



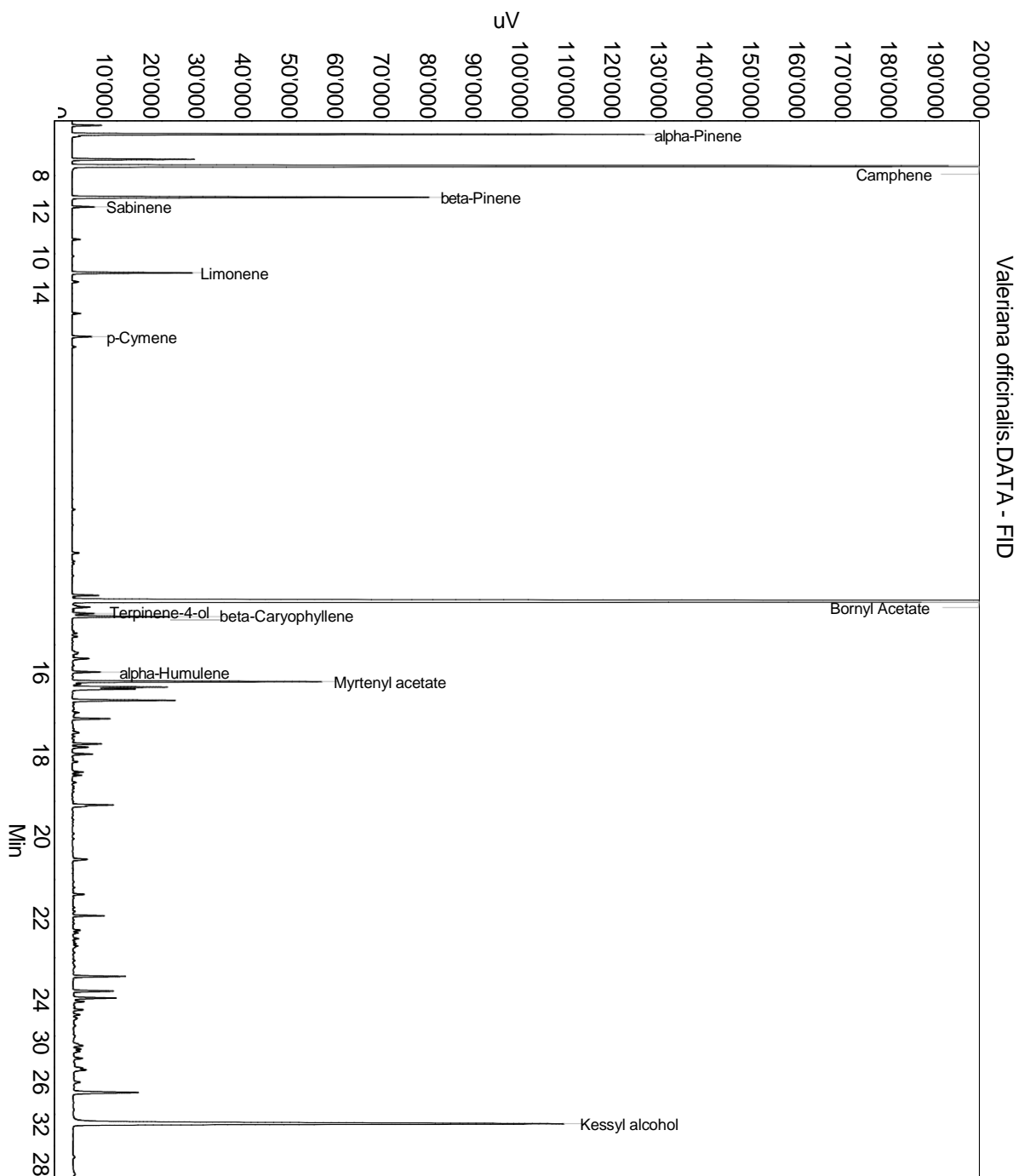
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Certificate of Analysis & Gas Chromatography
Organic Valerian Essential Oil
(Valeriana officinalis)

Name: Valerian essential oil organic
Batch number 060624-2
Plant / animal latin name: *Valeriana officinalis L.*
Quality, certificate: Organic
Origin of plant: Bulgaria
Date of analysis: 12.04.2024

Parameters	Specifications	Results
Odor and appearance	Herbal, fresh green warm woody balsam rooty animal musk	conform
Specific gravity	0.930 to 0.984 @ 20°C	0.9460
Refractive index	1.470 to 1.500 @ 20°C	1.4784
Optical rotation	NA	-
GC-FID	Conforms to standard	

Batch number: 060624-2
System: GC-430 FID
Column: BGB Wax 60m / 0.25mm / 0.25um
Method: essential basis 60min



Index	Name	Time [Min]	Area [uV.Min]	Area % [%]	Allergene
1		6.72	184.1	0.309	
2	alpha-Pinene	6.95	3445.2	5.780	
3		7.59	803.0	1.347	
4	Camphene	7.77	12767.2	21.420	
5	beta-Pinene	8.56	2379.7	3.993	
6	Sabinene	8.80	148.2	0.249	
7		9.63	54.3	0.091	
8	Limonene	10.49	808.6	1.357	Directive 2003/15EC (7th)
9		10.72	54.3	0.091	
10		11.53	58.2	0.098	
11	p-Cymene	12.12	140.1	0.235	
12		12.38	27.6	0.046	
13		17.65	53.6	0.090	
14		18.73	176.9	0.297	
15	Bornyl Acetate	18.90	22340.7	37.482	
16		19.03	182.7	0.306	
17	Terpinene-4-ol	19.20	183.7	0.308	
18	beta-Caryophyllene	19.28	691.6	1.160	
19		19.70	29.5	0.050	
20		19.79	37.1	0.062	
21		20.20	48.4	0.081	
22		20.22	27.5	0.046	
23		20.35	134.6	0.226	
24	alpha-Humulene	20.70	208.1	0.349	
25	Myrtenyl acetate	20.94	1721.8	2.889	
26		21.00	65.4	0.110	
27		21.08	651.9	1.094	
28		21.13	508.0	0.852	
29		21.42	755.9	1.268	
30		21.52	13.1	0.022	
31		21.73	70.9	0.119	
32		21.89	273.4	0.459	
33		22.25	63.3	0.106	
34		22.53	204.8	0.344	
35		22.62	114.7	0.192	
36		22.79	150.7	0.253	
37		22.99	40.2	0.067	
38		23.25	81.5	0.137	
39		23.33	65.7	0.110	
40		23.52	28.4	0.048	
41		24.09	285.0	0.478	
42		24.13	75.5	0.127	
43		25.48	143.7	0.241	
44		26.38	83.2	0.140	
45		26.92	203.1	0.341	
46		27.30	55.4	0.093	
47		27.36	42.3	0.071	
48		27.51	44.5	0.075	
49		27.64	21.8	0.037	
50		27.70	46.1	0.077	
51		28.48	393.5	0.660	
52		28.85	311.8	0.523	
53		29.03	332.4	0.558	
54		29.12	89.1	0.149	
55		29.33	75.6	0.127	

56		29.46	53.9	0.090	
57		29.54	46.5	0.078	
58		30.25	133.5	0.224	
59		30.33	69.0	0.116	
60		30.39	67.3	0.113	
61		30.57	86.4	0.145	
62		30.82	33.8	0.057	
63		30.87	23.4	0.039	
64		31.18	59.1	0.099	
65		31.45	652.9	1.095	
66	Kessyl alcohol	32.24	5945.1	9.974	Directive 2003/15EC (7th)
67		35.54	242.7	0.407	
68		47.29	191.8	0.322	
Total			59603.4	100.000	

This data sheet was issued to the best of our knowledge and is supplied without warranty for its correctness or accuracy.