

Technical Data Sheet (TDS)

- Benzyl Salicylate 水杨酸苄酯

Revision Date: 26 FEB 2026

1. Product Overview

- **Product Name:** Benzyl Salicylate (水杨酸苄酯)
- **English Name:** Benzyl Salicylate; Benzyl 2-hydroxybenzoate; Salicylic acid benzyl ester
- **CAS Number:** 118-58-1
- **Molecular Formula:** C₁₄H₁₂O₃
- **Molecular Weight:** 228.24 g/mol
- **Form:** Colorless to pale yellow transparent liquid with mild floral, balsamic & sweet clove-like odor
- **Grade:** Cosmetic Grade / Flavor & Fragrance Grade / Industrial Grade

Benzyl Salicylate is a high-purity aromatic ester organic compound, a classic fixative and fragrance ingredient in the flavor & fragrance and cosmetic industry. It complies with EU REACH, US FDA, IFRA and Chinese national cosmetic/food safety standards. Featured with excellent fragrance fixing performance, thermal stability and compatibility, it is also an important organic synthesis intermediate for fine chemical manufacturing, with stable performance and wide application in cosmetic, perfume, food and chemical fields.

2. Technical Specifications (Complies with Cosmetic/Flavor/Industrial Standard)

Item	Specification
Appearance	Colorless to pale yellow clear liquid, mild floral-balsamic aroma
Assay (Benzyl Salicylate)	≥ 99.0%
Refractive Index (n ₂₀ ^D)	1.580 ~ 1.584
Relative Density (25/25°C)	1.170 ~ 1.174 g/cm ³
Boiling Point	308 ~ 310°C
Flash Point (Closed Cup)	≥ 160°C
Acid Value (as KOH)	≤ 1.0 mg KOH/g
Water Content	≤ 0.1%
Heavy Metals (Pb)	≤ 5 ppm
Heavy Metals (As)	≤ 1 ppm
Ethanol Solubility (1:2, 95% EtOH)	Clear, no turbidity
Total Bacterial Count (Cosmetic/Flavor Grade)	≤ 100 CFU/mL
E. coli (Cosmetic/Flavor Grade)	Negative
Temperature Stability	Stable at 0 ~ 60°C (purity/aroma retention ≥ 99%)
pH Stability	Stable at pH 4.0 ~ 8.5 (no hydrolysis)
Storage Stability	24 months unopened (under specified conditions), no discoloration/odor change

3. Product Advantages

1. **Excellent Fragrance Fixing Effect:** Slow volatilization rate, prolongs fragrance retention time by 3-5 times, core fixative for perfume and cosmetic formulations.
2. **High Purity & Pure Aroma:** Assay ≥99.0%, no off-flavor, mild floral-balsamic note, blends well with various fragrance raw materials.
3. **Superior Stability:** Good thermal and chemical stability, no easy hydrolysis/decomposition under normal use conditions, suitable for high-temperature cosmetic production processes.
4. **Wide Compatibility:** Miscible with ethanol, ether, essential oils, esters and most organic solvents, compatible with all cosmetic bases and flavor formulations.
5. **Multi-grade Compliance:** Cosmetic grade meets IFRA and EU Cosmetic Regulation; flavor grade complies with FDA standards; low toxicity and safe for daily use.



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6. **Dual Application:** Serves as both fragrance/fixative and organic synthesis intermediate, suitable for cosmetic, flavor & fragrance and fine chemical industries.

4. Application Fields

- **Cosmetic & Personal Care:** Fragrance fixative and ingredient for perfume, lotion, cream, shampoo, body wash, soap and makeup; enhances fragrance layering and persistence.
- **Flavor & Fragrance Industry:** Core fixative for fine fragrances, daily chemical fragrances and food flavors; used to prepare floral, fruity and spicy flavor notes.
- **Food Industry:** Flavoring agent and fixative for candy, pastry, beverage and baked food; adds mild sweet balsamic note (low dosage).
- **Organic Synthesis:** Key intermediate for synthesizing pharmaceuticals, pesticides, UV absorbers and polymer materials; reaction raw material for esterification and condensation reactions.
- **Other Fields:** Plasticizer additive for synthetic resins; raw material for industrial coatings and ink with odor modification function.

5. Usage Methods

Recommended Dosage (Adjust according to grade and application scenario)

- **Perfume & Fine Fragrance:** 5 ~ 20% of total formulation (main fixative); 1 ~ 5% (fragrance ingredient).
- **Cosmetic & Personal Care:** 0.5 ~ 5% of total formulation (fragrance fixative/ingredient).
- **Food & Flavor:** 0.001 ~ 0.01% of total formulation (flavoring agent/fixative); follow FDA maximum use level.
- **Organic Synthesis:** 10 ~ 60% of total reaction system (as intermediate/raw material), adjust according to reaction process.

Key Application Tips

1. **Mixing & Addition:** At room temperature, can be directly mixed with organic solvents/essential oils/cosmetic bases; no dilution required for most formulations.
2. **Compatibility Note:** Stable in neutral/weak acidic/weak alkaline systems (pH 4.0 ~ 8.5); avoid strong acidic/strong alkaline (pH <3.0 or pH >9.0) high-temperature (>200°C) environments to prevent hydrolysis.
3. **Fragrance Blending:** Blends well with jasmine, rose, lavender, vanilla and sandalwood fragrance ingredients, improves fragrance persistence and layering.
4. **Industrial Use:** For organic synthesis, control reaction temperature below 180°C to ensure reaction efficiency and avoid slight volatilization.

6. Packaging & Storage

Packaging Specifications (Sealed Cosmetic/Food/Industrial Grade Packaging)

- 500 mL brown glass bottle (inner) + carton (outer) (laboratory/R&D/small-batch use)
- 25 kg HDPE plastic drum (cosmetic/industrial grade use)
- 200 kg galvanized iron drum (flavor/cosmetic grade bulk use)
- 1000 kg IBC tote (large-scale chemical manufacturing/fragrance production use)
- Custom packaging available (100g/250g small glass bottle for fragrance formulation).

Storage Conditions

1. Store in a **cool, dark, well-ventilated warehouse** at 5 ~ 30°C; avoid direct sunlight, high temperature (>35°C) and open fire.
2. Keep the container tightly sealed with an airtight cover to prevent product volatilization, oxidation and discoloration.
3. Store separately from strong oxidants, strong acids, strong alkalis and halogens; isolation distance ≥1.5m; no smoking in the storage area.

7. Safety & Protection

1. The product is low-toxic and slightly irritating; a small number of sensitive individuals may have mild skin/eye irritation after direct contact; avoid prolonged contact and inhalation of high-concentration vapor.
2. **Recommended PPE:** Wear nitrile rubber gloves and safety glasses for large-scale handling/pouring; a dust/mist mask is optional for operation in poor ventilation; no special PPE for small-batch formulation.