

Technical Data Sheet (TDS)

- Benzyl Benzoate

Revision Date: 26 February 2026 **Product Number:** BB-20260226 **CAS Number:** 120-51-4 **Molecular Formula:** C₁₄H₁₂O₂ **Molecular Weight:** 212.24 g/mol

1. Product Overview

Benzyl Benzoate is a high-purity aromatic ester organic compound, a colorless clear liquid with faint aromatic odor. It features excellent chemical stability, good solvency, and compatibility with most organic solvents and raw materials. It is widely used as a solvent, plasticizer, fragrance fixative in cosmetics, perfumes, and daily chemicals; also as an acaricide in pharmaceutical industry, and a processing aid in plastic and rubber industry. The product complies with international industrial and cosmetic raw material standards, with low impurity content and stable performance.

2. Technical Specifications

Item	Specification (Industrial Grade)	Specification (Cosmetic Grade)
Appearance	Colorless to pale yellow clear liquid	Colorless clear liquid
Assay (GC)	≥ 99.0%	≥ 99.5%
Odor	Faint aromatic scent	Almost odorless, characteristic faint aroma
Melting Point	18-21 °C	19-20 °C
Boiling Point	323-325 °C	323-324 °C
Refractive Index (25 °C)	1.5680-1.5720	1.5690-1.5710
Relative Density (25/25 °C)	1.118-1.122	1.119-1.121
Water Content	≤ 0.1%	≤ 0.05%
Acid Value	≤ 0.2 mg KOH/g	≤ 0.1 mg KOH/g
Heavy Metals (Pb)	≤ 5 ppm	≤ 2 ppm
Heavy Metals (As)	≤ 1 ppm	≤ 0.5 ppm
Flash Point (Closed Cup)	≥ 140 °C	≥ 142 °C
Solubility	Miscible with ethanol, ether, benzene, vegetable oil; insoluble in water	Same as industrial grade

3. Product Advantages

- High Purity:** Assay ≥99.0% (industrial) / ≥99.5% (cosmetic), low impurities, no adverse effect on formula stability.
- Excellent Stability:** Resistant to heat, light and normal pH (4.0-10.0), no decomposition or discoloration under recommended use conditions.
- Good Compatibility:** Miscible with most organic solvents, fragrances, cosmetic raw materials and polymer materials, easy to formulate.
- Multi-functional:** Can be used as solvent, fixative, plasticizer and acaricide, wide application range, high cost performance.
- Compliant with Standards:** Meet cosmetic raw material safety standards and industrial chemical quality requirements, safe for intended use.

4. Application Fields

- Cosmetics & Perfumes:** Fragrance fixative for perfumes, eau de toilette; solvent for lipstick, foundation, skin care oil; plasticizer for hair care products.



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- **Pharmaceuticals:** Acaricide for scabies treatment; solvent for fat-soluble drugs and active pharmaceutical ingredients (API).
- **Daily Chemicals:** Solvent for air fresheners, fabric softeners; fragrance stabilizer for household cleaners.
- **Industry:** Plasticizer for PVC, rubber and resin; solvent for paint, coating and ink; processing aid for textile printing and dyeing.
- **Other:** Preservative auxiliary for food packaging materials (food contact grade); solvent for essential oil blending.

5. Usage Methods

- **Dosage:** Adjust according to application scenario; general addition amount: 0.5-10.0% (by weight) for cosmetics/perfumes; 5-20% (by weight) for industrial plasticizer/solvent; follow pharmaceutical dosage specifications for medical use.
- **Mixing Method:** Add directly to the formula system at room temperature (20-30°C), stir evenly for 5-10 minutes; heat to 30-40°C if needed to improve dissolution speed (avoid >60°C).
- **Optimal Conditions:** Store the diluted product in a sealed container; avoid direct sunlight and high temperature during use to prevent volatilization.

6. Packaging & Storage

Packaging Specifications

- 500 mL brown glass bottle (laboratory/small batch use)
- 5 kg brown glass drum (sample/medium batch use)
- 20 kg HDPE plastic drum (industrial grade)
- 200 kg stainless steel drum (bulk/cosmetic grade)
- 1000 kg IBC totes (large-scale industrial use)
- Custom packaging available upon request.

Storage Conditions

- Store in a cool, dark, well-ventilated warehouse at **15-25°C**; avoid low temperature (<15°C, easy to solidify) and high temperature (>30°C); keep away from direct sunlight.
- Keep container tightly sealed to prevent volatilization and contamination; separate from strong acids, strong bases, oxidizing agents and open flame.
- **Shelf Life:** 24 months (unopened, under specified storage conditions); melt and stir evenly at 25-30°C if solidification occurs during storage, no effect on performance.

Transportation

- Classified as **non-hazardous goods** for transport; transport by ordinary closed vehicles.
- Avoid collision, leakage, direct sunlight and extreme temperature during transportation; prevent contact with incompatible materials and open flame.

7. Safety & Protection

- The product is low-toxic, but avoid direct contact with eyes and prolonged skin contact; mild irritation may occur in sensitive individuals.
- Wear safety glasses and nitrile rubber gloves during large-scale handling and dispensing; wear protective clothing if splashing is possible.
- In case of eye contact: rinse with plenty of running water for 5-10 minutes; consult a doctor if irritation persists.
- In case of skin contact: rinse with soap and water; no special treatment needed for mild contact.
- Do not ingest; if accidentally swallowed, rinse mouth with water and consult a doctor if gastrointestinal discomfort occurs.