Plai Supercritical CO2 Extract (Zingiber montanum) – Premium Extract

Zingiber montanum · Zingiberaceae

DOCUMENT	PRODUCT CODE	DOCUMENT NO.	REVISION	PRODUCT FORM
Technical Data Sheet	AP1541	TDS-AP1541	1.0 · 24 October 2026	Supercritical CO2 Extract

1 Product description

Plai supercritical CO2 extract is produced from the rhizome of Zingiber montanum (Zingiberaceae family) by extraction with pressurised carbon dioxide, which leaves no solvent residue and keeps heat-sensitive, lipophilic constituents intact. Available grades: Premium extract. Origin: Thailand. Intended for B2B formulation in nutraceuticals & supplements.

2 Identification

Botanical source	*Zingiber montanum* (Zingiberaceae)
Common name(s)	Plai
Plant part used	Rhizome
Typical origin	Thailand
Manufacturing process	Supercritical carbon dioxide extraction (solvent-free)
Standardisation	Premium extract (supercritical CO2)

3 Specification

PARAMETER	SPECIFICATION	METHOD
Appearance	Viscous oil, paste or semi-solid at 20 °C; yellow to dark brown (characteristic)	Visual
Odour	Characteristic	Organoleptic
Identification	Conforms (GC fingerprint vs. reference)	GC / GC-MS
Grade	Premium extract	HPLC
Relative density (20 °C)	Report (lot value on CoA)	ISO 279 / USP ‹841›
Refractive index (20 °C)	Report (lot value on CoA)	ISO 280 / USP ‹831›
Acid value	Report (lot value on CoA)	AOCS Cd 3d-63 / Ph. Eur. 2.5.1
Peroxide value	≤ 10 meq O_2/kg	AOCS Cd 8b-90 / Ph. Eur. 2.5.5
Water (Karl Fischer)	≤ 1.0%	USP ‹921›
Residual solvents	None used (solvent-free process)	GC-HS
Lead (Pb)	≤ 3.0 mg/kg	ICP-MS
Arsenic (As)	≤ 2.0 mg/kg	ICP-MS
Cadmium (Cd)	≤ 1.0 mg/kg	ICP-MS
Mercury (Hg)	≤ 0.1 mg/kg	ICP-MS
Pesticide residues	Complies with USP ‹561› and Regulation (EC) No 396/2005	GC-MS/MS, LC-MS/MS
Microbiology	Not applicable (anhydrous product); tested on request	—

Limits above are the standard release specification for this product class. Each lot is released against its Certificate of Analysis, which is the governing document and is available on request.

4 Grades & pack sizes

GRADE	SKU PREFIX	PACK SIZES

Premium extract	AP1541-PREEXT	50 g · 225 g · 1 Kg · 5 Kg

5 Packaging

- Samples: amber glass bottle with tamper-evident closure.
- Up to 1 Kg: nitrogen-flushed amber glass, aluminium or HDPE bottle.
- 5 Kg and above: HDPE jerrycan or lacquered steel drum.
- Packaging may vary by lot and is stated on the packing list.

6 Storage & shelf life

- Shelf life: 24 months from date of manufacture in the original, unopened packaging.
- Store tightly closed below 25 °C, protected from light and heat.
- After opening, blanket with nitrogen and use promptly to limit oxidation.
- May thicken or solidify on cooling; warm gently (≤ 40 °C) and homogenise before use.

7 Applications

Industries	Nutraceuticals & Supplements
Formulation focus	Joint & Bone Health

Use levels depend on the finished product and the target market. The customer is responsible for establishing safe and permitted use levels and for any claims made on finished products.

8 Regulatory & compliance

- Allergen information: not derived from a source listed in Annex II of Regulation (EU) No 1169/2011.
- Regulatory status for food, supplement, cosmetic or pharmaceutical use (e.g. EU novel food, US NDI/GRAS, FSSAI) must be confirmed by the customer for the intended market and use.

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