

## Technical Data Sheet (TDS)

### 1. Product Overview

- Product Name: Aniline
- English Name: Aniline; Aminobenzene
- CAS Number: 62-53-3
- Formula: C<sub>6</sub> H<sub>7</sub> N
- Molecular Weight: 93.13 g/mol
- Product Characteristics: Colorless to pale brown clear liquid with a characteristic aromatic odor. High-purity aromatic amine with strong reactivity. Toxic, flammable, and slightly corrosive. Miscible with organic solvents, suitable for chemical synthesis, dyes, and pharmaceuticals.

### 2. Technical Specifications

Item	Specification
Appearance	Colorless to pale brown clear liquid
Purity (GC)	≥ 99.0%
Water Content	≤ 0.2%
Density (20°C)	1.021-1.023 g/cm <sup>3</sup>
Boiling Range	183-185°C
Melting Point	-6.0 to -5.0°C
Flash Point (Closed Cup)	70°C
Viscosity (20°C)	4.4 mPa·s
Heavy Metals (Pb)	≤ 0.5 ppm
Heavy Metals (As)	≤ 0.1 ppm
Non-Volatile Residue	≤ 0.05%
Explosive Limits (v/v)	1.3-11.0%
Water Solubility	Slightly soluble (36 g/L at 25°C)

### 3. Product Advantages

1. High Purity: Low impurity content ensures stable reactivity in synthesis.
2. Strong Aromatic Reactivity: Ideal for diazotization, acylation, and substitution reactions.
3. Versatile Application: Key intermediate for dyes, pharmaceuticals, and rubber chemicals.
4. Good Solubility: Miscible with most organic solvents, suitable for multi-component systems.

### 4. Application Fields

- Dye Industry: Precursor for azo dyes, indigo dyes, and sulfur dyes.
- Pharmaceutical: Intermediate for antibiotics, analgesics, and antihistamines.
- Rubber Chemicals: Precursor for rubber accelerators and antioxidants.
- Laboratory Research: Analytical reagent and reaction intermediate.

### 5. Usage Methods

- Dosage: 20-100% concentration (adjust by application).

- Application: Use in closed systems with corrosion-resistant equipment; avoid contact with oxidizers.
- Optimal Conditions: Operate in well-ventilated areas; avoid ignition sources and strong acids.

### **6. Packaging & Storage**

- Packaging: 5L HDPE cans, 20L steel drums, 200L steel drums (UN-approved).
- Storage: Cool, dry, well-ventilated warehouse ( $\leq 30^{\circ}\text{C}$ ); sealed, away from heat/sparks/oxidizers/acids.
- Shelf Life: 12 months (unopened, specified conditions).
- Transportation: Classified as toxic and flammable hazardous goods; transport per regulations.

### **7. Safety & Protection**

- Toxic, flammable, and carcinogenic: No smoking near storage/use areas; prohibit open flames.
- Wear chemical safety goggles, nitrile rubber gloves, and organic vapor respirator (P100).
- Avoid 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 synthesis optimization and safety operation.