

Technical Data Sheet (TDS)

Issued Date: February 15, 2026

Document No.: TDS-BMHCA-260215

Product: Butylphenyl Methylpropional (BMHCA, Lilial) |

CAS: 80-54-6

1. Product Identification

- **IUPAC Name:** 2-(4-tert-Butylbenzyl)propionaldehyde
- **Synonyms:** 4-tert-Butyl- α -methylhydrocinnamic aldehyde; Lilial
- **EC No.:** 201-289-8 | **Molecular Formula:** C₁₄H₂₀ O | **MW:** 204.31
- **Use:** Fragrance ingredient for cosmetics, personal care, and fine fragrances.

2. Key Physical & Chemical Properties

| Property | Value | Test Method |
|----------------------------|---|-----------------|
| Appearance | Colorless liquid | Visual |
| Odor | Floral, lily-of-the-valley, fresh | Olfactory |
| Assay (GC) | ≥ 98.5% | GC-FID |
| Relative Density (20/20°C) | 0.940–0.946 | Pycnometry |
| Refractive Index (20°C) | 1.492–1.496 | Refractometry |
| Acid Value | ≤ 1.0 mg KOH/g | Titration |
| Water Content | ≤ 0.10% | Karl Fischer |
| Flash Point (Closed Cup) | ≥ 100°C | ASTM D93 |
| Boiling Point | ~260°C | ASTM D86 |
| Solubility | Soluble in ethanol, ether; insoluble in water | Solubility test |

3. Application & Usage

- **Recommended Use Levels:** 0.01–5.0% (cosmetics); 1.0–20.0% (fine fragrances).
- **Applications:** Perfumes, deodorants, lotions, shampoos, soaps, detergents.
- **Benefits:** Strong lily-of-the-valley note, excellent stability in neutral/alkaline systems, good blending with floral/aldehyde fragrances.

4. Storage & Handling

- **Storage:** 5–30°C, tightly sealed, in a cool/dry place away from light/heat.
- **Shelf Life:** 24 months from manufacture (unopened, proper storage).
- **Handling:** Avoid skin/eye contact; use in well-ventilated areas.

5. Regulatory Compliance

- **REACH:** Registered; Annex XVII compliant (cosmetic use restrictions apply).
- **CosIng:** Listed (INCI: Butylphenyl Methylpropional).
- **Nordic Swan:** Restricted in ecolabeled cosmetics.
- **SCCS Opinion:** Refer to SCCS/1591/17 (cosmetic safety assessment).