Vanilla planifolia

ESSENTIAL OIL ANALYSIS

Laboratoire PhytoChemia

Date: June 22, 2017

Vanilla Extract Mass Spectrometric Analysis (Qualitative)

Sample identification

Internal code : 17F08-FSE18-1-DM
Customer identification : Vanilla CO2 - Lot #541416
Type : Extract
Source : *Vanilla planifolia*
Customer : Flowers Shining Everywhere Inc.

Analysis

Method : Analysis by GC-MS alone using a HP-5MS column. Dilution of sample in 50% acetone prior to injection.
Analyst : Alexis St-Gelais, M. Sc.
Analysis date : 2017-06-22

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Compounds identified	Signal percentage*	Class
2,3-Butanediol (2 isomers)	0.06	Aliphatic alcohol
ortho-Guaiacol	0.02	Simple phenolic
5-Hydroxymethylfurfural	0.02	Furan
4-Hydroxybenzaldehyde	0.55	Simple phenolic
Vanillin	5.29	Simple phenolic
Methylparaben + Vanillic alcohol	0.08	Simple phenolics
Acetovanillone	0.01	Simple phenolic
Syringaldehyde	0.01	Simple phenolic
Butanediol vanillyl acetal I	0.05	Phenolic acetal
Butanediol vanillyl acetal II	0.03	Phenolic acetal
Methl palmitate	0.03	Aliphatic ester
Methyl linoleate	0.11	Aliphatic ester
Monolinolein isomer	0.46	Monoglyceride
(Z)-Pentacos-16-ene-2,4-dione	1.15	Aliphatic ketone
(Z)-Heptacos-18-ene-2,4-dione	31.84	Aliphatic ketone
(Z)-2-(henicos-12-en-1-yl)-6-methyl-2H-pyran-4(3H)-one	1.35	Aliphatic ketone
(Z)-Nonacos-20-ene-2,4-dione	13.48	Aliphatic ketone
(Z)-6-Methyl-2-(tricos-14-en-1-yl)-2H-pyran-4(3H)-one	4.05	Aliphatic ketone
(Z)-Hentriacont-22-ene-2,4-dione	5.53	Aliphatic ketone

*These percentage are only indicative of relative peak ratios on the chromatogram, and not of their concentration in the sample. The extract very likely contains non-volatile material that could not be estimated by this analysis. Furthermore, GC-MS response factors vary more than for responses measured in GC-FID, and ratios comparisons should be considered with care.

Conclusion

No adulterant, diluent or contaminant has been detected using this method. Please note that methylparaben can be found naturally at low concentrations in vanilla extracts.

Checked and approved by :

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