

## Technical Data Sheet (TDS)

### 1. Product Overview

- Product Name: Maleic Anhydride
- English Name: Maleic Anhydride; cis-Butenedioic Anhydride
- CAS Number:108-31-6
- Formula:C<sub>4</sub>H<sub>2</sub>O<sub>3</sub>
- Molecular Weight:98.06 g/mol
- Product Characteristics: White crystalline powder with a pungent odor. High-purity unsaturated anhydride with strong reactivity. Corrosive, flammable, and soluble in organic solvents. Suitable for polymer synthesis, resins, and chemical intermediates.

### 2. Technical Specifications

Item	Specification
Appearance	White to pale yellow crystalline powder
Purity (GC)	≥ 99.0%
Melting Point	52-55°C
Water Content	≤ 0.2%
Acidity (as Maleic Acid)	≤ 0.1%
Heavy Metals (Pb)	≤ 0.5 ppm
Heavy Metals (As)	≤ 0.1 ppm
Non-Volatile Residue	≤ 0.05%
Flash Point (Closed Cup)	103°C
Solubility	Soluble in ethanol, ether, acetone; reacts violently with water
Boiling Point	202°C

### 3. Product Advantages

1. High Purity: Low impurity content ensures stable polymerization reactivity.
2. Strong Unsaturated Reactivity: Ideal for copolymerization (with styrene, vinyl acetate) and esterification.
3. Versatile Application: Key intermediate for unsaturated polyester resins, lubricants, and pharmaceuticals.
4. Fast Reaction Rate: Shortens synthesis cycle in industrial processes.

### 4. Application Fields

- Polymer Industry: Precursor for unsaturated polyester resins and maleic anhydride copolymers.
- Chemical Synthesis: Intermediate for dyes, agrochemicals, and surface-active agents.
- Industrial Processing: Lubricant additive, adhesive crosslinker, and coating resin.
- Laboratory Research: Analytical reagent and polymerization monomer.

### 5. Usage Methods

- Dosage: 10-50% concentration (adjust by application).

- Application: Melt at 60-80°C for reaction; avoid contact with water and strong bases.
- Optimal Conditions: Operate in well-ventilated areas; avoid ignition sources and moisture.

## 6. Packaging & Storage

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

## 7. Safety & Protection

- Corrosive, flammable, 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 polymerization process optimization.