Batch Number:
20260403-PRNG1EML

ALTRAFLORA
NATURAL EXTRACTS

Manufactured:
03.04.2026

TECHNICAL DATA SHEET

Product Information

Product Name: Black pepper SFE extract — water-dispersible, 2% piperine (origin: Turkey), PN AF-PRNG1EML

Scientific name: *Piper nigrum*

Parts utilized for extraction: Fruit (dry)

Appearance: Orange-yellow oil-in-water emulsion

Aroma: Characteristic

Solubility: Dispersible in water (oil-in-water emulsion); miscible with ethanol

Raw Material Specification

Analysis	Method	Result
Total ash for herb	Ph. Eur. (2.4.16)	<3%
Pesticides	GC/MS, LC-MS/MS	Complies with Ph. Eur. (2.8.13)
Aflatoxins (G1, G2, B1, B2)	AOAC 999.07	Complies with Ph. Eur. (2.8.18)
Ochratoxin A	AOAC 2004.10	Complies with Ph. Eur. (2.8.22)
Benzo(a)pyrene (PAH)	JOSS 2002 25, pp. 96–100	<10 ppb

Extract Specification

Analysis	Method	Specification	Result
Piperine	HPLC-DAD (in-house method)	>2 %	2.01 %
Major terpenoids:			
Caryophyllene <(E)->	GC-MS and GC-FID (in-house method)	>2 %	2.35 %
3-Carene		>0.2 %	0.45 %
Limonene		>0.2 %	0.36 %
Arsenic (As)	ICP-OES (In-house method)	N.D. (< 1 ppm)	N.D.
Cadmium (Cd)		N.D. (< 3 ppm)	N.D.
Lead (Pb)		N.D. (< 1 ppm)	N.D.
Mercury (Hg)		N.D. (< 0.1 ppm)	N.D.
Total aerobic microbial count (cfu/g)	ISO 4833-1	<10000	Complies
Yeast & mold (cfu/g)	ISO 21527-2	<100	Complies
Escherichia coli	ISO 16649-2	N.D. (in 1 g)	N.D.
Salmonella	ISO 6579	N.D. (in 25 g)	N.D.
Pseudomonas aeruginosa	ISO 13720	N.D. (in 1 g)	N.D.
Staphylococcus aureus	ISO 6888-1	N.D. (in 1 g)	N.D.

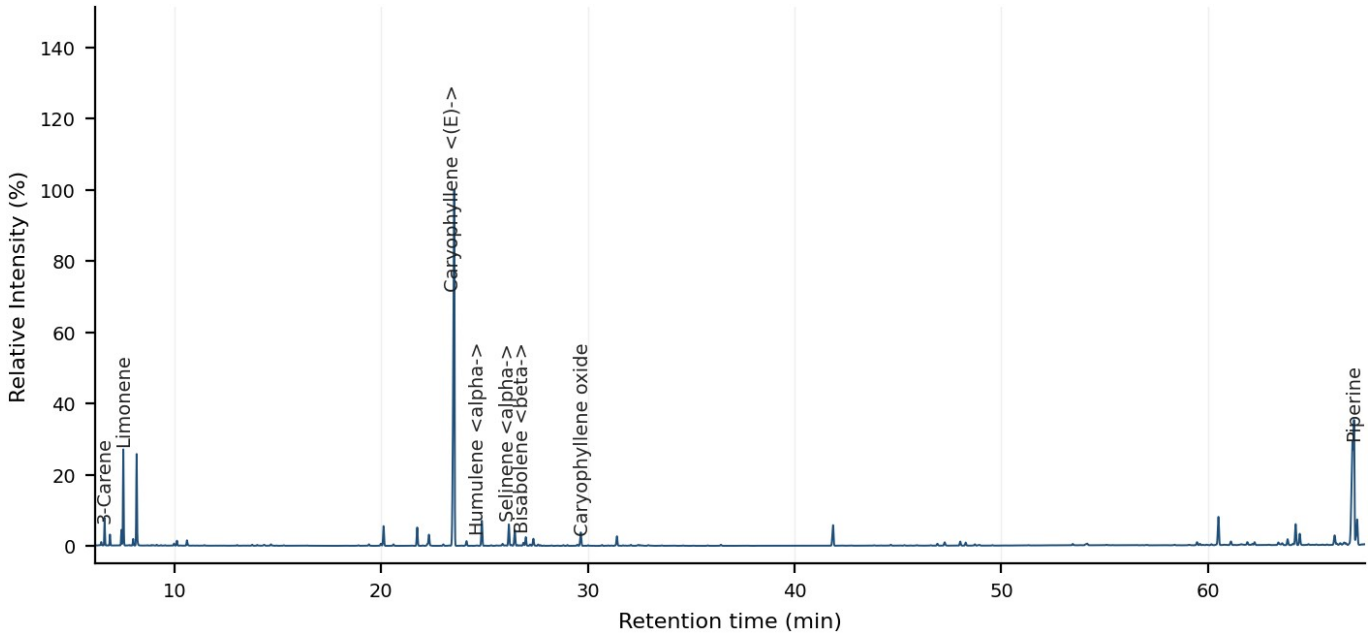
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Chromatogram



Additional Data

Storage conditions: Store refrigerated (2–8 °C); keep away from intense light and high heat. Shake well before use.

Carrier: Lecithin (E322(i)) and water. The black pepper extract is emulsified in this lecithin / water base.

Packaging: 1–5 kg/bottle, 10–25–50 kg/drum.

Shelf life: 12 months (unopened, refrigerated)

Dosage and use: A water-dispersible form of black pepper SFE oleoresin standardized to ~2% piperine, formulated for direct incorporation into aqueous food, beverage, and nutraceutical systems without a pre-solubilization step. It delivers consistent pungency and the characteristic black-pepper aroma to sauces, marinades, beverages, and seasoning bases, and serves as a piperine-based bioavailability enhancer for actives such as curcumin, CoQ10, and various vitamins. The emulsion is prepared from a supercritical-CO_2 oleoresin, preserving the thermolabile aromatic profile that would be partially lost in steam distillation or degraded in solvent extraction.

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Full chromatographic profile (GC-FID)

Name	CAS	RT (min)	Content (%)
Pinene <beta->	127-91-3	6.625	0.99
3-Carene	**13466-78-9**	**6.642**	**4.46**
Myrcene	123-35-3	6.837	0.04
Limonene	**138-86-3**	**7.532**	**3.59**
Caryophyllene <(E)->	**87-44-5**	**23.502**	**23.47**
Humulene <alpha->	6753-98-6	24.677	1.35
Selinene <alpha->	473-13-2	26.156	0.84
Selinene <beta->	17066-67-0	26.438	0.64
Bisabolene <beta->	495-61-4	26.872	0.65
Cadinene <delta->	483-76-1	27.154	0.43
Caryophyllene oxide	1139-30-6	29.760	0.85
l-(+)-Ascorbic acid 2,6-dihexadecanoate	28474-90-0	41.952	0.05
Piperine	**94-62-2**	**67.081**	**27.10**

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