品鸿生物科技
Pinhon Biotechnology

TECHNICAL DATA SHEET

PINHONBIO® Kavain

Kavain is a kavalactone supplied as an off-white powder for professional cosmetic formulation development. The release specification measures the chromatographic purity of kavain and sets a separate limit for each individual impurity.

Product grade	Cosmetic grade
Chemical identity	Kavain (also called kawain)
CAS number	3155-48-4
Molecular formula / molar mass	$C_{14}H_{14}O_3$ / 230.26 g/mol

Identity and physicochemical specifications

Property	Acceptance criterion
Identity	Conforms to the reference standard by HPLC, ^{1}H NMR and LC–MS.
Purity by HPLC	≥98.0%
Any single impurity by HPLC	<1.0%
Appearance and odor	Off-white powder with a characteristic odor.
Melting range	140–145 °C
Loss on drying	≤1.0% (5 g sample, dried at 105 °C to constant mass).
Residual ethanol	<2,000 ppm

Elemental and microbiological specifications

Elemental test	Limit	Microbiological test	Limit
Total heavy metals	≤10 ppm	Total bacterial count	≤1,000 CFU/g
Arsenic (As)	≤1 ppm	Yeasts and molds	≤100 CFU/g
Cadmium (Cd)	≤1 ppm	Staphylococcus aureus	Absent in 1 g
Lead (Pb)	≤1 ppm	Salmonella spp.	Absent in 1 g
Mercury (Hg)	≤0.1 ppm	Escherichia coli	Absent in 1 g

Elemental test method: ICP–MS. Values in ppm are expressed on a mass basis (mg/kg).

Formulation development

For a liquid concentrate, serum or emulsion, establish whether the intended carrier keeps kavain dissolved at the target concentration throughout storage. For a dispersed product, assess particle settling, redispersibility and uniformity of the finished formulation.

Vehicle screening

Liquid concentrates Weigh the candidate cosmetic vehicle and powder into a closed mixing vessel. Screen several loadings around the intended concentration. Record composition, mixing time, temperature and appearance once the samples have equilibrated.

Aqueous and emulsion systems Repeat the assessment after the concentrate has been diluted into the complete base. Check for haze, sediment or crystals after cooling and during storage. A clear concentrate can precipitate when its solvent composition changes.

Analytical support Methanol and chloroform are reported as analytical solvents for a kavain reference material (Cayman Chemical, item 39921). Choose a vehicle appropriate for the intended cosmetic application and determine solubility in that vehicle experimentally.

Quality checks for development samples

Identity and purity Use a qualified kavain reference standard for chromatographic comparison. HPLC purity and individual impurity limits apply to the raw powder. For a finished matrix, verify extraction recovery and separation from other ingredients before interpreting a chromatogram.

Light and temperature Retain a protected control. Compare stored samples with the control for appearance, crystal formation and chromatographic changes under the intended storage conditions.

Handling the powder Use local exhaust at the weighing station and avoid skin contact or inhalation. Consult the Safety Data Sheet before opening the container.

Packaging and storage

Net quantity	Ordering and packaging details
100 g	Minimum order.
500 g	Also available to order.
1 kg	Aluminium powder drum.
5 kg	Sealed aluminium foil bag inside a fibre drum.
10 kg	Sealed aluminium foil bag inside a cardboard drum.
25 kg	Sealed aluminium foil bag inside a fibre drum.
Storage	Keep tightly closed in a cool, dry place. Protect from strong light and heat.
Shelf life	3 years under the stated storage conditions.

Drum sizes are net weights per drum.

Technical contact

Shaanxi Pinhon Biotechnology Co., Ltd. | tech@pinhoningredients.com