

BIORUŽA, s. r. o.

Laborecká 1, 010 01 Žilina, IČO: 52234070, IČ DPH: SK2120953802, tel. : 00421 905 864 140, info@bioruza.sk

CERTIFICATE of ANALYSIS (COA)

COMMON NAME	Fennel
LATIN NAME	<i>Foeniculum vulgare</i>
COUNTRY OF ORIGIN	Bulgaria
TYPE	Essential Oil
EXTRACTION METHOD	Steam Distilled
PLANT PART	Seeds
USE	Aromatherapy, Natural Perfumery, Cosmetics

LOT #	CE 20
MANUFACTURING DATE	April 2025
RETEST	April 2028

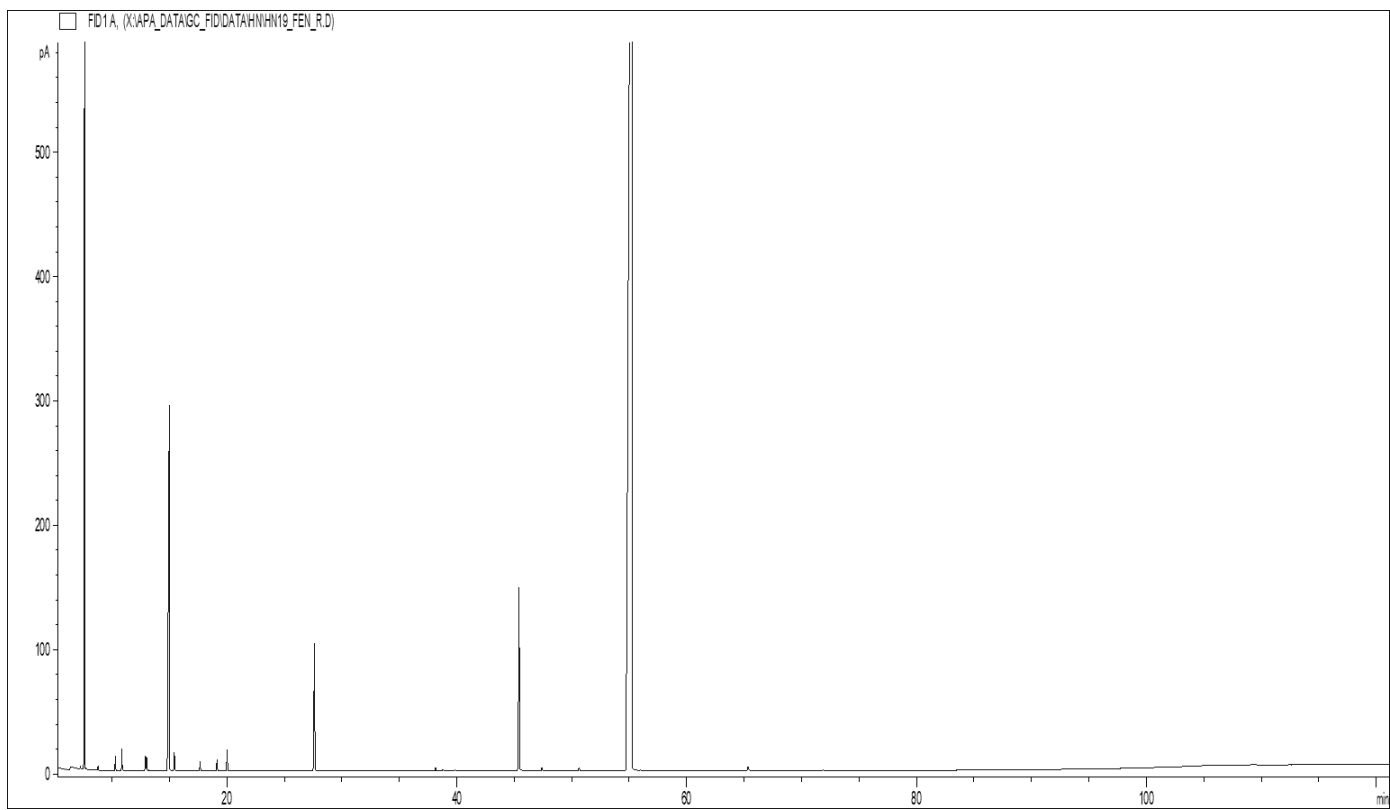
	SPECIFICATIONS (Range)	
SPECIFIC GRAVITY @20°C	0.950 - 0.985	0.960
REFRACTIVE INDEX @20°C	1.52 - 1.56	1.5379
OPTICAL ROTATION @20°C	+5° to +22°	+14.60°

PHYSICAL APPEARANCE	Transparent liquid	<i>Conforms</i>
COLOR	Colorless to pale yellow	<i>Conforms</i>
ODOR	Sweet, anise, refreshing, characteristic of Fennel.	<i>Conforms</i>
SOLUBILITY	Soluble in alcohol and fixed oils	
SPECIAL USE INSTRUCTIONS	Dilute before use	

PRIMARY CONSTITUENTS	(E)-Anethol, Limonene.
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ANALYSIS (GCMS)

Chromatographic profile:



Identification results: FENNEL, LOT CE 20

Pics	TR (min)	Compound name	%	Norm (%)	Allergenes (%)
1	7,25	TRICYCLEN	0,02		
2	7,61	alpha-PINENE	8,49	1 - 8	
3	8,78	CAMPHE	0,04		
4	10,28	beta-PINENE	0,18	< 1	
5	10,85	SABINENE	0,28		
6	12,89	beta-MYRCENE	0,21	< 1.5	
7	12,99	alpha-PHELLANDRENE	0,20	0.2 - 5.0	
8	13,18	psi-LIMONENE	0,01		
9	14,98	LIMONENE	8,68	1 - 8	8,68
10	15,41	1,8-CINEOLE	0,24		
11	15,42	beta-PHELLANDRENE	0,04		
12	17,66	gamma-TERPINENE	0,13	< 1.5	
13	19,13	p-CYMENE	0,17		
14	20,01	TERPINOLENE	0,33		
15	27,63	FENCHONE	2,44		
16	-	FURFURAL	Nd		
17	38,17	LINALOOL	0,06		0,06
18	38,81	1-OCTANOL	0,02		
19	39,32	SESQUITERPENE	0,02		
20	39,84	ISOCARYOPHYLLENE	0,02		
21	41,20	beta-CARYOPHYLLENE	0,01		
22	45,43	ESTRAGOLE	3,54	2 - 6	
23	47,41	alpha-TERPINEOL	0,05		
24	50,65	cis-ANETHOL	0,06	< 0.5	
25	51,57	ALIPHATIC ALCOHOL	0,01		
26	55,22	trans-ANETHOL	74,46	60 - 80	
27	-	SAFROLE	Nd		
28	-	METHYLEUGENOL	Nd		
29	65,34	ANISALDEHYDE	0,10	< 2	
30	71,86	ANICETONE	0,01		
31	104,85	AROMATIC COMPOUND	0,02		
32	105,69	AROMATIC COMPOUND	0,02		
33	107,07	AROMATIC COMPOUND	0,05		
34	109,30	AROMATIC COMPOUND	0,06		
		TOTAL	99,98		8,73

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