

Date : April 6, 2016

SAMPLE IDENTIFICATION

Internal code : 16C30-NGA2-1-DM

Customer identification : Eucalyptus Radiata - South Africa - Batch #SA-EUCR1215EA

Type : Essential oil

Source : *Eucalyptus radiata*

Customer : Nature Gifts

ANALYSIS

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

Analyst : Alexis St-Gelais, M. Sc., chimiste

Analysis date : 2016-04-02

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	3.08	920	0.12	0.19	961	0.95	Monoterpene
α -Pinene	3.18	927	1.69	1.57	953	0.92	Monoterpene
α -Fenchene	3.44	942	0.01	0.01	999	1.10	Monoterpene
Camphene	3.46	944	0.02	0.01	1007	1.15	Monoterpene
Sabinene	3.88	970	1.31	1.28	1063	1.60	Monoterpene
β -Pinene	3.94	973	0.56	0.52	1045	1.45	Monoterpene
Myrcene	4.22	990	1.00	0.95	1121	2.10	Monoterpene
α -Phellandrene	4.48	1006	0.29	0.23	1113	2.03	Monoterpene
α -Terpinene	4.67*	1017	0.13	0.12	1127	2.18*	Monoterpene
1,4-Cineole	4.67*	1017	[0.13]	[0.12]	1127	2.18*	Monoterp. ether
Limonene	4.92+*	1031	80.20	1.16	1149	2.44	Monoterpene
para-Cymene	4.92*	1031	[80.20]	0.26	1215	3.22	Monoterpene
1,8-Cineole	5.06+*	1039	[80.20]	79.41	1164	2.60	Monoterp. ether
cis- β -Ocimene	5.06+*	1039	[80.20]	0.24	1195	2.98*	Monoterpene
trans- β -Ocimene	5.26	1050	0.21	0.19	1210	3.15	Monoterpene
γ -Terpinene	5.44	1060	0.24	[0.24]	1195	2.98*	Monoterpene
cis-Sabinene hydrate	5.72	1076	0.02	0.02	1417	6.11	Monoterp. alcohol
cis-Linalool oxide (fur.)	5.76	1078	0.02	0.02	1389	5.68	Monoterp. alcohol
Terpinolene	5.90	1086	0.06	0.06	1230	3.43	Monoterpene
trans-Linalool oxide (fur.)	6.02	1093	0.04	0.04	1415	6.09	Monoterp. alcohol
Linalool	6.32*	1107	0.37	0.52	1505	7.80*	Monoterp. alcohol
trans-Sabinene hydrate	6.32*	1107	[0.37]	0.02	1492	7.54	Monoterp. alcohol
cis-para-Menth-2-en-1-ol	6.80	1126	0.17	[0.52]	1505	7.80*	Monoterp. alcohol
trans-para-Menth-2-en-1-ol	7.26	1144	0.12	0.11	1566	9.51	Monoterp. alcohol
Citronellal	7.51	1154	0.02	0.02	1423	6.24	Monoterp. aldehyde
δ -Terpineol	8.03*	1175	0.19	0.39	1608	10.84*	Monoterp. alcohol
Borneol	8.03*	1175	[0.19]	9.41	1636	11.95*	Monoterp. alcohol
Terpinen-4-ol	8.22	1182	0.87	0.87	1537	8.66	Monoterp. alcohol
α -Terpineol	8.89	1206	9.39	[9.41]	1636	11.95*	Monoterp. alcohol
trans-Piperitol	9.27	1215	0.08	0.07	1677	13.79	Monoterp. alcohol
Nerol	9.85	1229	0.04	0.03	1738	16.83	Monoterp. alcohol
Citronellol	10.07	1234	0.03	0.03	1718	15.62	Monoterp. alcohol
Neral	10.42	1242	0.24	[0.39]	1608	10.84*	Monoterp. aldehyde
Geraniol	11.05	1257	1.10	1.00	1791	19.94	Monoterp. alcohol
Geranial	11.81	1274	0.31	0.28	1656	12.83	Monoterp. aldehyde
α -Terpinyl acetate	15.56	1344	0.56	0.54	1624	11.42	Monoterp. ester

β -Caryophyllene	19.23	1403	0.04	0.03	1528	8.37	Sesquiterpene
<i>cis</i> - β -Guaiene	25.20	1476	0.06	0.04	1613	10.95	Sesquiterpene
α -Muurolene	25.51	1480	0.07	0.07	1646	12.43	Sesquiterpene
β -Eudesmol	36.78	1643	0.05	0.03	2117	38.24	Sesquiterp. alcohol
Total identified	99.63%			99.74%			

*: Two or more compounds are coeluting on this column

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

†: Peaks apexes were resolved, but peaks overlapped and were summed for analysis

Note: no correction factor was applied

OTHER DATA

Physical aspect : Clear liquid

Refractive index : 1.4655 \pm 0.0003 (20 °C)

CONCLUSION

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



