



PLANT THERAPY
100% PURE ESSENTIAL OILS

GC/MS BATCH NUMBER: E10105

ESSENTIAL OIL: EUCALYPTUS LEMON ORGANIC
BOTANICAL NAME: EUCALYPTUS CITRIODORA
ORIGIN: MADAGASCAR

KEY CONSTITUENTS PRESENT IN THIS BATCH OF EUCALYPTUS LEMON ORGANIC OIL	%
CITRONELLAL	69.0
CITRONELLOL	9.0
ISOPULEGOL	6.8
iso-ISOPULEGOL	3.1
β-CARYOPHYLLENE	1.7
1,8-CINEOLE	1.4

Comments from Robert Tisserand: Characteristic, green-grassy odor profile, with constituents in expected amounts

Date : December 14, 2016

SAMPLE IDENTIFICATION

Internal code : 16L06-PTH3-1-DM

Customer identification : Organic Eucalyptus Lemon - E1010585R

Type : Essential oil

Source : *Eucalyptus citriodora*

Customer : Plant Therapy

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 : 2016-12-09

Checked and approved by :

Alexis St-Gelais, M. Sc., chimiste 2013-174

Note: This report may not be published, including online, without the written consent from Laboratoire PhytoChemia.

This report is digitally signed, it is only considered valid if the digital signature is intact.

IDENTIFIED COMPOUNDS

Identification	Column: BP5			Column: WAX			Molecular Class
	R.T.	R.I.	%	%	R.I.	R.T.	
Isobutyl isobutyrate	3.20	915	0.04	0.04	1031	1.30	Aliphatic ester
α -Thujene	3.27	919	0.03	0.51	950	0.88*	Monoterpene
α -Pinene	3.37	925	0.47	[0.51]	950	0.88*	Monoterpene
Sabinene	4.09	969	0.07	0.06	1057	1.51	Monoterpene
β -Pinene	4.15	973	0.82	0.83	1042	1.38	Monoterpene
Myrcene	4.43	990	0.08	0.08	1116	1.99	Monoterpene
para-Cymene	5.09	1027	0.08	0.09	1206	3.04	Monoterpene
Limonene	5.12	1028	0.57	2.05	1145	2.33*	Monoterpene
1,8-Cineole	5.18	1032	1.42	[2.05]	1145	2.33*	Monoterp. ether
<i>cis</i> - β -Ocimene	5.42	1045	0.11	0.20	1190	2.85*	Monoterpene
<i>trans</i> - β -Ocimene	5.49	1049	0.02	0.01	1204	3.01	Monoterpene
γ -Terpinene	5.67	1059	0.18	[0.20]	1190	2.85*	Monoterpene
Bergamal	5.69	1060	0.10	0.10	1288	4.16	Aliphatic aldehyde
para-Mentha-3,8-diene	5.92	1072	0.10	0.10	1212	3.11	Monoterpene
Terpinolene	6.15	1084	0.15	0.15	1225	3.29	Monoterpene
Linalool	6.70	1109	0.08	6.82	1489	7.35*	Monoterp. alcohol
<i>cis</i> -Rose oxide	6.74	1110	0.04	0.04	1295	4.25	Monoterp. ether
<i>trans</i> -Rose oxide	7.06	1122	0.05	0.03	1320	4.59	Monoterp. ether
neo-Isopulegol	7.66	1145	0.11	0.12	1517	7.87	Monoterp. alcohol
iso-Isopulegol	7.88	1153	3.12	3.04	1477	7.11	Monoterp. alcohol
Citronellal	8.15†	1163	75.67	69.04	1426	6.16	Monoterp. aldehyde
Isopulegol	8.19†	1164	[75.67]	[6.82]	1489	7.35*	Monoterp. alcohol
neoiso-Isopulegol	8.44	1174	0.48				Monoterp. alcohol
Terpinen-4-ol	8.65	1182	0.14	2.28	1536	8.37*	Monoterp. alcohol
α -Terpineol	9.46	1206	0.26	0.19	1619	10.87*	Monoterp. alcohol
Nerol	10.63	1232	0.07	0.07	1721	15.24	Monoterp. alcohol
Citronellol	11.03	1241	8.95	9.31	1702	14.41	Monoterp. alcohol
Geraniol	11.96	1262	0.11	0.11	1771	18.05	Monoterp. alcohol
Geranial	12.62	1276	0.09	0.05	1646	11.93	Monoterp. aldehyde
Citronellyl acetate	17.15	1352	0.80	0.84	1603	10.39	Monoterp. ester
para-Menthan-3,8-diol isomer I	17.78	1361	0.88				Monoterp. alcohol
Citronellic acid	18.54	1373	0.61	0.67	2167	39.02	Monoterp. acid
Geranyl acetate	19.25	1384	0.03	0.13	1687	13.75	Monoterp. ester
para-Menthan-3,8-diol isomer II	19.80	1392	0.31				Monoterp. alcohol
β -Caryophyllene	20.42	1400	1.66	[2.28]	1536	8.37*	Sesquiterpene
α -Humulene	23.18	1434	0.11	0.10	1586	9.85	Sesquiterpene
Germacrene D	25.39	1460	0.04	[0.19]	1619	10.87*	Sesquiterpene
α -Muurolene	27.41	1484	0.03	0.03	1653	12.25	Sesquiterpene
δ -Cadinene	29.12	1506	0.10	0.07	1667	12.88	Sesquiterpene

Caryophyllene oxide	33.68	1568	0.10	0.06	1853	22.93	Sesquiterp. ether
Unknown (m/z = 137, 81 (97), 95 (51), 69 (47), 41 (36), 154 (35), 121 (31)...) [xx]	46.33	1921	0.22				
Total identified			98.08%	97.22%			

*: 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 : Faintly yellow liquid

Refractive index : 1.4553 ± 0.0003 (20 °C)

CONCLUSION

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



