

GC/MS BATCH NUMBER: E20103

ESSENTIAL OIL: EUCALYPTUS
BOTANICAL NAME: EUCALYPTUS GLOBULUS
ORIGIN: CHINA

| KEY CONSTITUENTS PRESENT IN THIS BATCH OF EUCALYPTUS OIL | % |
|--|------|
| 1,8-CINEOLE | 86.0 |
| γ-TERPINENE | 4.8 |
| p-CYMENE | 2.6 |
| α-PINENE | 1.2 |
| LIMONENE | 0.5 |
| α-PHELLANDRENE | 0.4 |
| β-PINENE | 0.2 |
| α-TERPINEOL | 0.04 |
| CAMPHENE | 0.01 |

Comments from Robert Tisserand: Has the sharp, green odor of a high-cineole eucalyptus oil. It does not quite conform to the ISO for Australian type Eucalyptus oil 80/85%, as the cineole is 86% - not a problem.

Date : April 2, 2016

SAMPLE IDENTIFICATION

Internal code : 16C24-PTH5-1-DM

Customer identification : Eucalyptus Globulus - China - E2010359R

Type : Essential oil

Source : *Eucalyptus globulus*

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 : 2016-04-02

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. | |
| α-Pinene | 3.18 | 927 | 1.19 | 1.16 | 953 | 0.92 | Monoterpene |
| Camphene | 3.44 | 943 | tr | 0.01 | 1006 | 1.15 | Monoterpene |
| β-Pinene | 3.93 | 973 | 0.20 | 0.19 | 1045 | 1.45 | Monoterpene |
| Myrcene | 4.22 | 990 | 0.51 | 0.49 | 1120 | 2.10 | Monoterpene |
| α-Phellandrene | 4.48 | 1006 | 0.46 | 0.42 | 1113 | 2.03 | Monoterpene |
| 1,4-Cineole | 4.67* | 1017 | 0.15 | 0.14 | 1129 | 2.20* | Monoterp. ether |
| α-Terpinene | 4.67* | 1017 | [0.15] | [0.14] | 1129 | 2.20* | Monoterpene |
| 1,8-Cineole | 5.07* | 1039 | 91.58 | 89.41 | 1164 | 2.61* | Monoterp. ether |
| para-Cymene | 5.07* | 1039 | [91.58] | 2.56 | 1216 | 3.24 | Monoterpene |
| Limonene | 5.07* | 1039 | [91.58] | [89.41] | 1164 | 2.61* | Monoterpene |
| cis-β-Ocimene | 5.09 | 1040 | 0.49 | 5.01 | 1198 | 3.01* | Monoterpene |
| trans-β-Ocimene | 5.26 | 1050 | 0.09 | 0.08 | 1210 | 3.15 | Monoterpene |
| γ-Terpinene | 5.45 | 1061 | 4.77 | [5.01] | 1198 | 3.01* | Monoterpene |
| Terpinolene | 5.90 | 1086 | 0.20 | 0.19 | 1230 | 3.42 | Monoterpene |
| para-Cymenene | 6.07 | 1095 | 0.03 | 0.03 | 1376 | 5.50 | Monoterpene |
| Linalool | 6.32 | 1107 | 0.06 | 0.05 | 1505 | 7.80 | Monoterp. alcohol |
| trans-Pinocarveol | 7.13 | 1139 | 0.03 | 0.03 | 1577 | 9.86 | Monoterp. alcohol |
| Terpinen-4-ol | 8.21 | 1182 | 0.06 | 0.05 | 1537 | 8.65 | Monoterp. alcohol |
| α-Terpineol | 8.78 | 1203 | 0.04 | 0.04 | 1633 | 11.82 | Monoterp. alcohol |
| Total identified | | | 99.86% | 99.86% | | | |

*: 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 : 1.4593 ± 0.0003 (20 °C)

CONCLUSION

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



