

Technical Data Sheet (TDS)

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1. Product Overview

- **Product Name:** Cinnamyl Cinnamate
- **Chemical Name:** Cinnamic acid cinnamyl ester; (E)-3-Phenylacrylic acid (E)-3-phenyl-2-propen-1-yl ester
- **CAS Number:** 122-69-0
- **Molecular Formula:** C₁₈ H₁₆ O₂
- **Molecular Weight:** 264.32 g/mol
- **Product Trait:** White crystalline powder/flakes with characteristic sweet, balsamic, floral-cinnamic mild spicy odor; Class 4.1 combustible solid; mild skin/eye irritation only in sensitive individuals; high purity, excellent fragrance fixative performance, extremely low volatility; insoluble in water, soluble in most organic solvents and fragrance oils. **FOR FRAGRANCE, COSMETIC, FOOD FLAVOR ADJUVANT AND INDUSTRIAL FINE CHEMICAL SYNTHESIS USE ONLY.**
- **Core Properties:** High purity (≥98.0%, fragrance/cosmetic grade ≥99.0%); authentic sweet balsamic floral-cinnamic odor, no off-flavor; excellent fragrance fixative effect (prolongs fragrance duration by 2-5 times); stable under normal storage/use conditions; compliant with global fragrance/cosmetic/food standards (GB 2760, FDA GRAS, IFRA); excellent compatibility with most fragrance, cosmetic and food raw materials; low addition amount achieves obvious fragrance and fixative effect.

2. Technical Specifications (Fragrance/Cosmetic/Food/Industrial Grade)

Item	Specification (Industrial Grade)	Specification (Fragrance/Cosmetic/Food Grade)
Appearance	White to off-white crystalline powder	White crystalline powder/flakes
Assay (Cinnamyl Cinnamate)	≥98.0% (HPLC)	≥99.0% (HPLC)
Melting Point	44-48°C	45-47°C
Loss on Drying	≤0.5%	≤0.3% (105°C Constant Weight)
Residue on Ignition	≤0.1%	≤0.05%
Heavy Metals (Pb)	≤5 ppm	≤1 ppm (AAS)
Heavy Metals (As)	≤1 ppm	≤0.5 ppm (AFS)
Ethanol Solubility	Soluble (1:10 in 95% ethanol), clear	Soluble (1:15 in 95% ethanol), clear
Odor/Flavor	Sweet balsamic floral-cinnamic odor	Pure sweet balsamic floral-cinnamic mild spicy odor
Clarity of Solution	Clear, no visible insoluble matter	Clear, no visible insoluble matter
Stability	Stable at 0-40°C	Stable at 0-50°C (fragrance retention ≥98%)
pH Value (1% ethanol solution, 25°C)	6.9-7.4	7.0±0.1
Bulk Density	0.85-0.90 g/cm ³	0.86-0.89 g/cm ³

3. Product Advantages

1. **High Purity & Premium Fragrance:** Assay ≥98.0% (fragrance/cosmetic/food grade ≥99.0%) with ultra-low impurities and heavy metals; authentic sweet balsamic floral-cinnamic odor with mild spicy note, no synthetic off-flavor; FDA GRAS certified for food use, IFRA compliant for fragrance/cosmetic use, ideal for high-end perfume and cosmetic formulation.
2. **Excellent Fragrance Fixative Performance:** Extremely low volatility and high fragrance retention; can prolong the fragrance duration by 2-5 times in perfume and cosmetic formulations; acts as a core fixative to balance the fragrance system and prevent rapid volatilization of top notes.

4. Application Fields & Dosage Guide

4.1 Main Application Fields

- **Fragrance Industry:** Core raw material for perfume, eau de toilette, cologne and body spray; used in floral, oriental, spicy and woody fragrance formulations; acts as a fixative to improve fragrance persistence.
- **Cosmetic Industry:** Fragrance and fixative for skin care creams, lotions, shampoos, conditioners and makeup products; improves the fragrance experience and duration of cosmetic products; no greasy residue on skin and hair.

4.2 Recommended Dosage (w/w in formulation, adjust by fragrance/ flavor intensity)

Application Field	Dosage (Industrial Grade)	Dosage (Fragrance/Cosmetic/Food Grade)	Remarks
Fragrance - Perfume/Eau de Toilette	2-8%	1-6%	Mix with fragrance oil system; acts as fixative
Cosmetic - Skin Care/Hair Care/Makeup	0.5-3%	0.2-2%	Add in oil phase; improve fragrance persistence
Food - Baked Food/Candy/Beverage	0.01-0.1%	0.005-0.05%	Food grade only; avoid high-temperature baking (>180°C)
Daily Chemical - Soap/Detergent/Air Freshener	1-5%	0.5-3%	Compatible with surfactant systems
Organic Synthesis - Fine Chemicals/Pharmaceuticals	10-99%	50-99%	Depending on reaction type; inert gas protection optional

5. Usage & Formulation Guidelines

- **Fragrance Formulation (Floral Perfume):** Dissolve Cinnamyl Cinnamate (1-6%) in fragrance oil system (including rose oil, jasmine oil, lavender oil) at 40-50°C; stir evenly and cool to room temperature; age for 7-14 days in cool dark place for fragrance fusion; enhances floral note and prolongs fragrance duration.
- **Cosmetic Formulation (Moisturizing Lotion):** Add cosmetic grade Cinnamyl Cinnamate (0.2-2%) to oil phase (jojoba oil + cetyl alcohol) and melt at 60-70°C; mix with aqueous phase (glycerol + hyaluronic acid) under homogenization; cool to 30°C and add other additives; acts as fragrance and fixative, no impact on lotion texture.

6. Packaging & Storage

- **100g/500g/1kg Amber glass bottle:** Fragrance/Cosmetic/Food lab/R&D/small-batch use, sealed with anti-static screw cap + plastic plug
- **5kg/10kg HDPE plastic drum:** Cosmetic/Daily Chemical medium-batch use, inner anti-static lining + double anti-leakage cap
- **25kg HDPE plastic drum/amber glass drum:** Fragrance/Food/Industrial bulk use, anti-static + nitrogen-filled packaging (for long-term storage)
- **200L Seamless steel drum:** Large-scale industrial synthesis use, anti-static lining + explosion-proof cap

7. Safety & Protection

- The product is a **Class 4.1 combustible solid** with mild skin/eye irritation only in sensitive individuals and dust explosion risk; all operations must be conducted by trained professional personnel with specified PPE (chemical-resistant goggles, nitrile rubber gloves, dust mask (N95), chemical-resistant apron).