

GC/MS BATCH NUMBER: T10102

ESSENTIAL OIL: TANGERINE
BOTANICAL NAME: CITRUS RETICULATA
ORIGIN: BRAZIL

KEY CONSTITUENTS PRESENT IN THIS BATCH OF TANGERINE OIL	%
LIMONENE	95.0
MYRCENE	1.8
γ-TERPINENE	0.6
α-PINENE	0.6
LINALOOL	0.3
DECANAL	0.2
OCTANAL	0.2

Comments from Robert Tisserand: Good odor profile (Tangerine oil can be sweeter than this), and constituents in expected amounts.

Date : September 9, 2016

SAMPLE IDENTIFICATION

Internal code : 16I06-PTH3-1-DM

Customer identification : Tangerine - T1010258R

Type : Essential oil

Source : *Citrus reticulata*

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 : 2016-09-07

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Note: This report may not be published, including online, without the written consent from Laboratoire PhytoChemia.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.	
α-Thujene	3.25	918	0.02	0.04	953	0.89	Monoterpene
α-Pinene	3.35	924	0.56	0.52	946	0.86	Monoterpene
Sabinene	4.07	968	0.27	0.25	1056	1.50	Monoterpene
β-Pinene	4.13	971	0.06	0.05	1039	1.36	Monoterpene
Myrcene	4.42	989	1.76	1.75	1116	1.99	Monoterpene
α-Phellandrene	4.68*	1004	0.12	0.02	1109	1.92	Monoterpene
Δ ³ -Carene	4.68*	1004	[0.12]	0.08	1089	1.76	Monoterpene
Octanal	4.81	1011	0.20	0.19	1232	3.39	Aliphatic aldehyde
Limonene	5.23*	1034	95.06	95.32	1154	2.44	Monoterpene
para-Cymene	5.23*	1034	[95.06]	0.06	1209	3.07	Monoterpene
γ-Terpinene	5.65	1058	0.62	0.58	1189	2.85	Monoterpene
Terpinolene	6.12	1083	0.03	0.02	1224	3.28	Monoterpene
Octanol	6.18	1086	0.08	0.08	1503	7.60	Aliphatic alcohol
Linalool	6.65	1107	0.28	0.29	1492	7.41	Monoterp. alcohol
Nonanal	6.70	1109	0.03	0.03	1339	4.87	Aliphatic aldehyde
cis-Limonene oxide	7.24	1129	0.01	0.01	1373	5.36	Monoterp. ether
trans-Limonene oxide	7.36	1134	0.01	0.01	1386	5.55	Monoterp. ether
Citronellal	7.86	1152	0.03	0.03	1420	6.04	Monoterp. aldehyde
Terpinen-4-ol	8.71	1184	0.01	0.01	1531	8.23*	Monoterp. alcohol
α-Terpineol	9.36	1203	0.05	0.04	1628	11.15	Monoterp. alcohol
Decanal	9.65	1210	0.16	0.13	1441	6.44	Aliphatic aldehyde
Citronellol	10.78	1235	0.02	0.02	1712	14.84	Monoterp. alcohol
Neral	11.00	1240	0.05	0.03	1600	10.30	Monoterp. aldehyde
Geranial	12.49	1273	0.08	0.08	1651	12.20	Monoterp. aldehyde
α-Copaene	17.37	1355	0.01	0.01	1427	6.18	Sesquiterpene
β-Caryophyllene	20.22	1398	0.02	0.01	1527	8.13	Sesquiterpene
trans-α-Bergamotene	21.44	1413	0.03	[0.01]	1531	8.23*	Sesquiterpene
(E,E)-α-Farnesene	28.90	1503	0.02	0.02	1709	14.69	Sesquiterpene
Bergapten	49.39	2047	0.05				Coumarin
Total identified			99.64%	99.68%			

*: 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 : Yellow orange liquid

Refractive index : 1.4710 ± 0.0003 (20 °C)

CONCLUSION

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



