



**PLANT THERAPY**  
100% PURE ESSENTIAL OILS

## GC/MS BATCH NUMBER: B10102

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**ESSENTIAL OIL:** BASIL LINALOOL  
**BOTANICAL NAME:** OCIMUM BASILICUM  
**ORIGIN:** EGYPT

KEY CONSTITUENTS PRESENT IN THIS BATCH OF BASIL LINALOOL OIL	%
LINALOOL	51.2
1,8-CINEOLE	8.5
EUGENOL	5.3
trans- $\alpha$ -BERGAMOTENE	5.3
GERMACRENE D	3.0
$\delta$ -CADINENE	2.4
$\tau$ -CADINOL	2.2
$\gamma$ -CADINENE	1.9
METHYLCHAVICOL	1.4
$\delta$ -GUAJENE	1.3
$\beta$ -ELEMENE	1.1

Comments from Robert Tisserand: Beautiful sweet-green odor profile, with a hint of spice. All seven ISO key constituents are within range.

**Date :** March 21, 2016

*SAMPLE IDENTIFICATION*

**Internal code :** 16C10-PTH2-1-HM

**Customer identification :** Basil (linalool CT) - Eygpt - p151026hr

**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 :** Alexis St-Gelais, M. Sc., chimiste

**Analysis date :** 2016-03-20

Checked and approved by :

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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.	
Hashishene	2.97	913	0.01	0.44	950	0.90*	Monoterpene
$\alpha$ -Thujene	3.07	920	0.03	0.03	958	0.94	Monoterpene
$\alpha$ -Pinene	3.17	926	0.44	[0.44]	950	0.90*	Monoterpene
Camphene	3.44	943	0.09	0.09	1005	1.13	Monoterpene
Sabinene	3.87	969	0.48	0.48	1060	1.58	Monoterpene
$\beta$ -Pinene	3.92	972	0.90	0.87	1043	1.43	Monoterpene
Myrcene	4.21*	990	0.99	0.91	1119	2.08	Monoterpene
Dehydro-1,8-cineole	4.21*	990	[0.99]	0.02	1133	2.25	Monoterp. ether
Octen-3-ol	4.27	993	0.01	0.02	1418	6.15	Aliphatic alcohol
$\alpha$ -Phellandrene	4.41	1002	0.01	0.01	1113	2.02	Monoterpene
$\alpha$ -Terpinene	4.65	1016	0.10	0.09	1124	2.15	Monoterpene
para-Cymene	4.83	1025	0.14	0.13	1213	3.19	Monoterpene
Limonene	4.87	1028	0.38	0.37	1142	2.36	Monoterpene
$\beta$ -Phellandrene	4.89	1029	0.09	8.52	1152	2.47*	Monoterpene
1,8-Cineole	4.96	1033	8.45	[8.52]	1152	2.47*	Monoterp. ether
<i>cis</i> - $\beta$ -Ocimene	5.06	1038	0.05	0.18	1191	2.93*	Monoterpene
<i>trans</i> - $\beta$ -Ocimene	5.24	1048	0.67	0.66	1207	3.11	Monoterpene
$\gamma$ -Terpinene	5.41	1058	0.11	[0.18]	1191	2.93*	Monoterpene
<i>cis</i> -Linalool oxide (fur.)	5.70	1074	0.03	0.05	1389	5.68	Monoterp. alcohol
<i>cis</i> -Sabinene hydrate	5.71	1075	0.14	0.14	1417	6.12	Monoterp. alcohol
Terpinolene	5.88	1085	0.14	0.14	1227	3.38	Monoterpene
<i>trans</i> -Linalool oxide (fur.)	5.94	1088	0.05	0.07	1415	6.09	Monoterp. alcohol
6,7-Epoxymenthene	6.00	1091	0.05	0.04	1358	5.23	Monoterp. ether
Linalool	6.44	1112	51.22	51.57	1516	8.02*	Monoterp. alcohol
<i>trans</i> -Sabinene hydrate	6.46	1113	0.12	0.07	1496	7.61	Monoterp. alcohol
Nonanal	6.49	1114	0.09	0.07	1337	4.94	Aliphatic aldehyde
( <i>Z</i> )-Epoxymenthene	6.80	1126	0.02				Monoterp. ether
( <i>E</i> )-Epoxymenthene	7.16	1140	0.20				Monoterp. ether
Camphor	7.29	1145	0.51	0.87	1430	6.36*	Monoterp. ketone
Isoborneol	7.76	1164	0.04	0.03	1599	10.55	Monoterp. alcohol
Borneol	7.96	1172	0.27	0.21	1628	11.59	Monoterp. alcohol
Terpinen-4-ol	8.16	1180	0.51	0.49	1538	8.69	Monoterp. alcohol
$\alpha$ -Terpineol	8.72	1202	0.80	0.97	1634	11.86	Monoterp. alcohol
Methylchavicol	8.80	1204	1.38	1.56	1590	10.28*	Phenylpropanoid
Octyl acetate	9.31	1216	0.21	0.16	1435	6.46	Aliphatic ester
Citronellol	9.97	1231	0.18	0.18	1719	15.67	Monoterp. alcohol
Carvone	10.65	1247	0.04	0.05	1647	12.47	Monoterp. ketone
Geraniol	10.93	1254	0.14	0.13	1792	19.97	Monoterp. alcohol
Bornyl acetate	12.04	1280	0.95	1.14	1520	8.13*	Monoterp. ester
$\alpha$ -Cubebene	14.89	1334	0.03	0.04	1410	6.00	Sesquiterpene
Eugenol	16.19	1354	5.28	5.04	2072	36.69	Phenylpropanoid

$\alpha$ -Copaene	16.49	1359	0.18	[0.87]	1430	6.36*	Sesquiterpene
Neryl acetate	16.88	1365	0.27	1.93	1667	13.30*	Monoterp. ester
$\beta$ -Cubebene	17.41	1374	0.11	0.18	1480	7.31	Sesquiterpene
$\beta$ -Elemene	17.63	1377	1.05	1.71	1530	8.44*	Sesquiterpene
Geranyl acetate	17.80	1380	0.06	0.25	1695	14.61*	Monoterp. ester
$\beta$ -Caryophyllene	19.16	1402	0.27	[1.14]	1520	8.13*	Sesquiterpene
<i>cis</i> - $\alpha$ -Bergamotene	19.29	1404	0.11	[51.57]	1516	8.02*	Sesquiterpene
<i>trans</i> - $\alpha$ -Bergamotene	20.84*	1423	5.84	5.26	1534	8.55	Sesquiterpene
$\alpha$ -Guaiene	20.84*	1423	[5.84]	[1.71]	1530	8.44*	Sesquiterpene
<i>cis</i> - $\beta$ -Farnesene	21.38*	1429	0.17	0.07	1580	9.95	Sesquiterpene
Methyleugenol	21.38*	1429	[0.17]	0.09	1942	30.01	Phenylpropanoid
$\alpha$ -Humulene	21.82	1435	0.74	0.73	1584	10.10	Sesquiterpene
Dauca-5,8-diene	22.44	1442	0.49	[1.56]	1590	10.28*	Sesquiterpene
<i>trans</i> - $\beta$ -Farnesene	23.00	1449	0.15	0.12	1622	11.30	Sesquiterpene
Germacrene D	23.97	1461	3.00	3.17	1626	11.48	Sesquiterpene
Viridiflorene	24.63	1469	0.35	0.32	1617	11.08	Sesquiterpene
Bicyclgermacrene	25.13	1475	0.92	0.81	1644	12.31	Sesquiterpene
$\delta$ -Guaiene	25.86	1484	1.28	1.15	1636	11.96	Sesquiterpene
$\gamma$ -Cadinene	26.04	1486	1.90	[1.93]	1667	13.30*	Sesquiterpene
$\delta$ -Cadinene	26.91	1497	2.39	2.40	1671	13.53	Sesquiterpene
<i>trans</i> -Calamenene	27.49	1504	0.33	0.19	1732	16.48	Sesquiterpene
<i>trans</i> -Cadina-1,4-diene	28.36	1515	0.15	[0.25]	1695	14.61*	Sesquiterpene
$\alpha$ -Cadinene	28.87	1522	0.05	0.06	1704	14.96	Sesquiterpene
Maaliol	31.30	1554	0.11	0.11	1892	26.69	Sesquiterp. alcohol
( <i>E</i> )-Nerolidol	32.18	1565	0.14	0.12	1996	33.29	Sesquiterp. alcohol
Spathulenol	32.28	1567	0.13	0.14	2023	34.88	Sesquiterp. alcohol
1,10-diepi-Cubenol	34.71	1598	0.46	0.39	1957	30.94	Sesquiterp. alcohol
$\tau$ -Cadinol	36.34	1633	2.15	2.25	2078	36.90	Sesquiterp. alcohol
$\beta$ -Eudesmol	36.63	1640	0.06	0.04	2116	38.21	Sesquiterp. alcohol
$\alpha$ -Cadinol	36.88	1646	0.10	0.10	2130	38.69	Sesquiterp. alcohol
$\alpha$ -Bisabolol	38.49	1683	0.05	0.05	2139	38.95	Sesquiterp. alcohol
<b>Total identified</b>			<b>98.36%</b>	<b>97.48%</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 :** Slightly yellow liquid

**Refractive index :** 1.4745  $\pm$  0.0003 (20 °C)

#### CONCLUSION

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



