

Technical Data Sheet (TDS)

1. Product Overview

- Product Name: Benzene
- English Name: Benzene
- CAS Number: 71-43-2
- Formula: C₆ H₆
- Molecular Weight: 78.11 g/mol
- Product Characteristics: Colorless clear liquid with a characteristic aromatic odor. High-purity aromatic hydrocarbon solvent with excellent solubility for organic compounds. Chemically stable under normal conditions but highly flammable and toxic.

2. Technical Specifications

Item	Specification
Appearance	Colorless clear liquid
Purity (GC)	≥ 99.5%
Water Content	≤ 0.05%
Density (20°C)	0.878-0.880 g/cm ³
Boiling Range	79.5-80.5°C
Flash Point (Closed Cup)	-11°C
Viscosity (20°C)	0.65 mPa·s
Non-Volatile Residue	≤ 0.005%
Heavy Metals (Pb)	≤ 0.5 ppm
Heavy Metals (As)	≤ 0.1 ppm
Total Sulfur	≤ 5 ppm

3. Product Advantages

1. High Purity: Low impurity content ensures reliability in chemical synthesis and analysis.
2. Superior Solvency: Dissolves most organic substances, suitable for diverse industrial processes.
3. Controlled Volatility: Ideal evaporation rate for coating, extraction, and cleaning applications.
4. Chemical Stability: Inert to most reagents under standard operating conditions.

4. Application Fields

- Chemical Synthesis: Precursor for phenol, styrene, cyclohexane, and other organic compounds.
- Industrial Solvent: Coatings, adhesives, inks, rubber, and resin processing.
- Laboratory Research: Analytical reagent, calibration standard, and reaction solvent.
- Extraction: Essential oils, pharmaceuticals, and organic compound separation.

5. Usage Methods

- Dosage: Adjust according to application (10-100% concentration; avoid dilution with incompatible solvents).

- Application: Use in closed systems for synthesis; employ spray or immersion for cleaning (with proper ventilation).
- Optimal Conditions: Operate at 15-25°C in well-ventilated areas; strictly avoid ignition sources.

6. Packaging & Storage

- Packaging Specifications: 5L HDPE cans, 20L steel drums, 200L steel drums, 1000L IBC totes (UN-approved).
- Storage Conditions: Store in cool, dry, well-ventilated warehouses (temperature $\leq 25^{\circ}\text{C}$). Keep sealed, away from heat, sparks, and oxidizing agents.
- Shelf Life: 12 months (unopened, under specified storage conditions).
- Transportation: Classified as flammable and toxic hazardous goods; transport per relevant regulations.

7. Safety & Protection

- Highly flammable and toxic: No smoking near storage/use areas; prohibit open flames.
- Wear full PPE: Chemical safety goggles, nitrile rubber gloves, anti-static clothing, and organic vapor respirator.
- Avoid inhalation, skin contact, or ingestion; ensure adequate ventilation (local exhaust recommended).
- In case of exposure, follow first aid measures in MSDS and seek medical attention immediately.

8. Quality Assurance

- Manufactured under ISO 9001 quality management system.
- Each batch is accompanied by a COA for compliance verification.
- Provide technical support for safe application and risk management.