

GC/MS BATCH NUMBER: F10104

ESSENTIAL OIL: FENNEL
BOTANICAL NAME: FOENICULUM VULGARE
ORIGIN: HUNGARY

KEY CONSTITUENTS PRESENT IN THIS BATCH OF OIL	%
(E)-ANETHOLE	72.2
FENCHONE	13.0
α -PINENE	4.5
LIMONENE	3.7
METHYL CHAVICOL (ESTRAGOLE)	2.8
α -PHELLANDRENE	1.0
MYRCENE	0.6
β -PINENE	0.4
γ -TERPINENE	0.2
(Z)-ANETHOLE	0.1

Comments from Robert Tisserand: A very nice sweet fennel oil with a good anethole content. Conforms to all 11 key AFNOR constituents.

Date : May 18, 2016

SAMPLE IDENTIFICATION

Internal code : 16E04-PTH2-1-SM

Customer identification : Fennel - Hungary - F1010456

Type : Essential oil

Source : *Foeniculum vulgare*

Customer : Plant Therapy

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 : 2016-05-18

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	3.14	916	0.01	0.01	932	0.83	Monoterpene
α -Pinene	3.34	928	4.50	4.48	953	0.92	Monoterpene
α -Fenchene	3.59	944	0.01	0.01	997	1.09	Monoterpene
Camphene	3.61	945	0.09	0.08	1006	1.14	Monoterpene
Sabinene	4.03	970	0.05	0.05	1061	1.58	Monoterpene
β -Pinene	4.09	974	0.45	0.44	1044	1.44	Monoterpene
Myrcene	4.37	991	0.61	0.63	1119	2.09	Monoterpene
α -Phellandrene	4.64	1007	0.98	0.95	1112	2.02	Monoterpene
α -Terpinene	4.83	1017	0.06	0.07	1126	2.16	Monoterpene
para-Cymene	5.01	1027	0.12	0.13	1213	3.18	Monoterpene
Limonene	5.06	1030	3.69	3.59	1145	2.39	Monoterpene
β -Phellandrene	5.08	1031	0.11	0.20	1149	2.45*	Monoterpene
1,8-Cineole	5.13	1034	0.04	[0.20]	1149	2.45*	Monoterp. ether
<i>cis</i> - β -Ocimene	5.23	1039	0.01	0.25	1193	2.95*	Monoterpene
γ -Terpinene	5.59	1060	0.24	[0.25]	1193	2.95*	Monoterpene
<i>cis</i> -Sabinene hydrate	5.93	1078	0.01	0.01	1414	6.06	Monoterp. alcohol
Terpinolene	6.06	1086	0.05	0.05	1228	3.40	Monoterpene
Fenchone	6.24	1096	13.04	13.45	1328	4.80	Monoterp. ketone
Linalool	6.48	1107	0.02	0.02	1500	7.70	Monoterp. alcohol
endo-Fenchol	6.88	1122	0.01	0.01	1521	8.16	Monoterp. alcohol
Camphor	7.55	1147	0.26	0.27	1426	6.31	Monoterp. ketone
Terpinen-4-ol	8.49	1182	0.03	0.02	1534	8.55	Monoterp. alcohol
Methylchavicol	9.18	1205	2.82	2.78	1586	10.15	Phenylpropanoid
(<i>Z</i>)-Anethole	11.34	1254	0.10	0.10	1666	13.30	Phenylpropanoid
(<i>E</i>)-Anethole	13.48	1302	72.23	72.23	1741	16.99	Phenylpropanoid
Total identified			99.54%	99.83%			

*: 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 : Faintly yellow liquid

Refractive index : 1.5365 \pm 0.0003 (20 °C)

CONCLUSION

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



