

TECHNICAL DATA SHEET

Product Information

Product Name: Bitter orange food fragrance oil (cold-pressed), PN AF-CTAR1FRG
Scientific name: *Citrus aurantium*
Parts utilized for extraction: Fruit peel (fresh)
Appearance: Clear, colourless to pale yellow-orange mobile liquid
Aroma: Fresh, dry citrus with a bitter-green edge
Solubility: Insoluble in water; soluble in ethanol and fixed oils

Raw Material Specification

Analysis	Method	Result
Total ash for herb	Ph. Eur. (2.4.16)	<4%
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

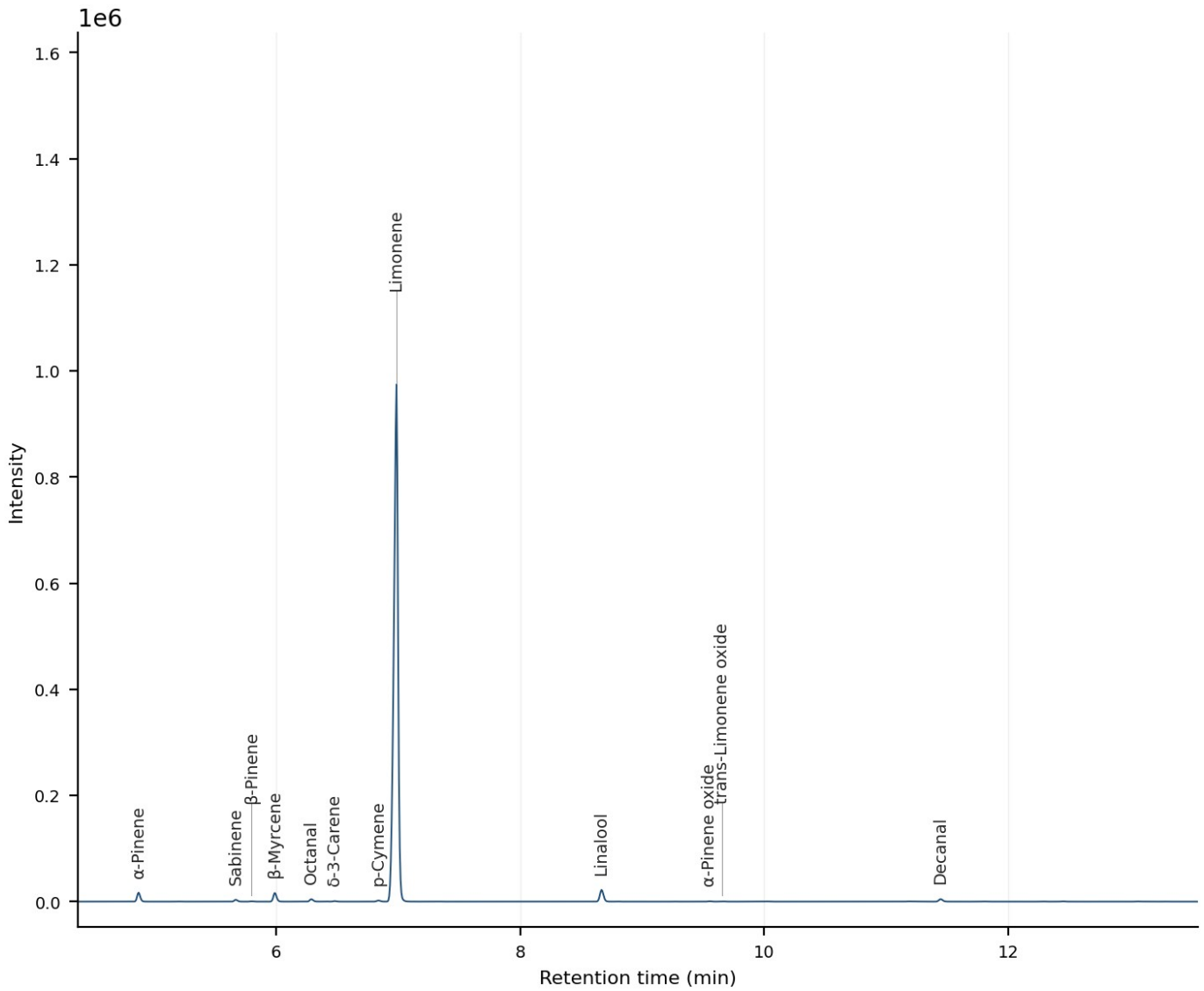
Analysis	Method	Specification	Result
Major components:			
Limonene	GC-FID, area normalisation (AF-LABGC003)	min. 88 %	93.76 %
Linalool		max. 4.0 %	1.90 %
β-Myrcene		0.5 - 3.0 %	1.27 %
α-Pinene		0.5 - 3.0 %	1.25 %
Decanal		0.1 - 1.0 %	0.43 %
Octanal		0.1 - 1.0 %	0.38 %
Sabinene		max. 1.0 %	0.27 %
TOTAL		min. 92 %	99.26 %
Identified compounds (GC-FID area)	GC-FID, area normalisation (AF-LABGC003)	min. 98 %	99.87 %
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
<i>Escherichia coli</i>	ISO 16649-2	N.D. (in 1 g)	N.D.
<i>Salmonella</i>	ISO 6579	N.D. (in 25 g)	N.D.
<i>Pseudomonas aeruginosa</i>	ISO 13720	N.D. (in 1 g)	N.D.
<i>Staphylococcus aureus</i>	ISO 6888-1	N.D. (in 1 g)	N.D.

Batch Number:
20260907-CTAR1FRG



Manufactured:
07.09.2026

Chromatogram



Additional Data

Storage conditions: Store in cool and dry place, keep away from intense light and high heat.

Carrier: Fractionated coconut oil (caprylic/capric triglyceride, MCT).

Packaging: 10 mL amber glass bottle with food-grade fine-mist spray head; also supplied by the kilogram (1-5 kg/bottle, 10-25-50 kg/drum).

Shelf life: 24 months

Dosage and use: Bitter orange peel oil is drier and greener than sweet orange, with a bitter edge that suits marmalade, liqueur and bitters work, baked goods, and citrus-floral fragrance accords where sweet orange would read too candied. The oil is almost entirely limonene, with linalool giving the soft floral lift that distinguishes it. As with all expressed citrus peel oils, observe the photosensitivity guidance applicable to leave-on skin products, and store cold and full to limit oxidation. Compositional figures in the Extract Specification and the chromatographic profile refer to the essential-oil fraction of the product, determined by GC-FID area normalisation; the carrier is stated separately above.

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Full chromatographic profile (GC-FID)

Name	CAS	RT (min)	Content (%)
α-Pinene	80-56-8	4.872	1.25
Sabinene	3387-41-5	5.669	0.27
β-Pinene	127-91-3	5.798	0.05
β-Myrcene	123-35-3	5.990	1.27
Octanal	124-13-0	6.289	0.38
δ-3-Carene	13466-78-9	6.480	0.09
p-Cymene	99-87-6	6.839	0.18
Limonene	138-86-3	6.986	93.76
Linalool	78-70-6	8.668	1.90
α-Pinene oxide	1686-14-2	9.554	0.07
trans-Limonene oxide	4959-35-7	9.658	0.07
α-Terpineol	98-55-5	11.181	0.05
Decanal	112-31-2	11.447	0.43
Carvone	99-49-0	12.447	0.05
Neral	106-26-3	13.052	0.05