

## Technical Data Sheet (TDS)

### 1. Product Overview

- Product Name: Vinyl Chloride Solution (20% in Toluene)
- English Name: Vinyl Chloride Solution; Chloroethene Solution
- CAS Number:75-01-4
- Formula:C<sub>2</sub>H<sub>3</sub>Cl (Solution in Toluene)
- Molecular Weight:62.50 g/mol (Pure Substance)
- Product Characteristics: Colorless clear liquid with a faint sweet odor. 20% solution of vinyl chloride in toluene. Highly flammable, toxic, and carcinogenic. Chemically reactive, suitable for polymer synthesis and organic reactions.

### 2. Technical Specifications

Item	Specification
Appearance	Colorless to pale yellow clear liquid
Vinyl Chloride Content (GC)	20.0 ± 1.0%
Toluene Content (GC)	79.0-81.0%
Water Content	≤ 0.1%
Density (20°C)	0.870-0.875 g/cm <sup>3</sup>
Boiling Range	60-65°C
Flash Point (Closed Cup)	4°C (Toluene-based)
Viscosity (20°C)	0.65 mPa·s
Heavy Metals (Pb)	≤ 0.5 ppm
Heavy Metals (As)	≤ 0.1 ppm
Non-Volatile Residue	≤ 0.005%
Explosive Limits (v/v)	3.6-33.0% (Vinyl chloride vapor)
Stability	Stable under inert atmosphere (≤ 25°C)

### 3. Product Advantages

1. Controlled Concentration: 20% solution ensures safe handling vs. pure vinyl chloride gas.
2. High Reactivity: Ideal for polymerization (PVC precursor) and addition reactions.
3. Good Solubility: Compatible with organic solvents, suitable for multi-component systems.
4. Consistent Quality: Low impurity content ensures stable polymer performance.

### 4. Application Fields

- Polymer Industry: Precursor for polyvinyl chloride (PVC) and copolymers.
- Chemical Synthesis: Intermediate for vinyl chloride derivatives and pharmaceuticals.
- Laboratory Research: Analytical reagent and polymerization monomer.
- Industrial Processing: Adhesive and coating resin synthesis.

### 5. Usage Methods

- Dosage: 50-100% concentration (adjust by application).
- Application: Use in closed inert atmosphere systems; avoid contact with oxidizers.

- Optimal Conditions: Operate at 15-25°C in well-ventilated areas; strictly avoid ignition sources.

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

- Packaging: 5L HDPE cans, 20L steel drums (UN-approved).
- Storage: Cool, dark, well-ventilated warehouse ( $\leq 25^{\circ}\text{C}$ ); sealed, under inert atmosphere.
- Shelf Life: 6 months (unopened, specified conditions).
- Transportation: Classified as flammable, toxic, and carcinogenic hazardous goods; transport per regulations.

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

- Highly flammable, toxic, 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 and skin contact; 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.