

Date : March 17, 2017

SAMPLE IDENTIFICATION

Internal code : 17C03-NGA13-1-DM

Customer identification : Thyme Thujanol - FR-58565

Type : Essential oil

Source : *Thymus vulgaris*

Customer : Nature's Gift Aromatherapy

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 : 2017-03-14

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.	
<i>cis</i> -Hex-3-en-1-ol	2.46	864	0.04	0.04	1328	5.57	Aliphatic alcohol
Tricyclene	3.19	915	0.12	0.10	923	1.08	Monoterpene
α -Thujene	3.30	922	0.49	0.48	959	1.23	Monoterpene
α -Pinene	3.40	928	1.00	1.07	949	1.18	Monoterpene
Camphene	3.69	945	0.17	0.17	1000	1.47	Monoterpene
Sabinene	4.12	971	2.86	2.78	1060	2.02	Monoterpene
β -Pinene	4.18	974	0.29	0.27	1041	1.84	Monoterpene
Myrcene	4.47*	991	6.52	5.84	1119	2.61	Monoterpene
Octen-3-ol	4.47*	991	[6.52]	0.48	1404	6.77	Aliphatic alcohol
α -Phellandrene	4.73*	1006	0.12	0.06	1111	2.50	Monoterpene
Δ^3 -Carene	4.73*	1006	[0.12]	0.02	1096	2.31	Monoterpene
α -Terpinene	4.92	1017	2.90	2.81	1126	2.70	Monoterpene
para-Cymene	5.11	1027	4.82	4.82	1212	3.85	Monoterpene
Limonene	5.15	1029	1.64	1.56	1143	2.92	Monoterpene
β -Phellandrene	5.17	1030	0.23	0.43	1148	2.99*	Monoterpene
1,8-Cineole	5.21	1033	0.24	[0.43]	1148	2.99*	Monoterp. ether
γ -Terpinene	5.71	1060	6.54	6.40	1193	3.58	Monoterpene
<i>cis</i> -Sabinene hydrate	6.10	1081	38.18	38.82	1416	7.05	Monoterp. alcohol
Terpinolene	6.18	1085	1.07	1.04	1226	4.05	Monoterpene
Linalool	6.63*	1107	4.71	3.56	1499	9.07*	Monoterp. alcohol
<i>trans</i> -Sabinene hydrate	6.63*	1107	[4.71]	1.95	1485	8.72	Monoterp. alcohol
Hotrienol	6.68	1109	0.20	9.51	1533	10.22*	Monoterp. alcohol
<i>cis</i> -para-Menth-2-en-1-ol	7.12	1125	0.78	[3.56]	1499	9.07*	Monoterp. alcohol
<i>cis</i> -Limonene oxide	7.30	1131	0.07	0.06	1374	6.31	Monoterp. ether
<i>trans</i> -Limonene oxide	7.41	1135	0.04	0.04	1387	6.52	Monoterp. ether
<i>trans</i> -para-Menth-2-en-1-ol	7.61	1143	0.34	0.34	1559	11.15	Monoterp. alcohol
Camphor	7.70	1146	0.16	0.10	1428	7.36	Monoterp. ketone
Isoborneol	8.11	1161	0.20	0.13	1607	12.96	Monoterp. alcohol
Borneol	8.49	1175	0.18	0.36	1621	13.67	Monoterp. alcohol
Terpinen-4-ol	8.74	1184	9.58	[9.51]	1533	10.22*	Monoterp. alcohol
para-Cymen-8-ol	9.22	1201	0.10	0.11	1770	22.24	Monoterp. alcohol
α -Terpineol	9.28	1202	1.66	1.61	1628	13.97	Monoterp. alcohol
<i>trans</i> -Piperitol	9.74	1213	0.15	0.15	1672	16.31	Monoterp. alcohol
Myrcen-8-ol?	10.19	1222	0.11				Monoterp. alcohol
Thymol methyl ether	10.49	1229	0.97	2.71	1522	9.79*	Monoterp. ether
Nerol	10.61	1232	0.11	0.11	1726	19.35	Monoterp. alcohol
Carvacrol methyl ether	10.81	1236	0.16	0.27	1535	10.27	Monoterp. ether
Neral	11.04	1241	0.02	0.02	1611	13.11	Monoterp. aldehyde
Linalyl acetate	11.31	1247	0.26	0.30	1504	9.18	Monoterp. ester
Bornyl acetate	12.82	1281	0.03	0.02	1509	9.32	Monoterp. ester
Thymol	14.19	1308	6.82	6.92	2115	40.17	Monoterp. alcohol

Carvacrol	14.47	1312	1.01	1.04	2133	40.71	Monoterp. alcohol
Myrcen-8-yl acetate?	16.73	1346	0.42	0.42	1700	17.78	Monoterp. ester
β -Bourbonene	17.93	1364	0.05	0.05	1451	7.91	Sesquiterpene
β -Caryophyllene	20.40	1402	2.57	[2.71]	1522	9.79*	Sesquiterpene
α -Humulene	23.09	1434	0.10	0.08	1581	12.00	Sesquiterpene
Germacrene D	25.28	1460	0.14	0.15	1616	13.36	Sesquiterpene
Bicyclogermacrene	26.51	1475	0.11	0.13	1641	14.69	Sesquiterpene
Caryophyllene oxide	33.48*	1568	0.40	0.30	1850	27.77	Sesquiterp. ether
Spathulenol	33.48*	1568	[0.40]	0.02	2022	37.30	Sesquiterp. alcohol
Total identified			98.68%	97.65%			

*: 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 : 1.4710 ± 0.0003 (20 °C)

CONCLUSION

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



