

# 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 / caulks
- 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