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CERTIFICATE OF ANALYSIS — KQ-A4333-1

STUDY NUMBER: KQ/21/A4333

FOR

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TEST ITEM

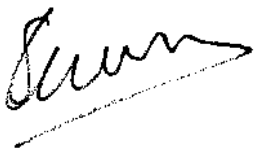
Product:	Oil of *Pelargonium tomentosum*	Date received:	06 September 2021
Date distilled:	26/08/21	Assigned Lab ID No.:	KQ/4333/1
Packaging:	Amber glass dropper bottle	Study started:	06 September 2021
		Study completed:	07 September 2021

TEST RESULTS

	Physical state and colour by visual examination:		Clear, almost colourless, mobile liquid	
	Component	Retention index	Test item (area%) [a]	Published data (%) [b]
1	tricyclene	922	0.8	0.9 – 1.1
2	α-pinene	932	0.8	0.8 – 1.0
3	myrcene	991	0.9	0.1 – 1.4
4	α-phellandrene	1002	2.1	2.1 – 2.8
5	cymene	1023	0.5	0.2
6	limonene	1027	2.0	1.6 – 3.0
7	β-phellandrene	1028	1.3	1.5
8	(*Z*)-β-ocimene	1036	0.5	0.3 – 0.5
9	menthone	1154	36.3	25 - 27
10	iso-menthone	1165	51.2	61 - 62
11	menthol	1172	0.2	0.1
12	piperitone	1253	0.4	0.6 – 0.8
13	β-caryophyllene	1416	0.5	0.1 – 0.3

[a] The chromatographic profile was determined by non-polar capillary GC-MS, identifying the individual components by comparing mass spectra with data in the NIST11, W8N05ST and Agilent Flavor2 electronic libraries and by comparing peak retention indices with the data in Adam's Listing 4.1:2017. The relative proportions are obtained by expressing the areas under the individual component peaks as percentages of the sum of the areas under all peaks.

[b] F.E. Demarne and J.J.A. van der Walt, S. Afr. J. Plant Soil **7**(1), 36 – 39 (1990).



07 September 2021

J J Nieuwenhuis MSc PhD PrSciNat
STUDY DIRECTOR