



GAS CHROMATOGRAPHY – MASS SPECTROMETRY (GC-MS) ANALYSIS REPORT

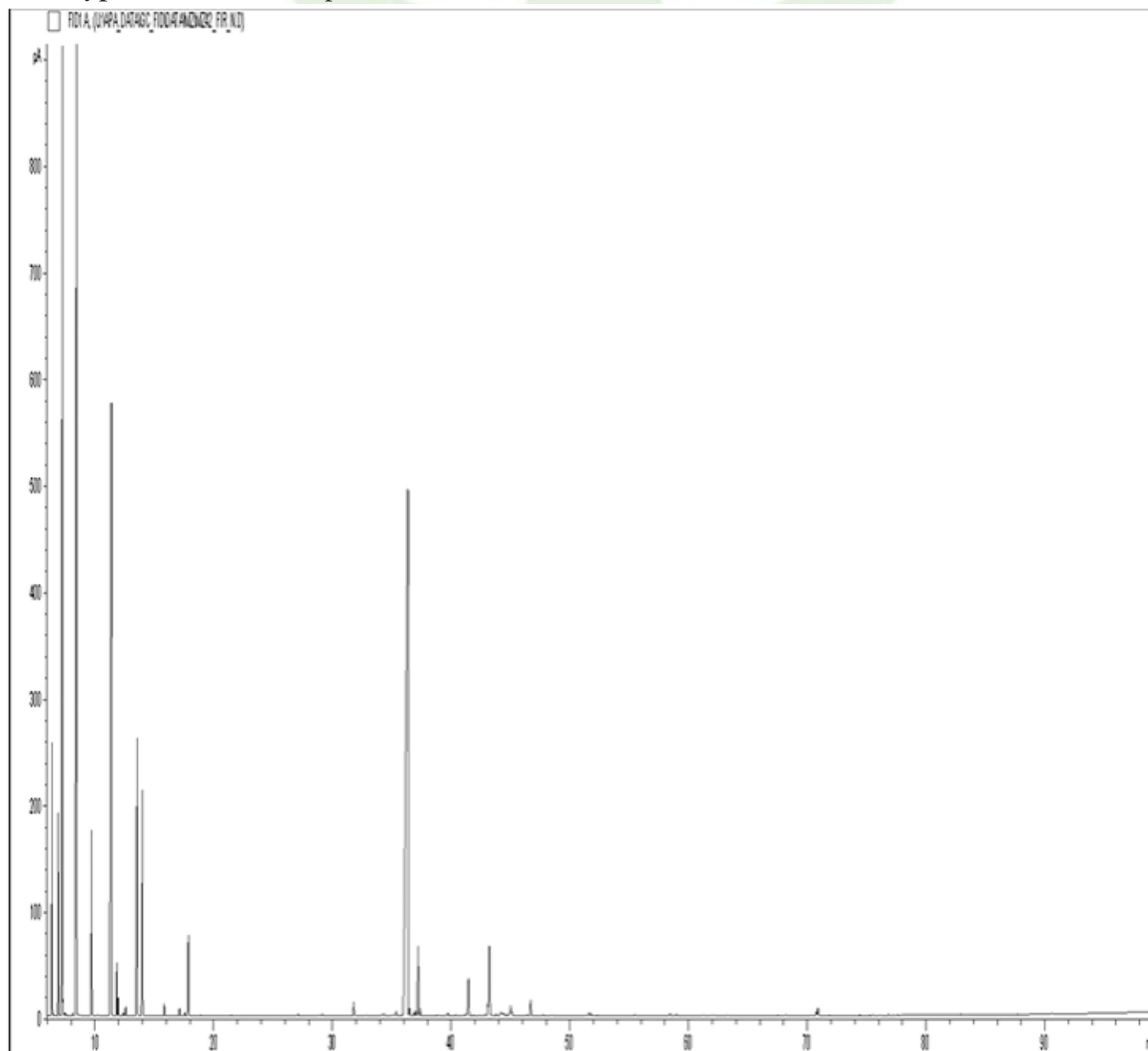
Product Information

Product Name: Fir Needle Siberian Essential Oil

Botanical Name: *Abies sibirica*

Analysis Method: Gas Chromatography–Mass Spectrometry (GC-MS)

Test Type: Chemical Composition Profile



GC-MS Composition Profile

Peak No.	RT (min)	Compound Name	%
1	6.38	Santene	2.65
2	6.91	Tricyclene	2.27
3	7.27	Alpha-Pinene	12.76
4	7.30	Alpha-Thuyene	0.09
5	7.49	Aromatic Compound MW=122	0.04
6	7.60	Toluene	0.01
7	8.14	Alpha-Fenchene	0.03
8	8.48	Camphene	22.55
9	9.71	Beta-Pinene	2.20
10	10.16	Sabinene	0.02
11	10.28	Pinadiene	0.01
12	11.38	Delta-3-Carene	13.34
13	11.83	Beta-Myrcene	0.63
14	11.95	Alpha-Phellandrene	0.20
15	12.40	o-Cymene	0.04
16	12.58	Alpha-Terpinene	0.12
17	13.55	Limonene	4.74
18	14.00	Beta-Phellandrene	3.49
19	15.83	Gamma-Terpinene	0.17
20	17.12	p-Cymene	0.11
21	17.53	Isoterpinolene	0.05
22	17.87	Terpinolene	1.20
23	18.92	Aliphatic Ester	0.01
24	21.47	Campholenal Isomer	0.02
25	26.54	Dimethylstyrene Isomer	0.01
26	27.09	Alpha,p-Dimethylstyrene	0.04
27	28.90	4,8-Terpinolene Epoxide	0.02
28	29.16	Fenchyl Acetate	0.02
29	29.20	Alpha-Longipinene	0.02
30	30.20	Ylangene	0.01
31	30.39	Alpha-Campholenal	0.01
32	31.80	Camphor	0.27
33	32.82	Sativene	0.02
34	33.70	Aliphatic Ester	0.01
35	34.15	Linalool	0.04
36	34.36	Cadinadiene Isomer	0.06



37	35.00 trans-p-Menth-2-en-1-ol	0.02
38	35.19 Sesquiterpene	0.02
39	35.38 Longifolene	0.11
40	35.85 Epsilon-Cadinene	0.02
41	36.36 Bornyl Acetate	26.35
42	36.49 Isobornyl Acetate	0.10
43	36.86 Methyl Thymol Ether	0.04
44	37.00 Camphene Hydrate	0.09
45	37.23 Beta-Caryophyllene	1.31
46	37.40 Terpinene-4-ol	0.13
48	38.76 Myrtenal	0.02
49	38.97 Compound MW=134	0.02
50	39.70 Compound MW=124	0.02
51	39.74 Alpha-Himachalene	0.06
52	40.40 Trans-Pinocarveol	0.04
53	41.06 Sesquiterpene	0.03
54	41.20 Cryptone	0.02
55	41.33 Estragole	0.04
56	41.47 Alpha-Humulene	0.75
57	41.66 E-Beta-Farnesene	0.01
58	41.87 Aliphatic Ester	0.02
59	42.42 Terpenic Compound	0.03
60	42.64 Gamma-Muurolene	0.01
61	42.88 Gamma-Himachalene	0.04
62	43.11 Alpha-Terpineol	0.20
63	43.23 Borneol	1.46
64	43.42 Terpenic Compound	0.03
65	43.81 Beta-Himachalene	0.04
66	44.18 Dodecanal	0.17
67	44.41 Alpha-Alaskene	0.04
68	44.52 p-Mentha-1(7),2-Dien-8-ol	0.04
69	44.78 Alpha-Muurolene	0.04
70	44.92 Neryl Acetate	0.04
71	45.02 Beta-Bisabolene	0.21
72	45.12 Sesquiterpene	0.06
73	45.96 Compound MW=150	0.02
74	46.36 E,E-Alpha-Farnesene	0.02
75	46.70 Geranyl Acetate	0.32

76	47.74	Trans-Alpha-Bisabolene	0.03
77	48.46	Myrtenol	0.02
78	50.93	Menthadienol Isomer	0.01
79	51.38	m-Cymene-8-ol	0.02
80	51.65	p-Cymene-8-ol	0.07
81	51.87	Geraniol	0.03
82	52.30	Ketonic Compound	0.01
83	55.50	Piperitenone	0.02
84	58.45	1-Dodecanol	0.05
85	58.99	Caryophyllene Oxide	0.05
86	61.24	Sesquiterpenol	0.02
87	61.92	Epoxy-6,7-Humulene	0.02
88	62.20	Nerolidol	0.03
89	63.02	Ketonic Compound	0.01
90	63.29	Aliphatic Ester	0.02
91	68.19	Eudesmol Isomer	0.03
92	70.77	Epi-Alpha-Bisabolol	0.06
93	70.90	Alpha-Bisabolol	0.15
94	76.86	Manoyl Oxide	0.03
95	77.57	Epi-Manoyl Oxide	0.02
96	82.96	Lauric Acid	0.02
97	90.61	Epi-Manool	0.03

Total Identified Components: 99.97%

Major Identified Constituents

Compound Percentage

Bornyl Acetate	26.35%
Camphene	22.55%
Delta-3-Carene	13.34%
Alpha-Pinene	12.76%
Limonene	4.74%
Beta-Phellandrene	3.49%
Santene	2.65%
Tricyclene	2.27%
Beta-Pinene	2.20%
Borneol	1.46%

Disclaimer: The information contained in this GC-MS report is based on analytical data obtained from current and reliable sources. The results represent the chemical composition profile of the tested sample at the time of analysis. This report is intended for technical reference and quality evaluation purposes only. Users must exercise independent judgment in determining the suitability of this product for their intended application and ensure compliance with all applicable laws, regulations, and industry standards. Botanic Planet Canada Inc. makes no representation or warranty, express or implied, regarding product performance, suitability, or use in any specific application. The user is solely responsible for compliance with applicable regulations and safe handling requirements. Any liability shall be limited to the value of the product supplied. Any dispute arising from the sale or use of this product shall be governed by the laws of the Province of Ontario, Canada, and the courts of Ontario shall have exclusive jurisdiction.

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