

Polymer Add (Thailand) Co.,Ltd.

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TECHNICAL DATA SHEET (TDS)

TRIPHENYL TRIMELLITATE (TPTM) – MICRONISED

1. Product Identification

Item	Details
Chemical Name	Triphenyl Trimellitate
Synonyms	TPTM; Trimellitic acid triphenyl ester
CAS No.	2459-10-1
Molecular Formula	C ₂₇ H ₁₈ O ₆
Molecular Weight	~438.43 g/mol
Product Form	Micronised solid powder

2. Product Description

Triphenyl Trimellitate (TPTM) is a high-melting aromatic trimellitate ester supplied in micronised solid form for use as a solid plasticizer and permanent internal modifier in demanding polymer systems.

In polymer formulations, TPTM provides controlled flexibility, low volatility, and low migration, while maintaining dimensional and thermal stability at elevated processing temperatures. Its rigid aromatic structure allows formulators to introduce plasticization effects without reliance on conventional liquid plasticizers, supporting long-term performance retention.

3. Typical Physical Properties

Property	Typical Value
Appearance	White to off-white solid / powder
Odour	Odourless (typical)
Melting / Softening Point	High-melting solid (typically >140 °C)
Bulk Density	0.40 – 0.70 g/cm ³ (typical for micronised solids)
Solubility in Water	Insoluble (typical)
Solubility in Organic Solvents	Limited / soluble in aromatic-type solvents (typical)
Thermal Behaviour	Stable under polymer processing conditions (typical)

Values are typical and not intended as specifications.

4. Particle Size Characteristics (Micronised Grade)

Parameter	Typical Range
D50	10 – 25 µm
D90	< 35 µm
D100	< 45 µm

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Micronisation supports uniform dispersion, controlled melt incorporation, and consistent functional performance in polymer matrices.

5. Primary Applications

Application Area

Function

Brittleness reduction and dimensional control	Engineering Thermoplastics
Filled & Mineral-Loaded Systems	High-Temperature Polymer Compounds
Interfacial stability and stress distribution	Long-term plasticization with low migration
Low-volatility flexibility modifier	Polymer–Paper & Polymer–Fiber Composites
Solid plasticizer / permanent internal modifier	Specialty Polymer Blends

6. Processing & Handling

- Suitable for dry blending and masterbatch preparation
- Compatible with standard compounding and extrusion equipment
- Best incorporated during high-shear mixing or melt compounding

7. Storage & Shelf Life

Item	Recommendation
Storage	Cool, dry, well-ventilated area
Container	Keep tightly closed
Shelf Life	24 months under recommended conditions

8. Packaging

- 20–25 kg bags
- Other packaging available on request

9. Regulatory & Compliance (Indicative)

- Intended for industrial polymer processing use
- Detailed regulatory status available upon request

10. Disclaimer

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The information provided is based on typical data and experience and is intended for guidance in formulation development. Users should conduct their own evaluations to determine suitability for their specific applications.

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