Batch Number:
20260502-QRCR1EML

ALTRAFLORA
NATURAL EXTRACTS

Manufactured:
02.05.2026

TECHNICAL DATA SHEET

Product Information

Product Name: Medium-roast Turkish oak $scCO_2$ extract — water-dispersible, PN AF-QRCR1EML

Scientific name: *Quercus cerris*

Parts utilized for extraction: Heartwood (medium-toast cooperage staves)

Appearance: Dark amber oil-in-water emulsion

Aroma: Characteristic toasted oak, whisky-like, vanillic, smoky-sweet

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)	<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 aroma compounds:	GC-MS / GC-FID (NIST 11/14, FID area %)		
Vanillin		>0.04 %	0.07 %
Syringaldehyde		>0.10 %	0.14 %
trans-Coniferaldehyde		>0.40 %	0.47 %
Sinapic aldehyde		>0.20 %	0.34 %
5-Hydroxymethylfurfural		>0.40 %	0.55 %
Acetovanillone		—	n.d.
TOTAL		**>1.2 %**	**1.57 %**
Fatty acid composition (major, % w/w):	GC-FID, methyl-ester derivatisation (AOAC 996.06 ad.)		
Linoleic acid (C18:2)		>0.20 %	0.26 %
Palmitic acid (C16:0)		>0.10 %	0.12 %
α-Linolenic acid (C18:3)		>0.05 %	0.09 %
Lignoceric acid (C24:0)		>0.05 %	0.07 %
Behenic acid (C22:0)		>0.04 %	0.06 %
Oleic acid (C18:1)		>0.04 %	0.05 %
Stearic acid (C18:0)		>0.04 %	0.05 %
TOTAL major FAs		**>0.49 %**	**0.71 %**
Total Phenolic Content (TPC)	Folin-Ciocalteu (765 nm)	>15 mg GAE/g	19.0 mg GAE/g
DPPH IC_{50} (antioxidant capacity)	UV-Vis spectrophotometry (515 nm, methanol)	<800 ppm	707 ppm
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.

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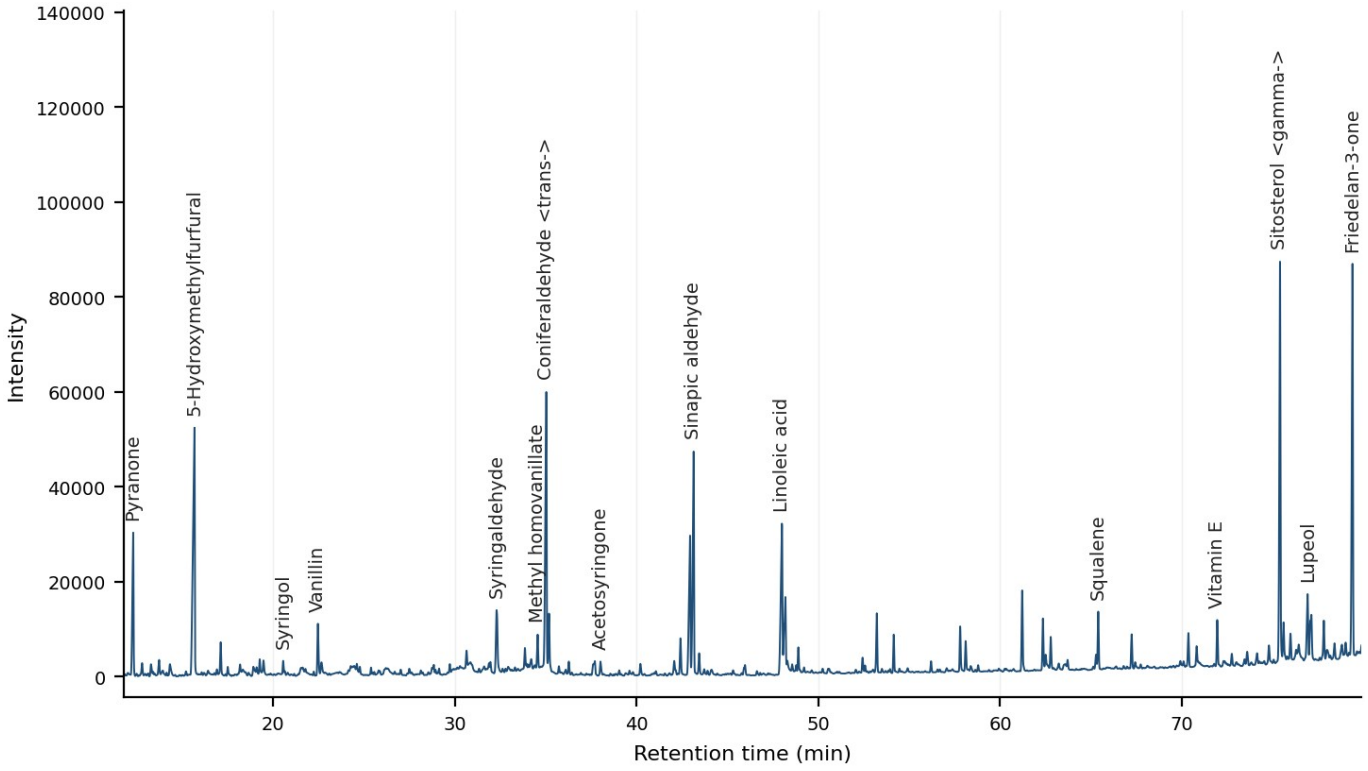
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Analysis	Method	Specification	Result
Mercury (Hg)		N.D. (< 0.1 ppm)	N.D.
Total aerobic microbial count (cfu/g)	ISO 4833-1	<10000	Complies
Yeast & mold (cfu/g)	ISO 21527-2	<100	Complies
Escherichia coli	ISO 16649-2	N.D. (in 1 g)	N.D.
Salmonella	ISO 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.

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 oak 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: Recommended as a whisky / wine barrel-maturation surrogate for rapid flavour development. Provides the characteristic toasted-oak, vanillic, smoky-sweet profile of barrel-aged products without months of barrel contact. Typical dosage 1–5 mg per litre of finished spirit or wine; 1–10 mg/kg in confectionery, baked goods, or sauces. Pre-dissolve in neutral spirit (≥40 % ethanol) before blending.

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Full chromatographic profile (GC-FID)

Name	CAS	Category	RT (min)	Content (%)
Furfural	98-01-1	Maillard products	3.604	0.84
3-Furanmethanol	4412-91-3	Maillard products	3.891	0.54
3-Pyridinol	109-00-2	N-compounds	10.814	0.96
Pyranone	28564-83-2	Maillard products	12.314	1.95
5-Hydroxymaltol	1073-96-7	Maillard products	13.292	0.18
Catechol	120-80-9	Phenolics	14.336	0.26
5-Hydroxymethylfurfural	**67-47-0**	**Maillard products**	**15.685**	**5.49**
Butanoic acid, anhydride	106-31-0	Other	17.127	0.46
Syringol	91-10-1	Phenolics	20.563	0.21
Vanillin	**121-33-5**	**Vanillin & deriv.**	**22.473**	**0.70**
Hydroquinone <methoxy->	824-46-4	Phenolics	22.668	0.29
Syringaldehyde	**134-96-3**	**Phenolic aldehydes**	**32.302**	**1.41**
Methyl homovanillate	15964-80-4	Vanillin & deriv.	34.560	0.67
Coniferaldehyde <trans->	**20649-42-7**	**Phenolic aldehydes**	**35.036**	**4.73**
Coniferyl alcohol <(E)->	32811-40-8	Phenolic aldehydes	35.186	1.05
Acetosyringone	2478-38-8	Other	38.015	0.21
Mandelic acid, 3,4-dimethoxy-, methyl ester	2911-73-1	FA esters / glycerides	42.416	0.52
Palmitic acid	57-10-3	Fatty acids	42.944	2.38
Sinapic aldehyde	**87345-53-7**	**Phenolic aldehydes**	**43.141**	**3.38**
Linoleic acid	60-33-3	Fatty acids	47.995	2.89
9-Octadecenoic acid, 1,2,3-propanetriyl ester, (E,E,E)-	537-39-3	Fatty acids	48.185	1.55
1-Heptacosanol	2004-39-9	Other	52.431	0.21
Oleamide	301-02-0	Other	54.145	0.46
1-Heptacosanol	2004-39-9	Other	57.799	0.59
2-Monopalmitin	23470-00-0	FA esters / glycerides	58.099	0.40
1-mono-Linolein	2277-28-3	FA esters / glycerides	62.351	0.64
1-Heptacosanol	2004-39-9	Other	62.781	0.44
Unknown n-alkane	630-03-5	Other	62.943	0.04
Squalene	111-02-4	Other	65.395	0.69

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Name	CAS	Category	RT (min)	Content (%)
Stigmast-5-en-3-ol, oleate	0-00-0	Sterols / stanols	70.804	0.32
Vitamin E	0-00-0	Other	71.938	0.60
Stigmasterol	83-48-7	Sterols / stanols	74.128	0.20
Sitosterol <gamma->	83-47-6	Sterols / stanols	75.390	5.52
Stigmastanol	19466-47-8	Sterols / stanols	75.586	0.66
Amyrin <beta->	559-70-6	Triterpenes	75.966	0.46
Lupeol	545-47-1	Triterpenes	76.907	1.12
Cholesta-3,5-dien-7-one	567-72-6	Sterols / stanols	77.114	0.62
Stigmast-4-en-3-one	1058-61-3	Sterols / stanols	77.800	0.55
Friedelan-3-ol derivative	559-74-0	Triterpenes	78.158	0.06
Friedelan-3-one derivative	559-74-0	Triterpenes	78.999	0.28
Friedelan-3-one	559-74-0	Triterpenes	79.375	5.35
Betulin derivative	473-98-3	Triterpenes	82.552	0.76
Betulin derivative	473-98-3	Triterpenes	82.690	0.68

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