

Technical Data Sheet (TDS)

1. Product Overview

- Product Name: Phthalic Anhydride
- English Name: Phthalic Anhydride; 1,2-Benzenedicarboxylic Anhydride
- CAS Number:85-44-9
- Formula:C₈ H₄O₃
- Molecular Weight:148.12 g/mol
- Product Characteristics: White crystalline powder with a faint aromatic odor. High-purity aromatic anhydride with strong reactivity. Corrosive, slightly flammable, and soluble in organic solvents. Suitable for plasticizers, resins, and chemical synthesis.

2. Technical Specifications

Item	Specification
Appearance	White to off-white crystalline powder
Purity (GC)	≥ 99.0%
Melting Point	130-134°C
Water Content	≤ 0.2%
Acidity (as Phthalic Acid)	≤ 0.1%
Heavy Metals (Pb)	≤ 0.5 ppm
Heavy Metals (As)	≤ 0.1 ppm
Non-Volatile Residue	≤ 0.05%
Flash Point (Closed Cup)	152°C
Solubility	Soluble in ethanol, ether, benzene; reacts with water
Sublimation Temperature	150°C (at reduced pressure)

3. Product Advantages

1. High Purity: Low impurity content ensures stable esterification reactivity.
2. Strong Reactivity: Ideal for plasticizer (DOP, DINP) and resin synthesis.
3. Versatile Application: Key intermediate for coatings, adhesives, and pharmaceuticals.
4. Good Thermal Stability: Suitable for high-temperature processing.

4. Application Fields

- Plastic Industry: Precursor for phthalate plasticizers (PVC plasticization).
- Resin Synthesis: Unsaturated polyester resin and alkyd resin production.
- Chemical Synthesis: Intermediate for dyes, pharmaceuticals, and agrochemicals.
- Laboratory Research: Analytical reagent and esterification agent.

5. Usage Methods

- Dosage: 20-50% concentration (adjust by application).
- Application: Melt at 140-160°C for reaction; avoid contact with water and strong bases.
- Optimal Conditions: Operate in well-ventilated areas; avoid ignition sources.

6. Packaging & Storage

- Packaging: 1kg/5kg HDPE bags, 25kg cardboard drums, 50kg steel drums (UN-approved).
- Storage: Cool, dry, well-ventilated warehouse ($\leq 30^{\circ}\text{C}$); sealed, away from heat/moisture.
- Shelf Life: 12 months (unopened, specified conditions).
- Transportation: Classified as corrosive hazardous goods; transport per regulations.

7. Safety & Protection

- Corrosive and irritating: No smoking near storage/use areas; prohibit open flames.
- Wear dust mask, nitrile rubber gloves, and chemical safety goggles.
- Avoid dust inhalation, skin contact, and ingestion; ensure local exhaust ventilation.

8. Quality Assurance

- Manufactured under ISO 9001 quality management system.
- Each batch comes with a COA for compliance verification.
- Provide technical support for esterification process optimization.