

## Technical Data Sheet (TDS)

### 1. Product Overview

- Product Name: Cyclohexane
- English Name: Cyclohexane
- CAS Number: 110-82-7
- Formula: C<sub>6</sub> H<sub>12</sub>
- Molecular Weight: 84.16 g/mol
- Product Characteristics: Colorless clear liquid with a faint aliphatic odor. High-purity aliphatic cyclic hydrocarbon solvent with excellent solubility for non-polar organic compounds. Chemically stable under normal conditions, highly flammable, and low toxicity.

### 2. Technical Specifications

Item	Specification
Appearance	Colorless clear liquid
Purity (GC)	≥ 99.5%
Water Content	≤ 0.05%
Density (20°C)	0.778-0.780 g/cm <sup>3</sup>
Boiling Range	80.0-81.5°C
Flash Point (Closed Cup)	-18°C
Viscosity (20°C)	1.03 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

- High Purity: Low impurity content ensures consistent performance in industrial processes and analysis.
- Excellent Solvency: Dissolves oils, waxes, resins, and organic intermediates, ideal for coating and extraction.
- Chemical Stability: Inert to most common reagents under standard operating conditions.
- Balanced Volatility: Suitable evaporation rate for manufacturing and cleaning applications.

### 4. Application Fields

- Chemical Synthesis: Precursor for adipic acid, caprolactam, and cyclohexanol/cyclohexanone.
- Industrial Solvent: Coatings, adhesives, inks, rubber processing, and metal surface cleaning.
- 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 (20-100% concentration; dilute with compatible solvents if needed).
- Application: Use in closed systems for synthesis; employ spray or immersion for cleaning (ensure ventilation).

- Optimal Conditions: Operate at 15-30°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  $\leq 30^{\circ}\text{C}$ ). Keep sealed, away from heat, sparks, and oxidizing agents.
- Shelf Life: 12 months (unopened, under specified storage conditions).
- Transportation: Classified as flammable hazardous goods; transport per relevant regulations.

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

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

### **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 process optimization.