

Polymer Add (Thailand) Co.,Ltd.

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TECHNICAL DATA SHEET (TDS)

ALUMINIUM BENZOATE – MICRONISED

Solid & High-Melting Plasticizer / Permanent Internal Modifier

1. Product Identification

Item	Details
Chemical Name	Aluminium Benzoate
Synonyms	Aluminium tris(benzoate)
CAS No.	555-56-0
Molecular Formula	$\text{Al}(\text{C}_6\text{H}_5\text{COO})_3$
Molecular Weight	~418.35 g/mol
Product Form	Micronised solid powder

2. Product Description

Aluminium Benzoate is a high-melting, metal-organic benzoate compound supplied in micronised free-flowing powder form for use as a solid plasticizer and permanent internal modifier in thermoplastic and composite systems.

Unlike conventional liquid plasticizers, Aluminium Benzoate functions through internal coordination and structural interaction within the polymer matrix, delivering controlled flexibility, dimensional stability, and long-term permanence with negligible volatility and migration.

Its aromatic benzoate structure and aluminium coordination make it particularly suitable for high-temperature processing environments, filled systems, and applications requiring retained mechanical integrity over time.

3. Typical Physical Properties

Property	Typical Value
Appearance	White to off-white solid / powder
Odour	Odourless (typical)
Melting / Decomposition Range	High-melting solid (typically >300 °C, decomposition)
Bulk Density	0.35 – 0.65 g/cm ³ (typical, micronised)
Solubility in Water	Insoluble
Solubility in Organic Solvents	Insoluble / very limited
Thermal Behaviour	Stable under polymer processing conditions

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 enables uniform dispersion, controlled melt incorporation, and consistent functional performance in polymer formulations.

5. Primary Applications

Application Area	Functional Role
Engineering Thermoplastics	Solid plasticization with thermal stability
High-Temperature Compounds	Permanent flexibility retention
Filled & Mineral-Loaded Systems	Stress distribution and brittleness reduction
Polymer–Paper & Polymer–Fiber Composites	Interfacial stability and dimensional control
Specialty Polymer Blends	Low-migration internal modifier

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
- Custom packaging available on request

9. Regulatory & Compliance (Indicative)

- Intended for industrial polymer processing use
- Regulatory documentation available upon request

10. Disclaimer

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.