

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