adhesion.
Ink systems	Enhances pigment dispersion and flexibility without blooming.
Pressure-sensitive adhesives	Improves tack and creep resistance.

3. Construction & Composite Materials

- Sealants / caulk
- Flooring systems
- Filled composites

Helps maintain mechanical integrity while aiding flow and processing.

4. Engineering Plastics & High-Performance Polymers (PBT blends)

- Improve toughness
- Reduce brittleness
- Aid melt processing

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BENEFITS OF USING TRIMETHYLOLPROPANE TRIBENZOATE

1. HIGH THERMAL STABILITY

- High-temperature processing (PVC extrusion, calendaring)
- End-uses requiring less plasticizer migration or fogging

2. LOW VOLATILITY & LOW MIGRATION

- Compared to many phthalate plasticizers, TRIMETHYLOLPROPANE TRIBENZOATE **stays in polymer matrices longer**.
- Lower migration = less blooming, less tackiness, and better long-term performance.

3. EXCELLENT COMPATIBILITY

TRIMETHYLOLPROPANE TRIBENZOATE is compatible with many polymer systems

- PVC & PVC blends
- Polyolefins
- Styrenic blends
- Polyester & epoxy resins

This capability helps formulations achieve balanced mechanical properties.

4. IMPROVED MECHANICAL PROPERTIES

Depending on use:

- Better flexibility at low loadings
- Improved elongation and toughness
- Enhanced processability and surface finish

5. HIGH PURITY GRADES SUPPORT INDUSTRIAL SPECIFICATIONS

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Commercial TRIMETHYLOLPROPANE TRIBENZOATE often meets:

- Low heavy metal content
- Low impurity levels
- Controlled melt viscosity

This supports demanding applications like automotive and industrial coatings.

WHERE TRIMETHYLOLPROPANE TRIBENZOATE OFFERS ADVANTAGE OVER OTHER PLASTICIZERS

FEATURE	TRIMETHYLOLPROPANE TRIBENZOATE	Common Plasticizers (e.g., DOP, DINP)
Thermal Stability	High	Moderate
Volatility	Low	Moderate–High
Migration	Low	Higher
Mechanical Balance	Very Good	Good
Compatibility with Engineering Polymers	Strong	Variable

TYPICAL TARGET MARKETS

MARKET SEGMENT	KEY NEEDS	BENEFITS OF USING TRIMETHYLOLPROPANE TRIBENZOATE
PVC Flooring & Profiles	Long-term dimensional stability	Low migration plasticizer
Automotive Interiors	Heat, reliability, low emissions	High-temp stable plasticizer
Industrial Coatings	Flow & adhesion	Co-plasticizer & modifier
High-Performance Films	Clarity & toughness	Specialty ester plasticizer