



PLANT THERAPY
100% PURE ESSENTIAL OILS

GC/MS BATCH NUMBER: T30107

ESSENTIAL OIL: TEA TREE ORGANIC
BOTANICAL NAME: MALALEUCA ALTERNIFOLIA
ORIGIN: AUSTRALIA

KEY CONSTITUENTS PRESENT IN THIS BATCH OF TEA TREE ORGANIC OIL	%
TERPINEN-4-ol	42.1
γ-TERPINENE	20.4
α-TERPINENE	8.3
p-CYMENE	4.2
β-PHELLANDRENE + 1,8-CINEOLE	3.3
TERPINOLENE	3.2
α-TERPINEOL	2.9
α-PINENE	2.6
AROMADENDRENE	1.0

Comments from Robert Tisserand: Clean, green medicinal-mint odor profile. All 15 key constituents conform the the ISO standard.

Date : July 4, 2017

SAMPLE IDENTIFICATION

Internal code : 17G04-PTH7-1-DM

Customer identification : Tea Tree Organic - Australia - T3010772R

Type : Essential oil

Source : *Melaleuca alternifolia*

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 : 2017-07-04

Checked and approved by :

Sylvain Mercier, M. Sc., chimiste 2014-005

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IDENTIFIED COMPOUNDS

Identification	Column: BP5			Column: WAX			Molecular Class
	R.T.	R.I.	%	%	R.I.	R.T.	
Ethanol	0.35	632	0.08	0.08	784	0.62	Aliphatic alcohol
<i>cis</i> -Hex-3-en-1-ol	2.50	867	0.02	0.02	1318	5.04	Aliphatic alcohol
α -Thujene	3.33	924	0.81	0.98	955	1.07	Monoterpene
α -Pinene	3.44	930	2.63	2.41	946	1.03	Monoterpene
α -Fenchene	3.70	946	tr	tr	990	1.23	Monoterpene
Camphene	3.72	947	0.02	0.01	1001	1.28	Monoterpene
Sabinene	4.15	973	0.08	0.07	1059	1.76	Monoterpene
β -Pinene	4.22	976	0.69	0.67	1043	1.60	Monoterpene
3-p-Menthene	4.35	984	tr	tr	1018	1.37	Monoterpene
Myrcene	4.50	993	0.80	0.77	1117	2.30	Monoterpene
α -Phellandrene	4.77	1009	0.38	0.34	1108	2.22	Monoterpene
α -Terpinene	4.99	1021	8.34	8.32	1126	2.41	Monoterpene
para-Cymene	5.17	1030	4.22	4.21	1207	3.46*	Monoterpene
Limonene	5.20	1032	0.93	0.53	1142	2.62	Monoterpene
β -Phellandrene	5.26*	1035	3.28	3.74	1145	2.67*	Monoterpene
1,8-Cineole	5.26*	1035	[3.28]	[3.74]	1145	2.67*	Monoterp. ether
<i>cis</i> - β -Ocimene	5.37	1041	0.01	20.31	1193	3.28*	Monoterpene
<i>trans</i> - β -Ocimene	5.56	1052	0.01	[4.21]	1207	3.46*	Monoterpene
γ -Terpinene	5.80	1065	20.37	[20.31]	1193	3.28*	Monoterpene
<i>cis</i> -Sabinene hydrate	6.07	1080	0.02	0.02	1401	6.31	Monoterp. alcohol
Terpinolene	6.24	1089	3.17	3.12	1225	3.68	Monoterpene
para-Cymenene	6.43	1099	0.10	0.09	1365	5.76	Monoterpene
Linalool	6.70*	1109	0.09	0.17	1488	8.10*	Monoterp. alcohol
<i>trans</i> -Sabinene hydrate	6.70*	1109	[0.09]	0.07	1476	7.81	Monoterp. alcohol
<i>cis</i> -para-Menth-2-en-1-ol	7.23	1129	0.12	[0.17]	1488	8.10*	Monoterp. alcohol
<i>cis</i> -para-Mentha-2,8-dien-1-ol	7.56	1141	0.03	0.06	1598	11.44	Monoterp. alcohol
<i>trans</i> -para-Menth-2-en-1-ol	7.75	1148	0.03	0.51	1565	10.26*	Monoterp. alcohol
Terpinen-4-ol	9.06	1196	42.10	42.90	1539	9.28*	Monoterp. alcohol
para-Cymen-8-ol	9.42*	1205	0.14	0.07	1765	19.57	Monoterp. alcohol
Myrtenal	9.42*	1205	[0.14]	1.19	1540	9.34*	Monoterp. aldehyde
α -Terpineol	9.54	1208	2.86	3.10	1624	12.37*	Monoterp. alcohol
<i>trans</i> -Piperitol	9.98	1218	0.07	0.07	1668	14.36	Monoterp. alcohol
Piperitone	11.81	1258	0.05	[3.10]	1624	12.37*	Monoterp. ketone
α -Cubebene	16.07	1336	0.13				Sesquiterpene
α -Ylangene	17.35	1356	0.06	0.06	1420	6.59	Sesquiterpene
α -Copaene	17.77	1362	0.15	0.11	1441	6.98	Sesquiterpene
β -Elemene	18.98	1380	0.03	[42.90]	1539	9.28*	Sesquiterpene
α -Gurjunene	19.74	1392	0.32	0.33	1467	7.61	Sesquiterpene
β -Caryophyllene	20.65	1405	0.34	[42.90]	1539	9.28*	Sesquiterpene
Methyleugenol	21.60	1416	0.12	0.11	1920	29.97	Phenylpropanoid

Aromadendrene	22.07	1422	1.00	[1.19]	1540	9.34*	Sesquiterpene
<i>trans</i> - α -Bergamotene	22.22	1423	0.14	[1.19]	1540	9.34*	Sesquiterpene
Seychellene	22.73	1430	0.13	0.15	1556	9.92*	Sesquiterpene
<i>cis</i> -Muurolo-3,5-diene	23.05	1433	0.07	0.04	1548	9.63	Sesquiterpene
<i>cis</i> -Cadin-1(6),4-diene	23.22	1436	0.03	[0.15]	1556	9.92*	Sesquiterpene
α -Humulene	23.46	1438	0.08	0.28	1585	10.98*	Sesquiterpene
allo-Aromadendrene	23.73	1442	0.52	[0.51]	1565	10.26*	Sesquiterpene
<i>trans</i> -Cadin-1(6),4-diene	25.14	1459	0.25	[0.28]	1585	10.98*	Sesquiterpene
α -Amorphene	25.52	1463	0.03	0.04	1613	11.99	Sesquiterpene
β -Selinene	26.29	1472	0.11	[3.10]	1624	12.37*	Sesquiterpene
Viridiflorene	26.52	1475	0.88	0.62	1620	12.25	Sesquiterpene
Bicyclgermacrene	26.93*	1480	0.32	0.22	1647	13.30	Sesquiterpene
α -Selinene	26.93*	1480	[0.32]	0.18	1631	12.63	Sesquiterpene
α -Muurolole	27.70	1489	0.15	0.09	1640	12.97	Sesquiterpene
γ -Cadinene	28.78	1503	0.04	0.28	1673	14.60*	Sesquiterpene
δ -Cadinene	29.45	1512	0.97	1.05	1678	14.87	Sesquiterpene
Zonarene	29.61	1514	0.23	[0.28]	1673	14.60*	Sesquiterpene
<i>trans</i> -Calamenene	29.79	1517	0.21	0.14	1739	18.03	Sesquiterpene
<i>trans</i> -Cadin-1,4-diene	30.55	1527	0.15	0.19	1695	15.76	Sesquiterpene
α -Elemol	32.90	1560	0.06	0.05	2006	34.80	Sesquiterp. alcohol
Spathulenol	33.96	1575	0.08	0.08	2026	35.68	Sesquiterp. alcohol
Globulol	34.34	1580	0.25	0.27	1971	33.31	Sesquiterp. alcohol
Viridiflorol	34.83	1587	0.15	0.14	1980	33.72	Sesquiterp. alcohol
Cubeban-11-ol	35.02	1590	0.11	0.27	1954	32.50*	Sesquiterp. alcohol
1,10-diepi-Cubenol	36.43	1616	0.11	[0.27]	1954	32.50*	Sesquiterp. alcohol
1-epi-Cubenol	36.65	1622	0.14				Sesquiterp. alcohol
Cubenol	37.04	1631	0.05	0.05	1948	32.02	Sesquiterp. alcohol
τ -Cadinol	37.26	1637	0.06	0.03	2066	37.39	Sesquiterp. alcohol
Total identified			98.92%	98.61%			

*: 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

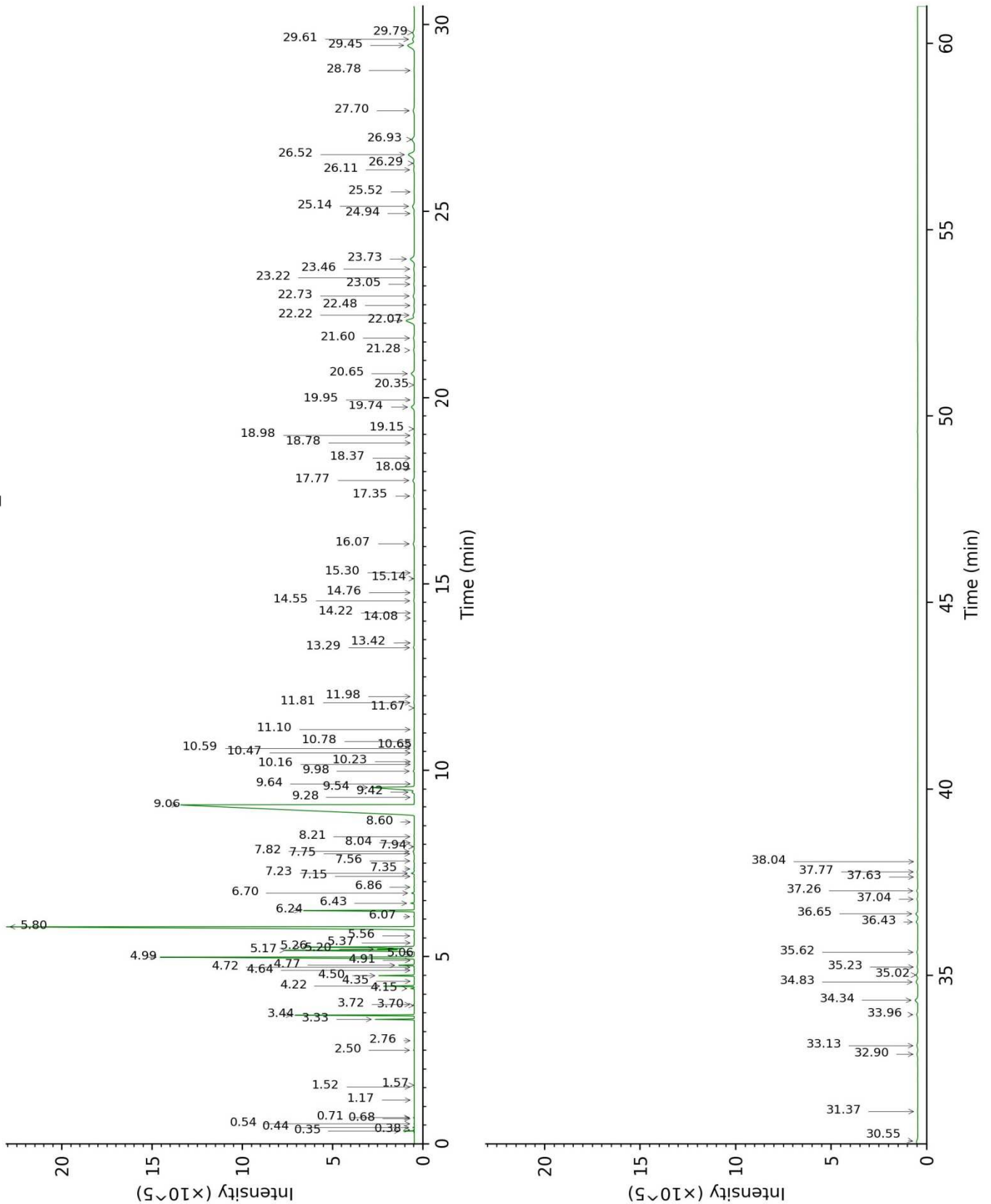
Physical aspect : Clear liquid

Refractive index : 1.4765 \pm 0.0003 (20 °C)

CONCLUSION

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

17G04-PTH7-1-DM_BP5



17G04-PTH7-1-DM_WAX

