

# Analysis Fennel Essential Oil

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#### SAMPLE IDENTIFICATION

**Internal code :** 17C27-FSE9-1-DM

**Customer identification :** Fenfel - Lot #MP16D224

**Type :** Essential oil

**Source :** *Foeniculum vulgare dulce*

**Customer :** Flowers Shining Everywhere Inc.



#### ANALYSIS

**Method :** PC-PA-001-15E06, "Analysis of the composition of a liquid essential oil by GC-FID" (in French).

**Analyst :** Sylvain Mercier, M. Sc., chimiste

**Analysis date :** 2017-04-03

Checked and approved by :



Alexis St-Gelais, M. Sc., chimiste 2013-174



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# IDENTIFIED COMPOUNDS

Identification	Column: BP5			Column: WAX			Molecular Class
	R.T.	R.I.	%	%	R.I.	R.T.	
Tricyclene	3.22	917	0.03	0.03	915	1.05	Monoterpene
α-Thujene	3.30	922	0.01	8.48	946	1.17*	Monoterpene
α-Pinene	3.43	929	8.56	[8.48]	946	1.17*	Monoterpene
α-Fenchene	3.69*	945	0.08	0.01	987	1.38	Monoterpene
Camphene	3.69*	945	[0.08]	0.07	995	1.43	Monoterpene
Thuja-2,4(10)-diene	3.78	950	tr	0.02	1054	1.95*	Monoterpene
Sabinene	4.12	970	0.02	[0.02]	1054	1.95*	Monoterpene
β-Pinene	4.18	974	0.08	0.07	1035	1.79	Monoterpene
Myrcene	4.45	991	0.20	0.18	1113	2.53	Monoterpene
α-Phellandrene	4.73	1006	0.24	0.23	1107	2.44	Monoterpene
α-Terpinene	4.92	1017	0.01	0.01	1119	2.61	Monoterpene
para-Cymene	5.10	1027	0.08	0.10	1205	3.75	Monoterpene
Limonene	5.17	1030	8.81	8.63	1141	2.89	Monoterpene
β-Phellandrene	5.19	1031	0.06	0.15	1144	2.93*	Monoterpene
1,8-Cineole	5.22	1033	0.02	[0.15]	1144	2.93*	Monoterp. ether
cis-β-Ocimene	5.32	1039	tr	0.09	1185	3.47*	Monoterpene
γ-Terpinene	5.69	1059	0.08	[0.09]	1185	3.47*	Monoterpene
cis-Sabinene hydrate	5.99	1075	tr	0.15	1420	7.17*	Monoterp. alcohol
Terpinolene	6.16	1085	0.02	0.02	1220	3.96	Monoterpene
Fenchone	6.31	1093	2.94	3.00	1318	5.42	Monoterp. ketone
Camphor	7.68	1145	0.14	[0.15]	1420	7.17*	Monoterp. ketone
Methylchavicol	9.38	1204	3.29	3.25	1580	11.96	Phenylpropanoid
(Z)-Anethole	11.59	1254	0.10	0.09	1660	15.71	Phenylpropanoid
para-Anisaldehyde	12.14	1266	0.15	0.14	1893	30.81	Simple phenolic
(E)-Anethole	13.83	1302	74.65	74.98	1736	19.97	Phenylpropanoid
α-Copaene	17.56	1359	0.02	0.02	1425	7.28	Sesquiterpene
para-Acetonylanisole	19.58	1390	0.07	0.08	2027	37.47	Phenylpropanoid
β-Caryophyllene	20.38	1401	0.02	0.01	1525	9.89	Sesquiterpene
<b>Total identified</b>			<b>99.68%</b>	<b>99.81%</b>			

\*: Two or more compounds are coeluting on this column

[xx]: Duplicate percentage due to coelutions, not taken account in the identified total

Note: no correction factor was applied

## OTHER DATA

**Physical aspect** : Clear liquid

**Refractive index** : 1.5370 ± 0.0003 (20 °C)

## CONCLUSION

No adulterant, contaminant or diluent were detected using this method.



Report prepared for  
Flowers Shining Everywhere Inc.

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