Tea Tree Oil Extract (Melaleuca alternifolia) – Gamma-terpinene 14–28%

Melaleuca alternifolia · Myrtaceae

DOCUMENT	PRODUCT CODE	DOCUMENT NO.	REVISION	PRODUCT FORM
Technical Data Sheet	AP0743	TDS-AP0743	1.0 · 24 October 2026	Essential Oil Fraction

1 Product description

Tea Tree extract is produced from the leaf oil of Melaleuca alternifolia (Myrtaceae family) and supplied as an essential-oil fraction, standardized to Gamma-terpinene. Available grades: Typical 14–28%. Typical sourcing: Australia. Intended for B2B formulation in nutraceuticals & supplements, cosmetics & personal care.

2 Identification

Botanical source	*Melaleuca alternifolia* (Myrtaceae)
Common name(s)	Tea tree
Plant part used	Leaf
Typical origin	Australia
Marker compound	Gamma-terpinene (Monoterpenes & aromatic volatiles)
Manufacturing process	Steam distillation and/or fractional distillation
Standardisation	14–28% (GC)
Assay method	GC
Pharmacopoeia & standards	Ph. Eur. (EP), EMA herbal monograph, ISO standard

3 Specification

PARAMETER	SPECIFICATION	METHOD
Appearance	Colourless to pale yellow mobile liquid	Visual
Odour	Characteristic	Organoleptic
Identification	Conforms (GC fingerprint vs. reference)	GC / GC-MS
Content – Gamma-terpinene	Not more than 28% (typical 14–28%)	GC
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›
Optical rotation (20 °C)	Report (lot value on CoA)	ISO 592
Flash point	Expected below 60 °C; measured value on CoA	ISO 3679
Residual solvents	None used (distillation)	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
Typical 14–28%	AP0743-T1428	Sample (50 g) · 250 g · 1 Kg · 5 Kg · 25 Kg

5 Packaging

- Samples: amber glass bottle with tamper-evident closure.
- Up to 1 Kg: nitrogen-flushed amber glass, aluminium or HDPE bottle. UN-approved packaging for dangerous goods.
- 5 Kg and above: HDPE jerrycan or lacquered steel drum (UN-approved).
- 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.

7 Applications

Industries	Nutraceuticals & Supplements, Cosmetics & Personal Care
Formulation focus	Immune Support, Skin & Hair Care
Traditional systems	European herbal tradition

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

- Pharmacopoeia / standard references: Ph. Eur. (EP), EMA herbal monograph, ISO standard.
- 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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