

Date : March 10, 2017

SAMPLE IDENTIFICATION

Internal code : 17C03-NGA1-1-DM

Customer identification : Bergamot FCF - IT-170050

Type : Essential oil

Source : *Citrus aurantium ssp. bergamia*

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).

Identifications double-checked by GC-MS

Analyst : Sylvain Mercier, M. Sc., chimiste

Analysis date : 2017-03-10

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.	
α -Thujene	3.30	922	0.20	0.21	959	1.23	Monoterpene
α -Pinene	3.40	928	1.07	1.04	949	1.18	Monoterpene
Camphene	3.69	945	0.03	0.03	1000	1.47	Monoterpene
Sabinene	4.11	970	0.98	0.96	1060	2.01	Monoterpene
β -Pinene	4.19	975	6.55	6.43	1044	1.86	Monoterpene
Myrcene	4.45	990	1.00	0.98	1118	2.59	Monoterpene
6-Methyl-5-hepten-2-one	4.55	996	tr	0.01	1280	4.85	Aliphatic ketone
Pseudolimonene	4.67	1003	0.02	0.02	1114	2.54	Monoterpene
α -Phellandrene	4.72	1006	0.02	0.01	1111	2.50	Monoterpene
Octanal	4.84	1013	0.04	0.04	1234	4.18	Aliphatic aldehyde
α -Terpinene	4.91	1016	0.12	0.12	1124	2.68	Monoterpene
Limonene	5.21*	1032	37.57	36.52	1150	3.01	Monoterpene
para-Cymene	5.21*	1032	[37.57]	0.47	1210	3.83	Monoterpene
1,8-Cineole	5.21*	1032	[37.57]	0.20	1152	3.04	Monoterp. ether
<i>cis</i> - β -Ocimene	5.32	1039	0.08	6.84	1194	3.59*	Monoterpene
<i>trans</i> - β -Ocimene	5.50	1048	0.16	0.16	1204	3.73	Monoterpene
γ -Terpinene	5.71	1060	6.84	[6.84]	1194	3.59*	Monoterpene
<i>cis</i> -Linalool oxide (fur.)	5.96	1074	0.01	0.01	1380	6.39	Monoterp. alcohol
Terpinolene	6.15	1084	0.32	0.32	1226	4.04	Monoterpene
Linalool	6.66	1108	13.00	13.09	1503	9.14	Monoterp. alcohol
Nonanal	6.75	1111	0.03	0.03	1338	5.73	Aliphatic aldehyde
<i>cis</i> -Limonene oxide	7.29	1131	0.01	0.01	1374	6.31	Monoterp. ether
<i>trans</i> -Limonene oxide	7.41	1135	0.01	0.01	1387	6.52	Monoterp. ether
Citronellal	7.90	1153	0.03	0.03	1418	7.11	Monoterp. aldehyde
Terpinen-4-ol	8.64	1180	0.03	0.02	1531	10.15	Monoterp. alcohol
α -Terpineol	9.25	1202	0.11	0.10	1628	13.95	Monoterp. alcohol
Decanal	9.69	1211	0.07	0.06	1439	7.60	Aliphatic aldehyde
Octyl acetate	9.85	1215	0.12	0.13	1424	7.26	Aliphatic ester
Nerol	10.46	1228	0.06	0.05	1734	19.86	Monoterp. alcohol
Neral	11.03	1241	0.24	0.22	1604	12.82	Monoterp. aldehyde
Linalyl acetate	11.52	1252	29.28	29.98	1511	9.42	Monoterp. ester
Lilac alcohol D?	11.65	1255	0.02				Monoterp. alcohol
Geranial	12.48	1273	0.34	0.33	1651	15.23	Monoterp. aldehyde
α -Terpinyl acetate	16.44	1342	0.17	0.16	1619	13.54	Monoterp. ester
Neryl acetate	17.67	1361	0.37	0.37	1662	15.78	Monoterp. ester
Geranyl acetate	19.14	1383	0.32	0.32	1694	17.47	Monoterp. ester
β -Caryophyllene	20.34	1401	0.28	0.29	1523	9.82	Sesquiterpene

<i>trans</i> - α -Bergamotene	21.93	1420	0.08	0.08	1527	9.98	Sesquiterpene
β -Bisabolene	28.52	1499	0.12	0.11	1657	15.55	Sesquiterpene
Total identified	99.7%			99.76%			

*: 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 : 1.4630 \pm 0.0003 (20 °C)

CONCLUSION

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



