



PLANT THERAPY
100% PURE ESSENTIAL OILS

GC/MS BATCH NUMBER: T20105

ESSENTIAL OIL: TEA TREE

BOTANICAL NAME: MELALEUCA ALTERIFOLIA

ORIGIN: AUSTRALIA

KEY CONSTITUENTS PRESENT IN THIS BATCH OF TEA TREE OIL	%
TERPINEN-4-OL	42.1
γ-TERPINENE	19.6
α-TERPINENE	9.3
TERPINOLENE	3.3
α-TERPINEOL	3.1
α-PINENE	2.3
p-CYMENE	2.2
1,8-CINEOLE	1.7
δ-CADINENE	1.2
VIRIDIFLORENE	1.1

Comments from Robert Tisserand: Excellent fresh, watery odor quality. Meets all 15 ISO standards, and also contains no methyleugenol.

Date : May 30, 2017

SAMPLE IDENTIFICATION

Internal code : 17E23-PTH7-1-DM

Customer identification : Tea tree - Australia - T2010568R

Type : Essential oil

Source : *Melaleuca alternifolia*

Customer : Plant Therapy

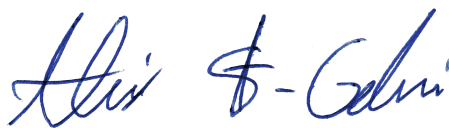
ANALYSIS

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 : 2017-05-30

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.	
Ethanol	0.35	632	0.09				Aliphatic alcohol
2-Methylbutyral	0.44	644	0.02	0.02	770	0.64	Aliphatic aldehyde
cis-Hex-3-en-1-ol	2.46	864	0.07	0.06	1321	5.22	Aliphatic alcohol
α -Thujene	3.31	922	0.85	0.88	953	1.12	Monoterpene
α -Pinene	3.42	929	2.29	2.14	944	1.08	Monoterpene
Camphene	3.70	946	0.01	0.01	1007	1.34	Monoterpene
Sabinene	4.13	971	0.22	0.21	1059	1.83	Monoterpene
β -Pinene	4.19	975	0.67	0.63	1043	1.67	Monoterpene
Myrcene	4.47	992	0.83	0.81	1114	2.38	Monoterpene
α -Phellandrene	4.74	1007	0.40	0.38	1108	2.30	Monoterpene
α -Terpinene	4.96	1019	9.34	9.24	1125	2.51	Monoterpene
para-Cymene	5.13	1028	2.23	2.23	1207	3.58	Monoterpene
Limonene	5.16	1030	0.77	0.71	1140	2.70	Monoterpene
β -Phellandrene	5.19	1032	0.80	2.58	1145	2.77*	Monoterpene
1,8-Cineole	5.23	1034	1.72	[2.58]	1145	2.77*	Monoterp. ether
cis- β -Ocimene	5.34	1040	tr	19.35	1192	3.38*	Monoterpene
trans- β -Ocimene	5.52	1050	0.01	0.03	1200	3.49	Monoterpene
γ -Terpinene	5.76	1063	19.57	[19.35]	1192	3.38*	Monoterpene
cis-Sabinene hydrate	6.03	1078	0.03	0.03	1403	6.50	Monoterp. alcohol
Terpinolene	6.20	1087	3.33	3.25	1224	3.80	Monoterpene
para-Cymenene	6.38	1097	0.05	0.05	1366	5.91	Monoterpene
Linalool	6.65	1108	0.13	0.49	1491	8.41*	Monoterp. alcohol
cis-para-Menth-2-en-1-ol	7.17	1127	0.42	[0.49]	1491	8.41*	Monoterp. alcohol
cis-para-Mentha-2,8-dien-1-ol	7.69	1145	0.12	0.09	1600	11.94	Monoterp. alcohol
trans-para-Menth-2-en-1-ol	7.75	1148	0.20	0.29	1555	10.33*	Monoterp. alcohol
Terpinen-4-ol	8.97	1193	42.10	42.85	1536	9.63*	Monoterp. alcohol
para-Cymen-8-ol	9.28	1202	0.04	0.03	1766	20.50	Monoterp. alcohol
α -Terpineol	9.44	1206	3.14	3.35	1626	12.91*	Monoterp. alcohol
trans-Piperitol	9.87	1215	0.15	1.28	1674	15.31*	Monoterp. alcohol
Piperitone	11.72	1256	0.06	[3.35]	1626	12.91*	Monoterp. ketone
α -Cubebene	15.92	1334	0.07	0.06	1415	6.68	Sesquiterpene
α -Ylangene	17.22	1354	0.05	0.05	1408	6.57	Sesquiterpene
α -Copaene	17.63	1360	0.15	0.11	1434	7.08	Sesquiterpene
β -Elemene	18.82	1378	0.02	[42.85]	1536	9.63*	Sesquiterpene
α -Gurjunene	19.59	1390	0.32	0.35	1462	7.75	Sesquiterpene
β -Caryophyllene	20.47	1402	0.32	[42.85]	1536	9.63*	Sesquiterpene
Aromadendrene	21.88	1419	0.94	0.96	1536	9.65*	Sesquiterpene
trans- α -Bergamotene	22.02	1421	0.13	0.22	1540	9.75	Sesquiterpene
Seychellene	22.28	1424	0.04	0.03	1543	9.86	Sesquiterpene
cis-Muurolo-3,5-diene	22.55	1427	0.12	0.10	1553	10.23	Sesquiterpene

<i>cis</i> -Cadin-1(6),4-diene	22.86	1431	0.10	[0.29]	1555	10.33*	Sesquiterpene
α -Humulene	23.25	1436	0.07	0.38	1581	11.26*	Sesquiterpene
allo-Aromadendrene	23.52	1439	0.54	0.54	1560	10.51	Sesquiterpene
<i>trans</i> -Cadin-1(6),4-diene	24.93	1456	0.31	[0.38]	1581	11.26*	Sesquiterpene
α -Amorphene	25.88	1467	0.10	0.10	1604	12.09	Sesquiterpene
β -Selinene	26.05	1470	0.10	[3.35]	1626	12.91*	Sesquiterpene
Viridiflorene	26.30	1473	1.06	1.01	1616	12.51	Sesquiterpene
Bicyclgermacrene	26.72*	1477	0.98	0.90	1643	13.71	Sesquiterpene
α -Selinene	26.72*	1477	[0.98]	0.08	1635	13.32	Sesquiterpene
α -Muurolene	27.46	1486	0.14	0.17	1647	13.90	Sesquiterpene
γ -Cadinene	28.50	1499	0.04	0.44	1668	15.01*	Sesquiterpene
δ -Cadinene	29.20	1509	1.21	[1.28]	1674	15.31*	Sesquiterpene
Zonarene	29.37	151-1	0.29	[0.44]	1668	15.01*	Sesquiterpene
<i>trans</i> -Calamenene	29.51	1513	0.12	0.10	1736	18.57	Sesquiterpene
<i>trans</i> -Cadin-1,4-diene	30.28	1524	0.19	0.20	1691	16.18	Sesquiterpene
α -Elemol	32.64	1556	0.10	0.12	2004	35.39	Sesquiterp. alcohol
Spathulenol	33.72	1572	0.12	0.11	2023	36.23	Sesquiterp. alcohol
Globulol	34.14	1577	0.45	0.46	1972	33.97	Sesquiterp. alcohol
Viridiflorol	34.63	1584	0.28	0.27	1980	34.35	Sesquiterp. alcohol
Cubeban-11-ol	34.83	1587	0.19	0.18	1917	30.83	Sesquiterp. alcohol
1,10-diepi-Cubenol	36.27	1612	0.19	0.25	1952	33.10	Sesquiterp. alcohol
1-epi-Cubenol	36.49	1618	0.28	0.29	1955	33.22	Sesquiterp. alcohol
Cubenol	37.10	1633	0.13	0.12	1944	32.72	Sesquiterp. alcohol
τ -Muurolol	37.46	1641	0.04	0.04	2088	38.52	Sesquiterp. alcohol
α -Muurolol	37.59	1645	0.05	0.06	2103	39.00	Sesquiterp. alcohol
α -Cadinol	37.87	1651	0.02	0.01	2134	39.97	Sesquiterp. alcohol
Total identified			98.92%	98.70%			

*: 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

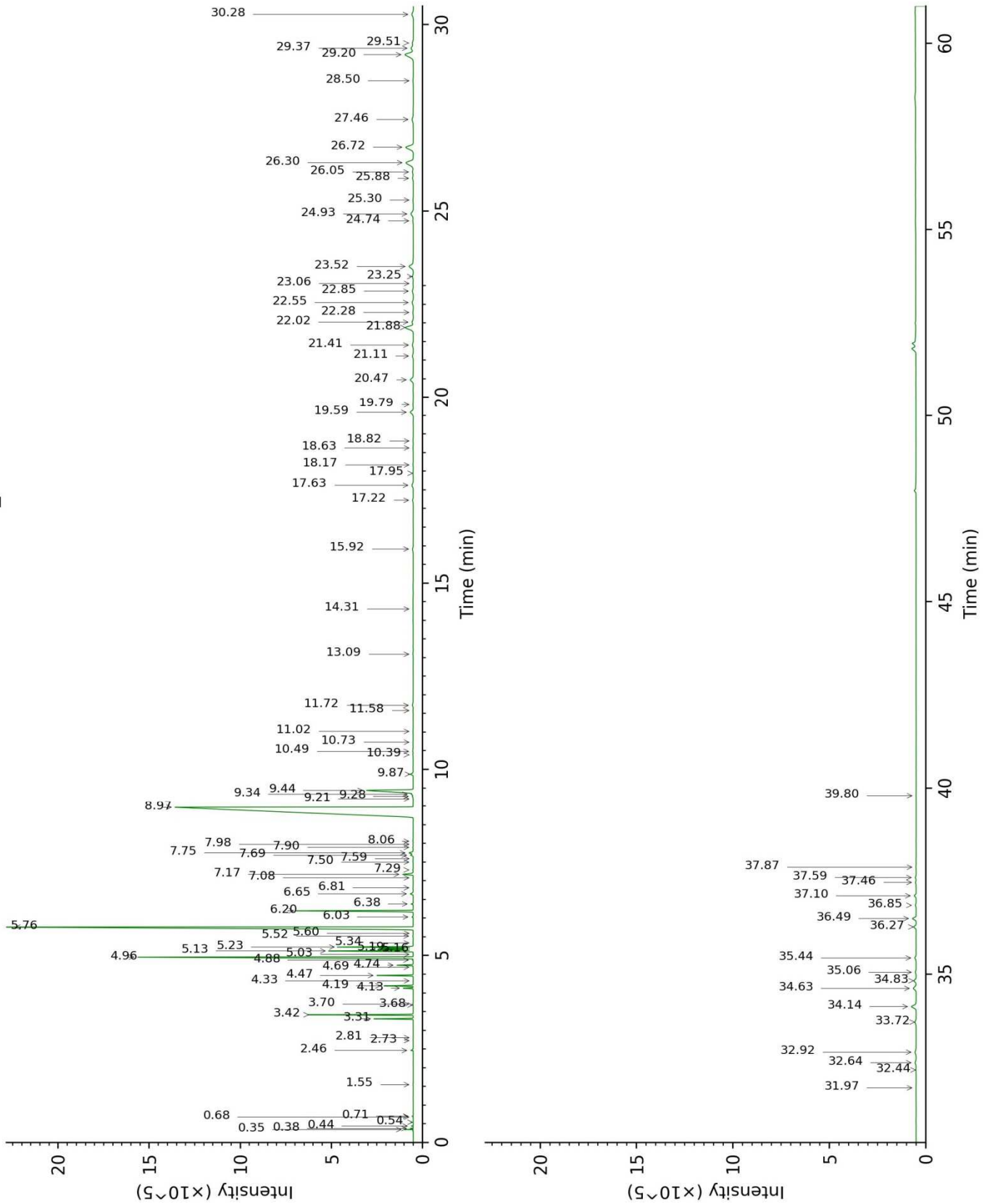
Physical aspect : Clear liquid

Refractive index : 1.4770 \pm 0.0003 (20 °C)

CONCLUSION

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

17E23-PTH7-1-DM_BP5



17E23-PTH7-1-DM_WAX

