

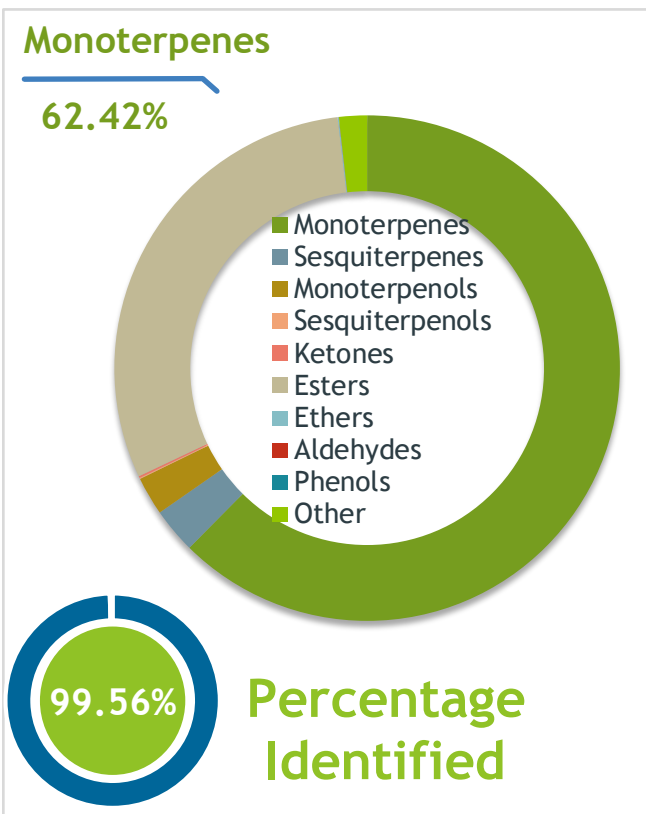
Client
Source

Fir Needle (*Abies sibirica* Ledeb)
lot# BUR16-RK

Sample
Fir Needle (*Abies sibirica* Ledeb)
Identification #: _____
Type:..... Essential Oil
CAS Number:...

Properties
Specific Gravity | NT
Refractive Index | NT

Primary
30.06% | Bornyl acetate
17.65% | Camphene
12.67% | alpha-Pinene



Result
APPROVED
9/5/2024

Conclusion
No adulterants, diluents, or contaminants were detected via this method. This oil meets the expected profile for genuine Essential Oil of Fir Needle (*Abies sibirica* Ledeb)

Essential Validation Services
747 SW 2nd Ave IMB 12 Suite 306
Gainesville, FL 32601
317.361.5044 |
<https://essentialvalidationservices.com/>
Alan Christen

Monoterpenes	62.42%	62.42
Sesquiterpenes		2.90%
Monoterpenols		2.46%
Sesquiterpenols		0.07%
Ketones		0.11%
Esters	30.17%	30.17
Ethers		0.07%
Aldehydes		0.01%
Phenols		0.00%
Other		1.79%

ESSENTIAL VALIDATION SERVICES | 240 GOOSE HOLLOW ROAD BERTHOUD, CO 80513 | 317-361-5044

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Total Percentage		99.56%		
Number	RT	Area %	Compound Name	Chemical Family
1	6.41	1.32%	Santene	Normonoterpene
2	7.76	1.48%	Tricyclene	Monoterpene
3	7.93	0.10%	alpha-Thujene	Monoterpene
4	8.24	12.67%	alpha-Pinene	Monoterpene
5	8.40	0.09%	alpha-Fenchene	Monoterpene
6	8.88	17.65%	Camphene	Monoterpene
7	8.98	0.03%	Thuja-2,4(10)-diene	Monoterpene
8	9.11	0.04%	beta-Citronellene	Monoterpene
9	9.73	0.01%	Sabinene	Monoterpene
10	9.91	3.85%	beta-Pinene	Monoterpene
11	10.23	0.01%	3-p-Menthene	Monoterpene
12	10.47	0.88%	Myrcene	Monoterpene
13	11.02	0.03%	Pseudolimonene	Monoterpene
14	11.14	0.20%	alpha-Phellandrene	Monoterpene
15	11.29	11.87%	delta-3-Carene	Monoterpene
16	11.51	0.02%	1,4-Cineole	Monoterpene Ether
17	11.59	0.33%	alpha-Terpinene	Monoterpene
18	11.73	0.01%	ortho-Cymene	Monoterpene
19	11.93	0.74%	para-Cymene	Monoterpene
20	12.19	10.47%	Limonene	Monoterpene
21	12.50	0.04%	(Z)-beta-Ocimene	Monoterpene
22	12.96	0.01%	(E)-beta-Ocimene	Monoterpene
23	13.42	0.25%	gamma-Terpinene	Monoterpene
24	14.48	0.02%	Isoterpinolene	Monoterpene
25	14.65	1.62%	Terpinolene	Monoterpene
26	14.86	0.02%	para-Cymenene	Monoterpene
27	15.38	0.02%	Linalool	Monoterpenol
28	16.15	0.02%	Fenchol	Monoterpenol
29	17.10	0.01%	trans-Pinocarveol	Monoterpenol
30	17.35	0.08%	Camphor	Monoterpene Ketone
31	17.73	0.02%	Camphene hydrate	Monoterpenol
32	18.18	0.01%	para-Mentha-1,5-dien-8-ol	Monoterpenol
33	18.57	1.96%	Borneol	Monoterpenol
34	18.97	0.03%	Terpinen-4-ol	Monoterpenol
35	19.22	0.01%	Cryptone	Monoterpene Ketone

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Number	RT	Area %	Compound Name	Chemical Family
36	19.339	0.03%	para-Cymen-8-ol	Monoterpene Ketone
37	19.67	0.36%	alpha-Terpineol	Monoterpenol
38	20.67	0.01%	Fenchyl acetate	Monoterpene Ester
39	21.28	0.02%	Methyl thymol	Monoterpene Ether
40	23.85	30.06%	Bornyl acetate	Monoterpene Ester
41	24.13	0.02%	2-Undecanone	Aliphatic Ketone
42	26.41	0.01%	alpha-Longipinene	Sesquiterpene
43	26.98	0.01%	Neryl acetate	Monoterpene Ester
44	27.56	0.01%	alpha-Copaene	Sesquiterpene
45	27.82	0.08%	Geranyl acetate	Monoterpene Ester
46	28.69	0.03%	Sibirene	Sesquiterpene
47	28.88	0.04%	Longifolene	Sesquiterpene
48	29.14	0.01%	Dodecanal	Aliphatic Aldehyde
49	29.36	1.60%	Isocaryophyllene	Sesquiterpene
50	30.60	0.04%	alpha-Himachalene	Sesquiterpene
51	30.83	1.01%	alpha-Humulene	Sesquiterpene
52	31.94	0.01%	gamma-Himachalene	Sesquiterpene
53	32.46	0.02%	beta-Alaskene	Sesquiterpene
54	33.07	0.07%	beta-Bisabolene	Sesquiterpene
55	33.16	0.02%	beta-Himachalene	Sesquiterpene
56	33.79	0.04%	trans-gamma-Bisabolene	Sesquiterpene
57	35.78	0.02%	Caryophyllene oxide	Sesquiterpene Ether
58	36.84	0.01%	Humulene epoxide II	Sesquiterpene Ether
59	39.85	0.07%	alpha-Bisabolol	Sesquiterpenol
60	49.94	0.01%	Manool oxide	Diterpene Ester
61	51.84	0.01%	Manool	Diterpenol
62	62.27	0.01%	Nonacosane	Alkane
63	62.86	0.01%	Triacontane	Alkane

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