

**Date :** July 10, 2020

*SAMPLE IDENTIFICATION*

**Internal code :** 16H10-PTH11-1-DM

**Customer identification :** Organic Basil Linalool - Egypt – B2010065R

**Type :** Essential oil

**Source :** *Ocimum basilicum*

**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 :** 2016-08-25

Checked and approved by :

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

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*This report is digitally signed, it is only considered valid if the digital signature is intact. It was updated from the first version issued on August 25, 2016, to correct batch number.*

IDENTIFIED COMPOUNDS

Identification	Column: BP5			Column: WAX			Molecular Class
	R.T.	R.I.	%	%	R.I.	R.T.	
<i>cis</i> -Hex-3-en-1-ol	2.51	866	0.02	0.02	1323	4.63	Aliphatic alcohol
Hashishene	3.15	912	0.02	0.47	947	0.87*	Monoterpene
$\alpha$ -Thujene	3.25	918	0.03	0.05	955	0.90	Monoterpene
$\alpha$ -Pinene	3.36	924	0.48	[0.47]	947	0.87*	Monoterpene
Camphene	3.64	942	0.10	0.09	999	1.08	Monoterpene
Thuja-2,4(10)-diene	3.74	948	0.01	0.46	1057	1.51*	Monoterpene
Sabinene	4.08	968	0.48	[0.46]	1057	1.51*	Monoterpene
$\beta$ -Pinene	4.13	972	0.94	0.91	1040	1.37	Monoterpene
Myrcene	4.42	989	1.02	0.94	1116	1.99	Monoterpene
Octen-3-ol	4.53	995	0.05	0.04	1406	5.85	Aliphatic alcohol
$\alpha$ -Phellandrene	4.69	1004	0.02	0.01	1111	1.94	Monoterpene
$\alpha$ -Terpinene	4.88	1015	0.06	0.09	1123	2.07	Monoterpene
Limonene	5.11*	1028	0.50	0.28	1141	2.29	Monoterpene
para-Cymene	5.11*	1028	[0.50]	0.14	1208	3.06	Monoterpene
1,8-Cineole	5.18	1032	8.96	9.22	1147	2.36	Monoterp. ether
<i>cis</i> - $\beta$ -Ocimene	5.29	1038	0.08	0.12	1188	2.83*	Monoterpene
<i>trans</i> - $\beta$ -Ocimene	5.47	1048	0.58	0.51	1203	3.00	Monoterpene
$\gamma$ -Terpinene	5.65	1058	0.07	[0.12]	1188	2.83*	Monoterpene
<i>cis</i> -Linalool oxide (fur.)	5.95	1073	0.05	0.04	1378	5.44	Monoterp. alcohol
<i>cis</i> -Sabinene hydrate	6.01	1077	0.15	0.20	1408	5.88	Monoterp. alcohol
Terpinolene	6.12	1083	0.13	0.12	1224	3.27	Monoterpene
<i>trans</i> -Linalool oxide (fur.)	6.27*	1091	0.11	0.04	1419	6.03	Monoterp. alcohol
Fenchone	6.27*	1091	[0.11]	0.06	1332	4.78	Monoterp. ketone
6,7-Epoxymyrcene	6.37	1096	0.03	0.04	1351	5.05	Monoterp. ether
Linalool	6.84*	1114	51.53	51.80	1504	7.62	Monoterp. alcohol
<i>trans</i> -Sabinene hydrate	6.84*	1114	[51.53]	0.24	1505	7.65	Monoterp. alcohol
( <i>Z</i> )-Epoxyocimene	7.21	1128	0.01				Monoterp. ether
( <i>E</i> )-Epoxyocimene	7.53	1140	0.16				Monoterp. ether
Camphor	7.69	1146	0.50	0.64	1425	6.13	Monoterp. ketone
$\delta$ -Terpineol	8.55	1178	0.15	0.47	1599	10.25	Monoterp. alcohol
Borneol	8.60	1180	0.13	0.14	1625	11.06	Monoterp. alcohol
Terpinen-4-ol	8.71	1184	0.43	1.59	1533	8.27*	Monoterp. alcohol
$\alpha$ -Terpineol	9.39*	1204	1.73	1.06	1629	11.20*	Monoterp. alcohol
Methylchavicol	9.39*	1204	[1.73]	0.77	1589	9.95	Phenylpropanoid
Octyl acetate	9.81	1214	0.18	0.24	1430	6.23	Aliphatic ester
Neral	11.27	1246	0.04	0.02	1614	10.69	Monoterp. aldehyde
Geraniol	11.86	1260	0.10	0.10	1784	18.77	Monoterp. alcohol
Geranial	12.54	1274	0.01				Monoterp. aldehyde
Bornyl acetate	12.75	1279	1.00	1.32	1511	7.75	Monoterp. ester
Chavicol	13.04	1285	0.02	0.03	2244	41.05	Phenylpropanoid
$\alpha$ -Cubebene	15.72	1330	0.03	0.04	1399	5.75	Sesquiterpene

$\alpha$ -Copaene	17.42	1356	0.17	0.16	1440	6.44	Sesquiterpene
Eugenol	17.77	1361	4.34	4.38	2063	35.63	Phenylpropanoid
$\beta$ -Bourbonene	17.84	1362	0.22	0.29	1461	6.82	Sesquiterpene
$\beta$ -Cubebene	18.40	1371	0.11	0.22	1485	7.28	Sesquiterpene
$\beta$ -Elemene	18.68	1375	1.14	[1.59]	1533	8.27*	Sesquiterpene
$\beta$ -Caryophyllene	20.28	1399	0.28	0.20	1523	8.01	Sesquiterpene
<i>cis</i> - $\alpha$ -Bergamotene	20.38	1400	0.09	0.10	1519	7.92	Sesquiterpene
$\beta$ -Gurjunene	20.90	1406	0.15	0.17	1528	8.15	Sesquiterpene
Methyleugenol	21.44	1413	0.11	0.09	1935	28.59	Phenylpropanoid
<i>trans</i> - $\alpha$ -Bergamotene	21.97	1419	6.35	6.42	1538	8.43	Sesquiterpene
<i>cis</i> - $\beta$ -Farnesene	22.60	1427	0.19	0.18	1569	9.36	Sesquiterpene
$\alpha$ -Humulene	23.08	1433	0.76	0.90	1581	9.75	Sesquiterpene
Dauca-5,8-diene	23.74	1441	0.55	0.42	1595	10.14	Sesquiterpene
<i>trans</i> - $\beta$ -Farnesene	24.24	1447	0.13	[1.06]	1629	11.20*	Sesquiterpene
Germacrene D	25.32	1460	2.93	2.87	1631	11.31	Sesquiterpene
Viridiflorene	25.94	1467	0.44	0.39	1620	10.90	Sesquiterpene
Bicyclgermacrene	26.50	1473	0.89	0.79	1649	12.10	Sesquiterpene
Valencene	27.20	1481	1.20	1.52	1671	13.05	Sesquiterpene
$\delta$ -Guaiene	27.46	1485	1.87	1.20	1642	11.75	Sesquiterpene
$\gamma$ -Cadinene	28.38	1496	2.55	3.00	1676	13.29*	Sesquiterpene
$\beta$ -Bisabolene	28.51	1498	0.07	0.09	1667	12.86	Sesquiterpene
<i>trans</i> -Calamenene	29.02*	1505	0.34	0.18	1739	16.13	Sesquiterpene
$\delta$ -Cadinene	29.02*	1505	[0.34]	[3.00]	1676	13.29*	Sesquiterpene
<i>trans</i> -Cadina-1,4-diene	29.85	1516	0.20	0.16	1702	14.41	Sesquiterpene
$\alpha$ -Cadinene	30.44	1524	0.08	0.06	1711	14.77	Sesquiterpene
<i>trans</i> - $\alpha$ -Bisabolene	30.98	1531	0.03	0.03	1694	14.05	Sesquiterpene
Maaliol	32.83	1557	0.11	0.09	1895	25.83	Sesquiterp. alcohol
( <i>E</i> )-Nerolidol	33.74*	1569	0.28	0.13	2001	32.49	Sesquiterp. alcohol
Spathulenol	33.74*	1569	[0.28]	0.16	2030	34.16	Sesquiterp. alcohol
1,10-diepi-Cubenol	35.82	1600	0.39	0.46	1960	30.08	Sesquiterp. alcohol
$\tau$ -Cadinol	37.40	1639	2.14	2.10	2083	36.33	Sesquiterp. alcohol
$\beta$ -Eudesmol	37.71	1646	0.06	0.03	2123	37.67	Sesquiterp. alcohol
$\alpha$ -Cadinol	37.93	1651	0.13	0.11	2137	38.15	Sesquiterp. alcohol
$\alpha$ -Bisabolol	39.39	1686	0.03	0.04	2147	38.50	Sesquiterp. alcohol
<b>Total identified</b>			<b>98.24%</b>	<b>99.25%</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 :** Faintly yellow liquid

**Refractive index :**  $1.4743 \pm 0.0003$  (20 °C)

*CONCLUSION*

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



