

# Polymer Add (Thailand) Co.,Ltd.

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## TRIPHENYL TRIMELLITATE (TPTM) – MICRONISED

### Solid & High-Melting Plasticizer / Permanent Internal Modifier

#### Product Overview

Triphenyl Trimellitate (TPTM) is a high-melting aromatic trimellitate ester designed for use as a solid plasticizer and permanent internal modifier in thermoplastic and composite systems. Supplied in micronised free-flowing powder form, TPTM enables uniform dispersion, controlled melt incorporation, and long-term performance stability.

Unlike conventional liquid plasticizers, TPTM remains structurally integrated within the polymer matrix, providing plasticization effects with low volatility, low migration, and improved thermal resistance.

#### Functional Role in Polymer Formulations

TPTM delivers multiple high-value functions within polymer systems:

- Solid, high-melting plasticizer
- Permanent internal modifier
- Dimensional-stability enhancer
- Low-migration flexibility modifier
- Thermal-resistant processing aid

Its rigid aromatic trimellitate structure allows formulators to fine-tune mechanical properties while preserving thermal and dimensional stability.

#### Primary Application Areas

Application Area	Functional Benefit
Engineering Thermoplastics	Permanent plasticization with thermal stability
High-Temperature Compounds	Retained performance at elevated processing temperatures
Polymer–Paper & Polymer–Fiber Composites	Improved interfacial stability and structural integrity
Filled & Mineral-Loaded Systems	Stress distribution and reduced brittleness
Specialty Polymer Blends	Controlled flexibility with low additive migration

#### Advantages of Micronised TPTM

- Enables uniform dispersion in dry blends and masterbatches
- Improves processing consistency in extrusion and compounding
- Reduces risk of localized agglomeration

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- Supports precise dosing and automated feeding systems
- Enhances long-term performance retention

## Performance Characteristics

- High melting / softening range suitable for demanding processing conditions
- Low volatility and negligible plasticizer bleed
- Excellent permanence within polymer matrices
- Minimal impact on long-term mechanical properties

## Application Scope / Usage Note

TPTM is intended for use as a solid plasticizer and permanent internal modifier in thermoplastic and composite systems. Optimal dosage and processing conditions should be determined through formulation and application trials.

## Packaging & Supply

- Supplied as micronised free-flowing powder
- Standard packaging: 25 kg bags
- Custom packaging available on request