

Client



Source



Peppermint (*Mentha x piperita*)  
NF-PEPP-21-B

Sample

Peppermint (*Mentha x piperita*)  
Batch #:..... NF-PEPP-21-B  
Type:..... Essential Oil  
CAS Number:... 8006-90-4  
**Nature's Fusions**

Client



Website

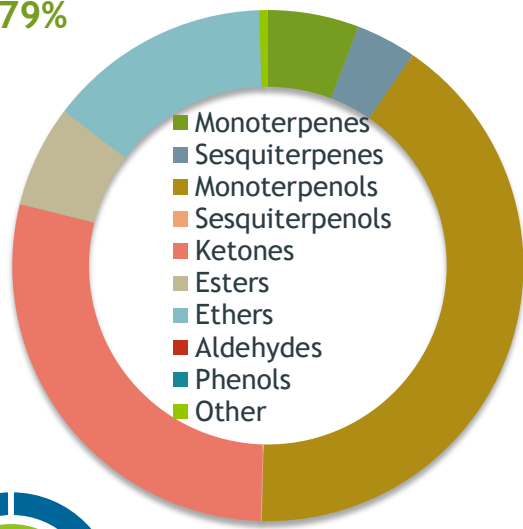


Primary

**35.67%** Menthol  
**25.91%** Menthone  
**8.64%** Menthofuran (Co-Eluting)

Monoterpenols

40.79%



Percentage Identified

Result



Conclusion

No adulterants, diluents, or contaminants were detected via this method. This oil meets the expected profile for genuine Essential Oil of Peppermint (*Mentha x piperita*)

Internal Number: | EVS-4369



Essential Validation Services

747 SW 2nd Ave IMB 12 Suite 306  
Gainesville, FL 32601

317.361.5044 | <https://essentialvalidationservices.com/>

*Alan Christen*

Monoterpenes	5.76%	5.76%
Sesquiterpenes	3.83%	3.83%
Monoterpenols	40.79%	40.79%
Sesquiterpenols	0.08%	0.08%
Ketones	28.41%	28.41%
Esters	6.45%	6.45%
Ethers	14.13%	14.13%
Aldehydes	0.00%	0.00%
Phenols	0.00%	0.00%
Other	0.55%	0.55%

ESSENTIAL VALIDATION SERVICES | 747 SW 2<sup>ND</sup> AVE GAINESVILLE, FLORIDA 32601 | 317-361-5044

- Essential Oil testing is performed by using qualitative GC-MS. Method: SOP.T.01 Client Method  
- This report may not be published without the consent of Essential Validation Services.  
- Chromatograph image may be requested  
- This report is valid for 1 year from the analyzed date

Client


 Nature's FUSIONS  
ESSENTIAL OILS

Source

Peppermint (*Mentha x piperita*)

NF-PEPP-21-B

Total Percentage		99.74%		
Number	RT	Area %	Compound Name	Chemical Family
1	5.65	Co-Eluting	cis-Hex-3-en-1-ol	Aliphatic Alcohol
2	6.89	0.02%	2,5-Diethyltetrahydrofuran	Furan
3	7.93	0.04%	alpha-Thujene	Monoterpene
4	8.18	0.76%	alpha-Pinene	Monoterpene
5	8.78	0.02%	Camphene	Monoterpene
6	8.91	0.03%	3-Methyl cyclohexanone	Aliphatic Ketone
7	9.73	0.43%	Sabinene	Monoterpene
8	9.89	1.13%	beta-Pinene	Monoterpene
9	10.12	0.04%	1-Octen-3-ol	Aliphatic Alcohol
10	10.32	0.01%	Octan-3-one	Aliphatic Ketone
11	10.48	0.20%	Myrcene	Monoterpene
12	10.83	0.21%	3-Octanol	Aliphatic Alcohol
13	11.02	0.01%	Pseudolimonene	Monoterpene
14	11.12	0.03%	alpha-Phellandrene	Monoterpene
15	11.60	0.17%	alpha-Terpinene	Monoterpene
16	11.93	0.16%	para-Cymene	Monoterpene
17	12.14	2.25%	Limonene	Monoterpene
18	12.24	5.46%	1,8-Cineole	Monoterpene Ether
19	12.52	0.10%	(Z)-beta-Ocimene	Monoterpene
20	12.98	0.03%	(E)-beta-Ocimene	Monoterpene
21	13.45	0.32%	gamma-Terpinene	Monoterpene
22	13.97	0.30%	trans-Sabinene hydrate	Monoterpenol
23	14.14	0.02%	1-Octanol	Aliphatic Alcohol
24	14.67	0.09%	Terpinolene	Monoterpene
25	15.40	0.19%	Linalool	Monoterpenol
26	15.56	0.04%	2-Methylbutyl 2-methylbutyrate	Aliphatic Ester
27	15.82	0.02%	2-Methyl Butyl Isovalerate	Monoterpene Ester
28	16.37	0.02%	Octan-3-yl acetate	Aliphatic Ester
29	16.45	0.03%	cis-para-Menth-2-en-1-ol	Monoterpenol
30	16.70	0.02%	Alloocimene	Monoterpene
31	17.19	0.01%	cis-Sabinol	Monoterpenol
32	17.54	0.12%	Isopulegol	Monoterpenol
33	17.96	25.91%	Menthone	Monoterpene Ketone
34	18.30	8.64%	Menthofuran	Monoterpene Ether
35	18.31	Co-Eluting	Isomenthone	Monoterpene Ketone

Client


**Nature's FUSIONS**  
 ESSENTIAL OILS

Source

Peppermint (*Mentha x piperita*)

NF-PEPP-21-B

Number	RT	Area %	Compound Name	Chemical Family
36	18.563	3.58%	Neomenthol	Monoterpene Ketone
37	18.76	0.10%	Isopulegone	Monoterpene Ketone
38	19.08	35.67%	Menthol	Monoterpenol
39	19.42	0.46%	Isomenthol	Monoterpenol
40	19.59	0.10%	Neoisomenthol	Monoterpenol
41	19.72	0.29%	alpha-Terpineol	Monoterpenol
42	21.12	0.01%	Nerol	Monoterpenol
43	21.27	0.01%	Citronellol	Monoterpenol
44	21.61	1.90%	Pulegone	Monoterpene Ketone
45	21.88	0.02%	Carvone	Monoterpene Ketone
46	22.30	0.44%	Piperitone	Monoterpene Ketone
47	23.24	0.31%	neo-Menthyl acetate	Monoterpene Ester
48	23.33	0.02%	1-Decanol	Monoterpenol
49	24.05	5.87%	Menthyl acetate	Monoterpene Ester
50	24.66	0.17%	Isomenthyl acetate	Monoterpene Ester
51	24.79	0.02%	neo-Isolsopulegyl acetate	Monoterpene Ester
52	25.81	0.04%	delta-Elemene	Sesquiterpene
53	27.37	0.01%	alpha-Ylangene	Sesquiterpene
54	27.66	0.02%	alpha-Copaene	Sesquiterpene
55	27.97	0.13%	beta-Bourbonene	Sesquiterpene
56	28.28	0.09%	beta-Elemene	Sesquiterpene
57	28.74	0.01%	Cyperene	Sesquiterpene
58	28.85	0.02%	cis-Caryophyllene	Sesquiterpene
59	29.46	2.25%	beta-Caryophyllene	Sesquiterpene
60	29.90	0.06%	beta-Copaene	Sesquiterpene
61	30.75	0.03%	Aromadendrene	Sesquiterpene
62	30.92	0.07%	alpha-Humulene	Sesquiterpene
63	31.01	0.16%	(E)-beta-Farnesene	Sesquiterpene
64	31.78	0.02%	gamma-Murolene	Sesquiterpene
65	31.98	0.75%	Germacrene D	Sesquiterpene
66	32.41	0.01%	Viridiflorene	Sesquiterpene
67	32.57	0.10%	Bicyclogermacrene	Sesquiterpene
68	32.77	0.01%	alpha-Murolene	Sesquiterpene
69	33.54	0.05%	delta-Cadinene	Sesquiterpene
70	35.73	0.01%	Spathulenol	Sesquiterpenol
71	35.89	0.03%	Caryophyllene oxide	Sesquiterpene Ether





## *Essential Validation Services*



### Sample:

---

Client: | Nature's Fusions  
Sample: | Peppermint (Mentha x piperita)  
Batch # | R119865-05  
CAS Number | 8006-90-4  
Type: | Essential Oil

---

### Conclusion:

- No adulterants, diluents, or contaminants were detected via this method.



X 

Validated By:

Essential Validation Services

747 SW 2nd Ave, Gainesville, FL 32601

Phone: 317-361-5044 E-mail: [Adam@essentialvalidationservices.com](mailto:Adam@essentialvalidationservices.com)

### Summary of Analyses

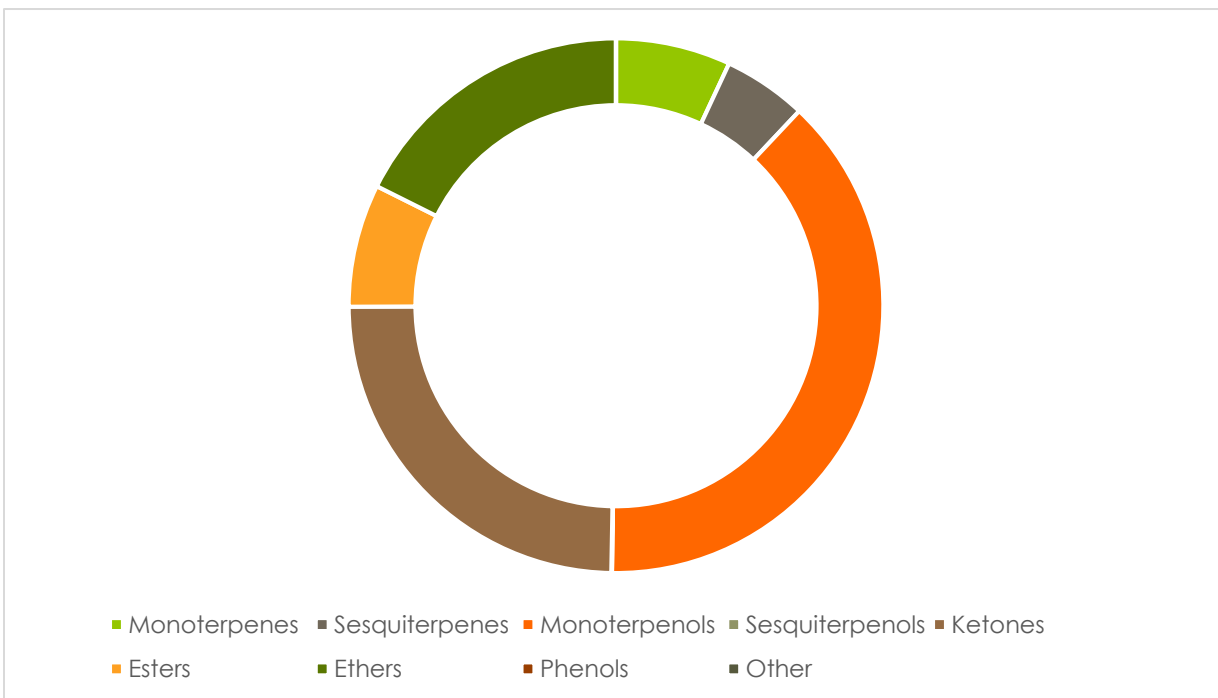
---

A fresh sample of Peppermint (Mentha x piperita) Essential Oil (10 uL in .5to.5 mL Hexane + ETOH) was prepared and analyzed via split injection GC/EI-MS.



Main Compounds	Percentages
Menthol	37.02%
Menthone	23.40%
Menthofuran	10.56%
Menthyl acetate	7.19%
1,8-Cineole	6.96%
beta-Caryophyllene	4.19%
Limonene	3.16%
beta-Pinene	1.24%
alpha-Pinene	1.09%
Pulegone	1.08%
para-Cymene	0.51%

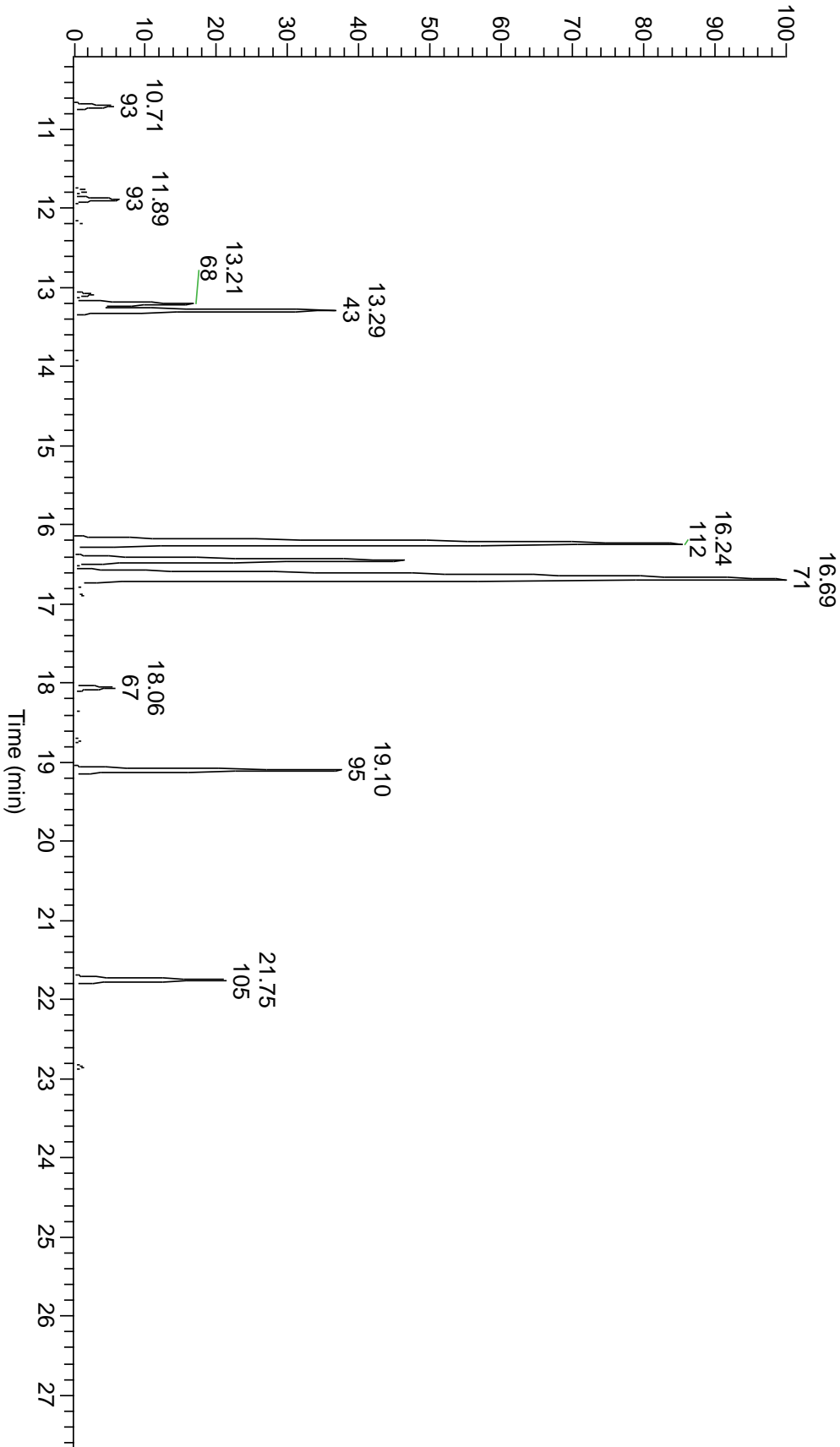
Monoterpenes	Sesquiterpenes	Monoterpenols	Sesquiterpenols	Ketones
6.95%	5.06%	38.19%	0.04%	24.64%
Esters	Ethers	Aldehydes	Phenols	Other
7.43%	17.61%	0.00%	0.00%	0.00%



ESSENTIAL VALIDATION SERVICES | 747 SW 2<sup>ND</sup> AVE GAINESVILLE, FLORIDA 32601 | 317-361-5044



RT: 10.07 - 27.92





ESSENTIAL VALIDATION SERVICES | 747 SW 2<sup>ND</sup> AVE GAINESVILLE, FLORIDA 32601 | 317-361-5044

Total Percentage	99.99%				
Peak Number	RT	Area %	Compound Name	RI	Chemical Family
1	9.65	0.07%	2,5-Diethyltetrahydrofuran	895.30	Furans
2	10.71	1.09%	alpha-Pinene	936.10	Monoterpenes
3	11.13	0.06%	Camphene	953.30	Monoterpenes
4	11.78	0.36%	Sabinene	973.00	Monoterpenes
5	11.89	1.24%	beta-Pinene	977.70	Monoterpenes
6	12.18	0.20%	Myrcene	989.20	Monoterpenes
7	12.27	0.10%	3-Octanol	993.20	Monoterpenols
8	12.57	0.06%	alpha-Phellandrene	1004.10	Monoterpenes
9	12.89	0.12%	alpha-Terpinene	1017.10	Monoterpenes
10	13.09	0.51%	para-Cymene	1024.30	Monoterpenes
11	13.21	3.16%	Limonene	1029.50	Monoterpenes
12	13.21	Co-Eluting	beta-Phellandrene	1030.00	Monoterpenes
13	13.29	6.96%	1,8-Cineole	1031.80	Ethers
14	13.94	0.10%	gamma-Terpinene	1063.71	Monoterpenes
15	14.15	0.08%	cis-Sabinene hydrate	1066.50	Monoterpenols
16	14.66	0.05%	Terpinolene	1089.43	Monoterpenes
17	14.85	0.08%	Linalool	1099.00	Monoterpenols
18	16.02	0.17%	Isopulegol	1155.00	Monoterpenols
19	16.24	23.40%	Menthone	1159.43	Ketones
20	16.45	10.56%	Menthofuran	1164.00	Ethers
21	16.45	Co-Eluting	Isomenthone	1164.33	Ketones
22	16.69	37.02%	Menthol	1177.40	Monoterpenols
23	16.69	Co-Eluting	Neomenthol	1165.00	Monoterpenols
24	16.76	0.26%	Terpinen-4-ol	1180.57	Monoterpenols
25	16.88	0.26%	alpha-Terpineol	1191.71	Monoterpenols
26	17.01	0.22%	Isomenthol	1193.00	Monoterpenols
27	18.06	1.08%	Pulegone	1244.43	Ketones
28	18.37	0.16%	Piperitone	1259.60	Ketones
29	18.72	0.16%	Neomenthyl acetate	1275.00	Esters
30	19.10	7.19%	Menthyl acetate	1297.00	Esters
31	19.44	0.08%	Isomenthyl acetate	1306.00	Esters
32	20.86	0.04%	alpha-Copaene	1379.00	Sesquiterpenes
33	21.07	0.07%	beta-Elemene	1388.30	Sesquiterpenes
34	21.11	0.04%	beta-Bourbonene	1388.70	Sesquiterpenes
35	21.75	4.19%	beta-Caryophyllene	1427.14	Sesquiterpenes
36	21.90	0.08%	beta-Copaene	1445.00	Sesquiterpenes
37	22.13	0.11%	(Z)-beta-Farnesene	1453.40	Sesquiterpenes
38	22.37	0.14%	allo-Aromadendrene	1471.00	Sesquiterpenes
39	22.85	0.25%	Germacrene D	1484.71	Sesquiterpenes
40	23.11	0.09%	Bicyclogermacrene	1495.71	Sesquiterpenes
41	23.51	0.05%	gamma-Cadinene	1515.29	Sesquiterpenes
42	24.68	0.09%	Caryophyllene oxide	1594.86	Ethers



43	24.82	0.04% Viridiflorol	1596.00 Sesquiterpenols
----	-------	--------------------	-------------------------

ESSENTIAL VALIDATION SERVICES | 747 SW 2<sup>ND</sup> AVE GAINESVILLE, FLORIDA 32601 | 317-361-5044