



PLANT THERAPY
100% PURE ESSENTIAL OILS

GC/MS BATCH NUMBER: EG0100

ESSENTIAL OIL: EUCALYPTUS DIVES
BOTANICAL NAME: EUCALYPTUS DIVES
ORIGIN: AUSTRALIA

KEY CONSTITUENTS PRESENT IN THIS BATCH OF EUCALYPTUS DIVES OIL	%
PIPERITONE	51.6
α -PHELLANDRENE	19.3
p-CYMENE	5.4
TERPINEN-4-ol	5.0
α -THUJENE	2.9
TERPINOLENE	2.0
β -PHELLANDRENE	2.0
MYRCENE	1.4
α -TERPINEOL	1.3
LINALOOL	1.1
α -TERPINENE	1.0

Comments from Robert Tisserand: A delightful Eucalyptus/Mint odor. Constituents are in expected amounts.

Date : December 22, 2016

SAMPLE IDENTIFICATION

Internal code : 16L15-PTH1-1-DM

Customer identification : Eucalyptus Peppermint - EG010069R

Type : Essential oil

Source : *Eucalyptus dives*

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 : 2016-12-20

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.	
Toluene	1.29	749	0.03	3.05	954	0.90*	Simple phenolic
α -Thujene	3.28	920	2.89	[3.05]	954	0.90*	Monoterpene
α -Pinene	3.38	926	0.35	0.29	947	0.87	Monoterpene
Sabinene	4.10	970	0.20	0.20	1054	1.49	Monoterpene
β -Pinene	4.16	973	0.05	0.05	1038	1.36	Monoterpene
Myrcene	4.45	991	1.44	1.91	1117	2.00	Monoterpene
α -Phellandrene	4.77	1009	19.33	19.44	1114	1.97	Monoterpene
α -Terpinene	4.92	1017	1.03	1.24	1123	2.07	Monoterpene
para-Cymene	5.14	1029	5.39	5.46	1205	3.03	Monoterpene
Limonene	5.15	1030	0.23	0.26	1140	2.27	Monoterpene
β -Phellandrene	5.19*	1032	2.91	1.96	1145	2.34	Monoterpene
1,8-Cineole	5.19*	1032	[2.91]	0.91	1143	2.31	Monoterp. ether
<i>cis</i> - β -Ocimene	5.33	1040	0.07	0.69	1187	2.82*	Monoterpene
<i>trans</i> - β -Ocimene	5.51	1050	0.36	0.20	1200	2.98	Monoterpene
γ -Terpinene	5.69	1060	0.69	[0.69]	1187	2.82*	Monoterpene
<i>cis</i> -Linalool oxide (fur.)	5.99	1075	0.02	0.02	1369	5.31	Monoterp. alcohol
<i>cis</i> -Sabinene hydrate	6.06	1080	0.01	0.01	1399	5.74	Monoterp. alcohol
Terpinolene	6.17	1086	2.04	2.04	1223	3.26	Monoterpene
para-Cymenene	6.40	1098	0.03	0.03	1363	5.22	Monoterpene
Linalool	6.73	1110	1.09	1.86	1482	7.22*	Monoterp. alcohol
<i>cis</i> -para-Menth-2-en-1-ol	7.24	1129	0.72	[1.86]	1482	7.22*	Monoterp. alcohol
<i>trans</i> -para-Menth-2-en-1-ol	7.77	1149	0.58	0.52	1547	8.72	Monoterp. alcohol
Unknown (m/z = 95, 110 (41), 81 (21), 67 (19), 41 (16)... 152 (9))	8.41	1173	0.04				Oxygenated monoterp.
Unknown (m/z = 95, 110 (47), 81 (28), 79 (16), 41 (15)... 152 (10))	8.56	1178	0.05				Oxygenated monoterp.
Terpinen-4-ol	8.86	1189	4.82	4.95	1525	8.06*	Monoterp. alcohol
para-Cymen-8-ol	9.42	1205	0.15	0.15	1771	18.02	Monoterp. alcohol
α -Terpineol	9.53	1207	1.29	52.70	1628	11.17*	Monoterp. alcohol
<i>cis</i> -Piperitol	9.84	1214	0.05				Monoterp. alcohol
α -Phellandrene epoxide	10.04	1219	0.14	0.11	1707	14.61	Monoterpene
<i>trans</i> -Piperitol	10.16	1222	0.14	0.24	1650	12.14*	Monoterp. alcohol
Neral	11.14	1244	0.03	0.03	1600	10.30	Monoterp. aldehyde
Piperitone	12.18	1267	51.58	[52.70]	1628	11.17*	Monoterp. ketone
Geranial	12.70	1278	0.06	[0.24]	1650	12.14*	Monoterp. aldehyde
Carvacrol	15.47	1326	0.02	0.03	2117	37.46	Monoterp. alcohol
Unknown (m/z = 111, 126 (90), 43 (86), 71 (50), 109 (32)...))	15.81	1331	0.03	0.06	2124	37.73	

α -Terpinyl acetate	16.59	1343	0.18	[52.70]	1628	11.17*	Monoterp. ester
Methyl (<i>E</i>)-cinnamate	20.04	1396	0.04	0.03	1945	29.16	Phenylpropanoid ester
β -Caryophyllene	20.48	1401	0.06	0.06	1533	8.28	Sesquiterpene
Aromadendrene	21.47	1413	0.01	[4.95]	1525	8.06*	Sesquiterpene
Bicyclogermacrene	26.75*	1476	0.46	0.27	1658	12.51	Sesquiterpene
Viridiflorene	26.75*	1476	[0.46]	[52.70]	1628	11.17*	Sesquiterpene
Spathulenol	34.05	1573	0.07	0.07	2022	33.68	Sesquiterp. alcohol
Globulol	34.37	1578	0.04	0.03	1971	30.68	Sesquiterp. alcohol
Viridiflorol	34.87	1585	0.03	0.03	1980	31.24	Sesquiterp. alcohol
Total identified			98.63%	98.84%			

*: 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 : 1.4780 \pm 0.0003 (20 °C)

CONCLUSION

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



