

# ANALYSIS Myrtle, Lemon Essential Oil

Laboratoire  
**Phyto**Chemia



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Date : June 15, 2017

#### SAMPLE IDENTIFICATION

Internal code : 17F08-FSE5-1-DM

Customer Identification : Lemon Myrtle - Lot #EA-201016

Type : Essential oil

Source : Backhausia citriodora

Customer : Flowers Shining Everywhere Inc.



#### 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 : 2017-06-13



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.	
2-Methyl-3-buten-2-ol	0.35	632	0.04	0.02	953	1.12	Aliphatic alcohol
Ethanol	0.37	635	0.04	0.03	768	0.64	Aliphatic alcohol
Methyl 2-methylbutyrate	1.41	771	0.04	0.03	909	0.94	Aliphatic ester
cis-Hex-3-en-1-ol	2.45	863	0.15	0.14	1316	5.14	Aliphatic alcohol
trans-Hex-2-en-1-ol	2.66	879	0.01	0.02	1350	5.67	Aliphatic alcohol
Hexanol	2.66	882	0.04	0.04	1292	4.79	Aliphatic alcohol
Myrcene	4.47*	991	0.53	0.21	1110	2.32	Monoterpene
Dehydro-1,8-cineole	4.47*	991	[0.53]	0.30	1123	2.49	Monoterp. ether
6-Methyl-5-hepten-2-one	4.53	995	1.75	1.72	1270	4.47	Aliphatic ketone
6-Methyl-5-hepten-2-ol	4.71	1005	0.21	0.13	1410	6.61	Aliphatic alcohol
para-Cymene	5.12	1028	0.01	0.01	1200	3.48	Monoterpene
Limonene	5.16	1030	0.01	0.01	1134	2.63	Monoterpene
trans-β-Cimene	5.52	1050	0.04	0.03	1194	3.40	Monoterpene
cis-Linalool oxide (fur.)	5.98	1075	0.04	0.03	1368	5.95	Monoterp. alcohol
Terpinolene	6.18	1086	0.01	0.01	1216	3.69	Monoterpene
trans-Linalool oxide (fur.)	6.30	1092	0.02	0.03	1396	6.38	Monoterp. alcohol
para-Cymenene	6.39	1097	0.06	0.04	1360	5.83	Monoterpene
Rose furan	6.46	1101	0.01	0.01	1336	5.46	Monoterp. ether
Linalool	6.64	1107	0.59	0.64	1483	8.25	Monoterp. alcohol
cis-Chrysanthemal?	6.77	1112	0.04				Monoterp. aldehyde
exo-Isocitral	7.69	1145	0.28	0.18	1401	6.47	Monoterp. aldehyde
Citronellal	7.84	1151	0.01	0.02	1425	6.82	Monoterp. aldehyde
trans-Chrysanthemal	7.93	1155	0.15	0.20	1443	7.27	Monoterp. aldehyde
(Z)-Isocitral	8.23	1165	1.52	1.33	1468	7.88	Monoterp. aldehyde
Unknown (m/z = 84, 83 (81), 137 (69), 41 (58), 91 (52), 93 (50)... 152 (2))	8.78	1186	0.30				
(E)-Isocitral	8.85	1188	2.36	1.88	1495	8.52	Monoterp. aldehyde
α-Terpineol	9.36	1204	0.09	0.09	1619	12.63	Monoterp. alcohol
trans-Isopiperitenol	9.48	1207	0.10				Monoterp. alcohol
Unknown (m/z = 91, 84 (98), 83 (95), 41 (89), 119 (80), 93 (75), 137 (69)... 152 (4))	9.70	1212	0.27				
Nerol	10.64	1232	1.47	1.41	1724	17.90	Monoterp. alcohol
Citronellol	10.93	1239	0.14	0.12	1700	16.64	Monoterp. alcohol
Neral	11.37	1249	36.17	36.35	1599	11.93	Monoterp. aldehyde
Geraniol	12.03	1263	2.74	2.74	1776	21.13	Monoterp. alcohol
Geranial	13.00	1285	47.10	47.72	1653	14.23*	Monoterp. aldehyde

Unknown (m/z = 43, 69 (80), 41 (80), 109 (40)... 152 (5))	14.34	1310	0.28				
Neric acid	16.54	1343	0.09	0.12	2197	41.63	Monoterp. acid
Unknown (m/z = 82, 59 (44), 41 (40), 95 (31)...) 	16.72	1346	0.16				
$\alpha$ -Copaene	17.62	1360	0.02	[0.02]	1425	6.87*	Sesquiterpene
Geranic acid	18.84	1378	0.41	0.47	2244	42.82	Monoterp. acid
$\beta$ -Caryophyllene	20.50	1403	0.08	0.08	1514	8.96	Sesquiterpene
6,9-Guaiadiene	22.51	1427	0.04	0.05	1548	10.04	Sesquiterpene
allo-Aromadendrene	23.52	1439	0.06	0.05	1556	10.35	Sesquiterpene
Bicyclogermacrene	26.69	1477	0.14	[47.72]	1653	14.23*	Sesquiterpene
$\delta$ -Cadinene	29.18	1508	0.03	[47.72]	1653	14.23*	Sesquiterpene
Germacrene B	31.86	1546	0.08	0.07	1715	17.41	Sesquiterpene
Caryophyllene oxide	33.71	1571	0.09	0.05	1854	26.34	Sesquiterp. ether
Globulol	34.11	1577	0.05	0.04	1963	33.58	Sesquiterp. alcohol
<b>Total Identified</b>			<b>96.86%</b>	<b>96.42%</b>			

 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** : Light yellow liquid

**Refractive index** :  $1.4835 \pm 0.0003$  (20 °C)

#### CONCLUSION

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





