Technical Data Sheet

PINHONBIO® Tetrahydrocurcumin

General specification | Version 1.0 | 30 Oct 2026

1. Product identity

INCI name	TETRAHYDROCURCUMIN
CAS number	36062-04-1
Molecular formula / molecular weight	$C_{21}H_{24}O_6$ / 372.42 g/mol
Synonym	Tetrahydrodiferuloylmethane
Grade / GMO status	Cosmetic grade / Non-GMO
Processing solvents	Ethanol and water

2. Quality specification

Test item	Specification
Assay	≥96%
Appearance	White to off-white powder, free from visible impurities
Odour	Characteristic
Loss on drying	<2%
Residual ethanol	<2,000 ppm
Sieve analysis	Not less than 98% passes through a 100-mesh sieve
Lead (Pb)	<2.0 ppm
Arsenic (As)	<2.0 ppm
Mercury (Hg)	<0.5 ppm
Cadmium (Cd)	<2.0 ppm
Total plate count	≤1,000 CFU/g
Total yeasts and moulds	≤100 CFU/g
Coliforms	Negative
Salmonella	Negative
Staphylococcus aureus	Negative

Quality limits follow the PINHONBIO product specification. Microbiological absence criteria apply to the test portion defined in the applicable laboratory procedure. Batch-specific results are provided in the corresponding COA.

3. Technical description

Tetrahydrocurcumin is a hydrogenated derivative of curcumin supplied as a white to off-white cosmetic powder. Its INCI function is antioxidant. It can be considered for antioxidant skincare and formulations targeting a more even-looking skin tone.

The material has low water solubility. Solubility in a selected solvent, co-solvent or emulsion system depends on concentration and temperature. Develop a compatible delivery system rather than assuming complete dissolution in the water phase.

4. Applications and formulation guidance

Potential formats include creams, lotions, emulsified serums and masks. Published laboratory studies support antioxidant and anti-melanogenic research interest; finished-product performance depends on the formulation and must be substantiated for the intended claims.

Evaluate pre-dissolution or uniform dispersion in a compatible cosmetic vehicle before incorporation. Confirm clarity or dispersion uniformity, crystallization on cooling, colour, pH compatibility and storage stability in the finished formula. Avoid unnecessary prolonged heating and exposure to strong light.

Select the use level according to finished-product safety assessment, stability, performance and the requirements of the destination market. Handle the raw powder with ventilation and suitable eye and skin protection. Refer to the SDS.

5. Packaging storage and shelf life

Packaging	Double inner plastic bags in an outer fibre drum; pack quantity as agreed.
Storage	Store tightly closed in a cool, dry place, protected from strong light and heat. Protect from moisture and contamination.
Shelf life	24 months in original unopened packaging under recommended storage conditions.
Transport	Non-dangerous goods. Not regulated under IATA, IMDG or US DOT for the supplied powder.

6. Supplier and references

SHAANXI PINHON BIOTECH CO., LTD. | Manufacturer & Supplier

Room 704, Unit 2, Building 1, I-Duhui, No. 11 Tangyan South Road, Yanta District, Xi'an, Shaanxi, China

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Specification and shelf life: supplied PINHONBIO COA. This is a standing specification for the ≥96% grade, not a batch analysis report.

PubChem: Tetrahydrocurcumin — identity and molecular structure.

COSMILE Europe: TETRAHYDROCURCUMIN — INCI name and antioxidant function.

Pharmaceutics (2021), 13(8):1185 — anti-melanogenic mechanism and formulation research.