

## GCMS ANALYSIS

PRODUCT NAME: Siberian Fir Needle Essential Oil

Date: July 19, 2024

PRODUCT ID: SIBERIAN-FIR-NEEDLE-RS-HB

Peak	Compound	RT	Area Sum %
1	Santene	6.733	1.11
2	Tricyclene	8.204	1.01
3	$\alpha$ -Thujene	8.548	0.06
4	$\alpha$ -Pinene	8.837	15.23
5	Camphene	9.545	21.23
6	Thuja-2,4(10)-diene	9.817	0.02
7	unknown	10.711	0.02
8	Sabinene + $\beta$ -Pinene	10.993	3.19
9	$\beta$ -Myrcene	12.137	0.69
10	$\alpha$ -Phellandrene	12.743	0.19
11	63-carene	13.149	12.8
12	$\alpha$ -Terpinene	13.551	0.15
13	p-Cymene	14.091	0.32
14	$\beta$ -Phellandrene + Limonene	14.384	9.49
15	$\gamma$ -Terpinene	16.512	0.18
16	Fenchone	18.547	0.03
17	$\alpha$ -Terpinolene	18.654	1.27
18	Linalool	19.962	0.02
19	endo-Fenchol	20.454	0.02
20	$\alpha$ -Campholenal	21.555	0.01
21	trans-Pinocarveol	22.312	0.02
22	Camphor	22.692	0.05
23	Camphene hydrate	22.989	0.04

24	Isoborneol	23.796	0.01
25	Pinocarvone	24.321	0.01
26	Borneol	24.536	1.24
27	Terpinen-4-ol	25.582	0.03
28	Cryptone	26.287	0.01
29	p-Cymen-8-ol	26.445	0.02
30	$\alpha$ -Terpineol	26.761	0.2
31	Myrtenal	27.054	0.01
32	Myrtenol	27.234	0.01
33	Methyl chavicol	27.511	0.01
34	Methyl chavicol	28.093	0.02
35	endo-Fenchyl acetate	29.254	0.02
36	Thymol methyl ether	30.75	0.02
37	Carvone	31.193	0.01
38	Piperitone	31.976	0.01
39	Phellandral	33.489	0.02
40	Bornyl acetate	34.919	28.53
41	2-Undecanone	35.907	0.03
42	$\alpha$ -Longipinene	39.373	0.02
43	Cyclosativene 1 1	40.847	0.02
44	$\alpha$ -Ylangene	41.326	0.01
45	$\alpha$ -Copaene	41.731	0.03
46	Sativene	42.562	0.01
47	$\beta$ -Elemene	43.34	0.07
48	Longifolene	43.528	0.06
49	$\beta$ -Caryophyllene	44.902	1.24
50	unknown	47.057	0.02

51	$\alpha$ -Humulene	47.543	0.8
52	(E)- $\beta$ -Farnesene	49	0.01
53	trans-Cadina-1(6),4-diene	49.407	0.02
54	$\gamma$ -Muurolene	49.666	0.01
55	Germacrene D	49.932	0.02
56	$\alpha$ -Selinene	50.822	0.01
57	Bicyclogermacrene	51.043	0.02
58	$\beta$ -Himachalene	51.265	0.02
59	$\alpha$ -Muurolene	51.627	0.01
60	$\beta$ -Bisabolene	52.528	0.04
61	(Z)- $\gamma$ -Bisabolene	52.862	0.01
62	6-Cadinene	53.337	0.01
63	$\alpha$ -Cadinene	54.175	0.04
64	(E)- $\alpha$ -Bisabolene	55.222	0.01
65	Spathulenol	56.772	0.01
66	Caryophyllene oxide	57.244	0.02
67	I-Cadinol	61.853	0.01
68	unknown	63.226	0.01
69	unknown	63.557	0.01
70	$\alpha$ -Bisabolol	63.61	0.06
71	Manoyl oxide	67.854	0.01
72	13-epi-Manoyl oxide	68.049	0.01
73	Manool	68.441	0.01
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	<b>Total Identified</b>		<b>99.96%</b>
	<b>Total Reported</b>		<b>100%</b>

Due to volume turnover, this report is not lot specific. It is representative of the quality of this oil produced by the manufacturer of this product. Specific lots may vary slightly as is the case in natural products.