

Turmeric Supercritical CO2 Extract (*Curcuma longa*) – Ar-turmerone 15–45% & Turmerones $\geq$ 50%

Curcuma longa · Zingiberaceae

DOCUMENT Technical Data Sheet	PRODUCT CODE AP1517	DOCUMENT NO. TDS-AP1517	REVISION 1.0 · 24 October 2026	PRODUCT FORM Supercritical CO2 Extract
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1 Product description

Turmeric supercritical CO2 extract is produced from the rhizome of *Curcuma longa* (Zingiberaceae family) by extraction with pressurised carbon dioxide, which leaves no solvent residue and keeps heat-sensitive, lipophilic constituents intact. Available grades: 15%, 45%, Turmerones $\geq$ 50% (CO2 oil). Origin: India. Intended for B2B formulation in nutraceuticals & supplements, cosmetics & personal care, food & beverage.

15% 45% **Turmerones $\geq$ 50% (CO2 oil)**

2 Identification

Botanical source	<i>Curcuma longa</i> (Zingiberaceae)
Common name(s)	Turmeric
Plant part used	Rhizome
Typical origin	India
Marker compound	Ar-turmerone (Sesquiterpenes & sesquiterpene lactones)
CAS number (botanical extract)	84775-52-0
Manufacturing process	Full-spectrum grade: supercritical carbon dioxide extraction (solvent-free). Standardised % grades: solvent extraction and purification; the solvent is stated on the CoA
Standardisation	15%; 45%; Turmerones $\geq$ 50% (CO2 oil) (supercritical CO2)
Assay method	GC
Pharmacopoeia & standards	USP, Indian Pharmacopoeia, Ayurvedic Pharmacopoeia of India

3 Specification

PARAMETER	SPECIFICATION	METHOD
Appearance	Standardised % grades: fine powder · Full-spectrum grade: viscous supercritical CO2 oil / paste	Visual
Odour	Characteristic	Organoleptic
Identification	Conforms (HPTLC / HPLC fingerprint vs. reference)	HPTLC / HPLC
Assay – Ar-turmerone	Not less than the labelled grade (15%, 45%, Turmerones $\geq$ 50% (CO2 oil))	GC
Loss on drying (powder grades)	$\leq$ 5.0%	USP <731>
Particle size (powder grades)	$\geq$ 95% through 80 mesh (180 μ m)	USP <786>
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	$\leq$ 10 meq O ₂ /kg	AOCS Cd 8b-90 / Ph. Eur. 2.5.5
Water (Karl Fischer)	$\leq$ 1.0%	USP <921>
Residual solvents	Full-spectrum grade: none used; % grades: complies with ICH Q3C / Directive 2009/32/EC	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
Total aerobic microbial count (powder grades)	≤ 10,000 cfu/g	USP <2021>
Yeasts & moulds (powder grades)	≤ 1,000 cfu/g	USP <2021>
E. coli / Salmonella (powder grades)	Absent in 10 g / absent in 25 g	USP <2022>
Microbiology (CO2 oil grade)	Not applicable (anhydrous); 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
15%	AP1517-15	Sample (50 g) · 250 g · 1 Kg · 5 Kg · 25 Kg
45%	AP1517-45	Sample (50 g) · 250 g · 1 Kg · 5 Kg · 25 Kg
Turmerones ≥50% (CO2 oil)	AP1517-TURMINC020IL	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, Cosmetics & Personal Care, Food & Beverage
Formulation focus	Joint & Bone Health, Liver & Detox, Antioxidant & Healthy Ageing, Healthy Inflammation Response
Traditional systems	Ayurveda

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: USP, Indian Pharmacopoeia, Ayurvedic Pharmacopoeia of India.
- 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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