Technical Data Sheet

PINHONBIO® trans-4-tert-Butylcyclohexanol

99% GC grade | TDS | Version 1.1 | 21 Oct 2026

High-purity trans-4-tert-butylcyclohexanol powder for professional cosmetic formulation, including soothing and skin-comfort applications. This sheet defines the general quality specification for the 99% GC grade.

1 Product identity

Trade name	PINHONBIO® trans-4-tert-Butylcyclohexanol
INCI name	4-T-BUTYLCYCLOHEXANOL
Chemical identity	trans-4-tert-Butylcyclohexanol | CAS 21862-63-5
Molecular formula and weight	$C_{10}H_{20}O$ | 156.27 g/mol
Product form	White to off-white powder

2 Quality specification

Test item	Specification
Purity	≥99.0%
Identification	Conforms to reference
Appearance	White to off-white powder
Odour	Characteristic
Isomer impurity	≤1.0%
Loss on drying	≤3.0%
Melting range	79–81 °C
Arsenic (As)	≤1.0 mg/kg
Lead (Pb)	≤1.0 mg/kg
Mercury (Hg)	≤0.1 mg/kg
Cadmium (Cd)	≤1.0 mg/kg
Total plate count	≤1,000 CFU/g
Yeasts and moulds	≤100 CFU/g
Escherichia coli	Not detected in 1 g
Salmonella	Not detected in 1 g

Basis: PINHONBIO product specification supplied in the COA. GC purity and loss on drying are separate quality limits; GC purity is not presented as a gravimetric as-supplied assay. Detailed procedures are controlled by the testing laboratory. 1 mg/kg = 1 ppm.

3 Technical properties

Composition	Technical trans-4-tert-butylcyclohexanol substance with controlled isomer impurity; purity ≥99.0% by GC. No carrier is specified for this powder grade.
Water solubility	Practically insoluble to insoluble in water, as reported by FAO/JECFA [1].
Ethanol solubility	Soluble in ethanol, as reported by FAO/JECFA [1].
Melting behaviour	Product specification: 79–81 °C; published reference value approximately 80 °C [1].

Solubility information is a literature reference, not a batch release test. Solution clarity depends on solvent, concentration and temperature; verify these conditions in the intended formulation.

4 Applications and formulation guidance

Intended applications: Soothing skin-care creams, lotions, serums and other cosmetic formulations designed to support skin comfort.

Scientific background: Published research identifies trans-4-tert-butylcyclohexanol as a TRPV1 antagonist and reports reduced capsaicin-induced burning in a tested topical emulsion [2]. These findings support its use in soothing formulations; performance depends on the complete formula and use level.

Incorporation: Pre-dissolve in a compatible cosmetic solvent or suitable formulation phase. Evaluate dissolution and recrystallization during cooling and storage. Direct addition to water will not provide a clear aqueous solution. Establish the use level, process temperature and finished-product stability through formulation trials.

5 Packaging storage and shelf life

Packaging	Double inner plastic bags in a neutral outer cardboard / fibre drum; pack size according to the order.
Storage	Store at 2–25 °C in a cool, dry place, protected from strong light and heat. Keep the original container tightly closed and protected from contamination.
Shelf life	24 months in original unopened packaging under the recommended storage conditions.
Handling	Use appropriate workplace protection. Refer to the SDS for safe handling and transport information.

6 Supplier and reference information

Shaanxi Pinhon Biotechnology Co., Ltd. | Manufacturer & Supplier

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[1] FAO/JECFA, trans-4-tert-Butylcyclohexanol, JECFA No. 2263. https://www.fao.org/food/food-safety-quality/scientific-advice/jecfa/jecfa-flav/details/ru/c/2281/

[2] Kueper et al. Inhibition of TRPV1 for the treatment of sensitive skin. Experimental Dermatology (2010). DOI: 10.1111/j.1600-0625.2010.01122.x. https://pubmed.ncbi.nlm.nih.gov/20626462/

INCI naming reference: COSMILE Europe. https://cosmileeurope.eu/inci/detail/114/4-t-butylcyclohexanol/

Version 1.1 | 21 Oct 2026. General specification; individual batch results are provided separately in the COA.