

Technical Data Sheet (TDS)

1. Product Overview

- Product Name: Diethyl Phthalate (DEP)
- English Name: Diethyl Phthalate; DEP
- CAS Number: 84-66-2
- Formula: $C_{12}H_{14}O_4$
- Molecular Weight: 222.24 g/mol
- Product Characteristics: Colorless to pale yellow clear liquid with a faint aromatic odor. High-purity phthalate ester with excellent plasticizing and solvency properties. Flammable, moderately toxic, and compatible with most polymers. Suitable for plasticizers, solvents, and fragrance fixatives.

2. Technical Specifications

Item	Specification
Appearance	Colorless to pale yellow clear liquid
Purity (GC)	$\geq 99.0\%$
Water Content	$\leq 0.1\%$
Density (25°C)	1.045-1.047 g/cm ³
Boiling Range	295.0-298.0°C
Flash Point (Closed Cup)	151°C
Viscosity (25°C)	11 mPa·s
Non-Volatile Residue	$\leq 0.005\%$
Heavy Metals (Pb)	≤ 0.5 ppm
Heavy Metals (As)	≤ 0.1 ppm
Acidity (as HCOOH)	$\leq 0.001\%$
Solubility	Soluble in organic solvents; slightly soluble in water

3. Product Advantages

1. High Purity: Low impurity content ensures stable plasticizing efficiency.
2. Excellent Plasticity: Improves flexibility and processability of polymers.
3. Superior Solvency: Dissolves organic compounds, suitable for solvents and fragrances.
4. Good Compatibility: Compatible with PVC, cellulose, and other polymers.

4. Application Fields

- Plastic Industry: Plasticizer for PVC, cellulose acetate, and rubber.
- Industrial Solvent: Coatings, inks, adhesives, and fragrance fixatives.
- Cosmetics: Fragrance fixative in perfumes, lotions, and hair care products.
- Laboratory Research: Analytical reagent and reaction solvent.

5. Usage Methods

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

- Application: Mix with polymers/solvents at 60-80°C; stir evenly.
- Optimal Conditions: Operate in well-ventilated areas; avoid ignition sources.

6. Packaging & Storage

- Packaging: 5L HDPE cans, 20L steel drums, 200L steel drums, 1000L IBC totes (UN-approved).
- Storage: Cool, dry, well-ventilated warehouse ($\leq 30^{\circ}\text{C}$); sealed, away from heat/sparks/oxidizers.
- Shelf Life: 12 months (unopened, specified conditions).
- Transportation: Classified as flammable hazardous goods; transport per regulations.

7. Safety & Protection

- Flammable and moderately toxic: No smoking near storage/use areas; prohibit open flames.
- Wear chemical safety goggles, nitrile rubber gloves, and organic vapor respirator.
- Avoid inhalation and skin contact; ensure local exhaust ventilation.
- In case of exposure, follow first aid measures in MSDS.

8. Quality Assurance

- Manufactured under ISO 9001 quality management system.
- Each batch comes with a COA for compliance verification.
- Provide technical support for plasticizing process optimization.