Fennel Oil Extract (Foeniculum vulgare) – Trans-Anethole 55–90%

Foeniculum vulgare · Apiaceae

DOCUMENT	PRODUCT CODE	DOCUMENT NO.	REVISION	PRODUCT FORM
Technical Data Sheet	AP0496	TDS-AP0496	1.0 · 24 October 2026	Essential Oil Fraction

1 Product description

Fennel extract is produced from the fruit of Foeniculum vulgare (Apiaceae family) and supplied as an essential-oil fraction, standardized to Trans-Anethole. Available grades: Typical 55–90%. Typical sourcing: Egypt, India. Intended for B2B formulation in nutraceuticals & supplements.

2 Identification

Botanical source	*Foeniculum vulgare* (Apiaceae)
Common name(s)	Fennel
Plant part used	Fruit
Typical origin	Egypt, India
Marker compound	Trans-Anethole (Monoterpenes & aromatic volatiles)
Manufacturing process	Steam distillation and/or fractional distillation
Standardisation	55–90% (GC)
Assay method	GC
Pharmacopoeia & standards	Ph. Eur. (EP), EMA herbal monograph, ESCOP monograph, WHO monograph

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 – Trans-Anethole	Not more than 90% (typical 55–90%)	GC
Anethole content	Not more than 60% (basis of the SDS classification)	GC-MS
Estragole content	Not more than 5% (basis of the SDS classification)	GC-MS
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 55–90%	AP0496-T5590	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
Formulation focus	Digestive & Gut Health
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, ESCOP monograph, WHO monograph.
- **EU flavourings:** Estragole must not be added as such to food; maximum levels apply in foods containing flavourings or food ingredients with flavouring properties (Regulation (EC) No 1334/2008, Annex III).
- 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.

This Technical Data Sheet is issued by CHOLAD PRIVATE LIMITED (trading as Extrakte), C 22/4, 2nd & 3rd Floor, Sector-57, Noida-201301, Uttar Pradesh, India · +91 817 8117 600 · choladco@gmail.com · extrakte.com. The information is given in good faith and reflects our current knowledge of the product; it does not constitute a warranty of properties for any specific application. Refer to the Safety Data Sheet **SDS-AP0496** for hazard, handling and transport information. Certificates of Analysis are issued per lot and are available on request.