

Technical Data Sheet (TDS)

- Benzyl Cinnamate

Product Name: Benzyl Cinnamate **English Name:** Benzyl Cinnamate **CAS Number:** 103-41-3 **MDL Number:** MFCD00004469 **Formula:** C₁₆ H₁₄O₂ **Molecular Weight:** 238.28 g/mol **Revision Date:** 22 FEB 2026

1. Product Overview

Benzyl Cinnamate (CAS 103-41-3) is a synthetic aromatic ester with a mild, sweet jasmine-like floral fragrance combined with soft balsamic and vanilla notes. It is a classic raw material in the fragrance and flavor industry, featuring excellent thermal stability, slow volatilization rate and long-lasting fragrance retention. This product is manufactured in accordance with international industrial standards with high purity (≥98.5%), consistent physical and chemical properties, and compliant with IFRA, EU Cosmetics Regulation and China GB 2760 standards. It is widely used in cosmetic formulation, household product fragrance, food flavor and pharmaceutical synthesis, with stable application performance and high safety.

Core Characteristics: High purity (≥99.2%); mild jasmine-balsamic floral fragrance; good solubility in organic solvents; excellent thermal stability; compliant with international fragrance/flavor safety standards; long shelf life.

2. Technical Specifications (Complies with Industrial Standard)

Item	Specification
Appearance	White to off-white crystalline powder/flakes
Assay (Purity)	≥ 98.5% (GC)
Melting Point	34.0-38.0°C
Loss on Drying	≤ 0.5%
Residue on Ignition	≤ 0.1%
Acid Value	≤ 1.0 mg KOH/g
Heavy Metals (Pb)	≤ 5 ppm
Heavy Metals (As)	≤ 1 ppm
Solubility (95% Ethanol, 25°C)	1:2 soluble
Solubility in Water	<0.01g/100mL (25°C)
Particle Size	60-80 mesh (customizable: 40-100 mesh)
Flash Point	≥ 180°C (Closed Cup)
Odor	Mild sweet jasmine-like floral fragrance with balsamic notes (no off-odor)

3. Product Advantages

- High Purity & Stable Quality:** Industrial grade with batch-tested purity ≥99.2%, low impurity content, no obvious color difference or off-odor, consistent physical and chemical properties.
- Pleasant & Long-Lasting Fragrance:** Classic jasmine-balsamic scent, slow volatilization rate, fragrance retention up to 12-24 hours in finished products, ideal for long-acting fragrance formulations.
- Excellent Thermal Stability:** Resistant to high temperature (≤150°C) during processing, no fragrance loss or decomposition, suitable for high-temperature production processes (candle, plastic, soap).
- Good Compatibility:** Soluble in most organic solvents (ethanol, ether, vegetable oil) and fragrance raw materials, no adverse reactions in formulation, easy to compound with other esters and alcohols.
- Multi-Field Application:** Complies with food, cosmetic and household product safety standards, suitable for fragrance formulation, flavor modification, pharmaceutical synthesis and industrial additives.
- Long Shelf Life:** 24-month shelf life under specified storage conditions, no moisture absorption or degradation with proper sealing, easy to store and transport.



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4. Application Fields

4.1 Fragrance Industry

- **Cosmetic Fragrance:** Perfume, eau de toilette, body lotion, shower gel, shampoo, conditioner, hand cream (formulation ratio 0.5-8.0%).
- **Household Product Fragrance:** Soap, candle, laundry detergent, fabric softener, air freshener, incense (formulation ratio 0.1-5.0%).
- **Industrial Fragrance:** Plastic product fragrance, coating fragrance, paper product fragrance, textile softener fragrance (formulation ratio 0.05-2.0%).

4.2 Flavor Industry

- Food flavor: Bakery, candy, pastry, beverage, ice cream, chocolate (added in accordance with China GB 2760-2021, formulation ratio 0.001-0.01%).
- Feed flavor: Small amount added for feed flavor modification (compliant with feed additive safety standards).

5.1 General Usage Principles

- Operate in a well-ventilated area; avoid inhalation of crystalline powder and eye contact.
- For aqueous system formulation, dissolve in ethanol/propylene glycol first (solvent:benzyl cinnamate = 2:1) for uniform mixing; heat to 40-50°C to accelerate dissolution if needed.
- Strictly control the dosage in food and cosmetic applications in accordance with national and international standards (IFRA, GB 2760).
- Avoid mixing with strong oxidizing agents and concentrated acids in the formulation process to prevent product degradation.

5.2 Recommended Dosage (by Industry)

Industry	Application Scenario	Recommended Dosage (Formulation Ratio)
Cosmetics	Perfume/eau de toilette	2.0-8.0%
Cosmetics	Shampoo/body lotion/hand cream	0.5-2.0%
Household Products	Soap/candle/air freshener	0.1-5.0%
Food Flavor	Bakery/candy/chocolate	0.001-0.01%
Industrial Fragrance	Plastic/coating/paper	0.05-2.0%
Pharmaceutical Intermediate	Drug synthesis	10-60% (process ratio)

6. Packaging & Storage

- **Cosmetic/Food Grade:** 1kg/5kg/10kg HDPE sealed plastic drums (food-grade inner lining); 500g/1kg brown glass bottles (small package).
- **Industrial/Pharmaceutical Grade:** 25kg HDPE sealed plastic drums / paper composite bags with plastic lining; 200kg iron drums with inner plastic lining (bulk package).
- **High-Purity Reagent Grade:** 100g/500g brown glass bottles (sealed with teflon stopper).
- **Custom Packaging:** Small package (50g/100g) and large package (50kg/100kg) available upon customer request.

7. Safety & Protection

1. The product causes serious eye irritation; harmful to aquatic life with long-term effects; no skin irritation and acute oral toxicity for normal contact.
2. Wear **nitrile rubber gloves, chemical safety goggles and N95 dust mask** during handling; avoid inhalation of crystalline powder and direct eye contact.
3. Do not eat, drink or smoke during operation; wash hands thoroughly with soap and water after handling.
4. In case of eye contact: Rinse thoroughly with running water for 15-20 minutes and consult a doctor immediately.