



Essential Oil University

GC/MS Report

Item	Lot
Spearmint EO <i>Mentha spicata</i>	6B
Date	Analyst
7/11/2025	Dr. Robert S. Pappas

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The analysis of this batch sample, Spearmint EO, meets the expected chemical profile for authentic essential oil of *Mentha spicata*. No contamination or adulteration was detected. The results provided in this GCMS quality analysis reflect the chemical composition of the oil and lot referenced above on the date of analysis.



Sample Information

Company: Revive
Sample Name: Spearmint EO
Botanical Name: Mentha spicata
Lot Number: 6B
Production Method: Steam distilled

Sample Type: EO - Single
Country of Origin: USA
Analysis Date: 7/11/2025
Manufacture Date: June 2025

GC/MS

Inst. ID: Shimadzu GCMS-QP2010Ultra
Injection Type: Split
Split Ratio: 24.4

Column Type: ZB-5
Injection Volume: 0.1 µL
Temperature Program: 2C/min

Physical Data

ANALYSIS

Optical Rotation @20°C
Refractive Index @20°C
Specific Gravity @20°C

METHOD

USP[781]
USP[831]
USP[841]

RESULTS

-53.92
1.49027
0.93337



Ret. Time	Component	Ret. Idx.	Conc. %	
3.892	2-Methyl-1-propanol	599	0.01%	
4.215	3-Methylbutanal	636	0.06%	
4.329	2-Methylbutanal	649	0.04%	
4.564	3-Penten-2-ol	676	0.01%	
4.792	2-Ethylfuran	701	0.01%	
5.427	3-Methyl-1-butanol	728	0.01%	
5.509	2-Methylbutanol	732	0.01%	
6.396	Methyl 2-methylbutyrate	770	0.02%	
8.804	Ethyl 2-methylbutyrate	843	0.01%	
9.035	Hex-(2Z)-enal	849	0.01%	
9.079	Hex-(3Z)-enol	850	0.01%	
9.483	Hex-(2E)-enol	860	0.01%	
9.622	1-Hexanol	863	0.01%	
10.908	2,5-Diethyltetrahydrofuran	895	0.11%	
12.197	Hashishene	920	0.13%	
12.465	alpha-Thujene	924	0.05%	
12.890	alpha-Pinene	932	0.51%	
13.829	Camphene	948	0.03%	
14.025	Thuja-2,4(10)-diene	952	0.01%	
15.117	Sabinene	971	0.35%	
15.436	beta-Pinene	977	0.61%	
15.794	3-Octanone	983	0.04%	
16.058	Myrcene	988	2.85%	
16.493	3-Octanol	995	1.22%	
16.925	Octanal	1003	0.02%	
16.999	Pseudolimonene	1004	0.06%	
17.065	Unidentified	1005	0.03%	
17.146	alpha-Phellandrene	1006	0.04%	
17.814	alpha-Terpinene	1016	0.59%	
18.306	para-Cymene	1023	0.22%	
18.646	Limonene	1028	13.99%	IFRA
18.741	beta-Phellandrene	1030	0.07%	
18.834	1,8-Cineole	1031	3%	
19.005	cis-beta-Ocimene	1034	0.18%	
19.344	Unidentified	1039	0.01%	
19.550	Phenylacetaldehyde	1042	0.01%	IFRA
19.705	trans-beta-Ocimene	1044	0.1%	
20.440	Unidentified	1055	0.01%	
20.521	gamma-Terpinene	1057	0.57%	
21.330	trans-Sabinene hydrate	1069	0.35%	



Ret. Time	Component	Ret. Idx.	Conc. %	
22.357	Terpinolene	1084	0.21%	
22.684	para-Cymenene	1089	0.02%	
23.160	3-Nonanol	1096	0.01%	
23.317	Linalool	1099	0.09%	IFRA
23.432	cis-Sabinene hydrate	1100	0.04%	
23.553	2-Methylbutyl-2-methylbutyrate	1102	0.03%	
23.692	Nonanal	1104	0.02%	
23.833	1-Octen-3-yl acetate	1106	0.01%	IFRA
24.667	3-Octyl acetate	1118	0.36%	
24.863	trans-para-Mentha-2,8-dienol	1121	0.02%	
25.055	cis-para-Menth-2-en-1-ol	1124	0.05%	
25.286	Unidentified	1127	0.03%	
25.921	trans-Limonene oxide	1136	0.03%	
26.207	trans-Pinocarveol	1140	0.03%	
26.290	trans-para-Menth-2-en-1-ol	1142	0.04%	
26.395	Unidentified	1143	0.01%	
26.516	trans-Verbenol	1145	0.01%	
27.247	Menthone	1155	0.11%	
27.695	Pinocarpone	1162	0.01%	
27.795	Unidentified	1163	0.02%	
27.868	Unidentified	1164	0.03%	
28.026	para-Mentha-1,5-dien-8-ol	1166	0.04%	
28.239	delta-Terpineol	1169	0.09%	
28.374	Borneol	1171	0.03%	
28.580	(3E,5E)-1,3,5-Undecatriene	1174	0.02%	
28.763	Menthol	1177	0.21%	
28.963	Terpinen-4-ol	1180	1.08%	
29.234	Unidentified	1184	0.02%	
29.431	trans-Isocarveol	1187	0.02%	
29.723	Methyl salicylate	1191	0.01%	
29.976	alpha-Terpineol	1194	0.24%	
30.171	cis-Dihydrocarvone	1197	0.82%	
30.245	1,6-Dihydrocarveol	1198	0.21%	
30.618	trans-Dihydrocarvone	1204	0.08%	
30.995	trans-Piperitol	1209	0.01%	
31.021	Octyl acetate	1210	0.01%	
31.639	trans-Carveol	1219	0.29%	
32.411	Unidentified	1230	0.02%	
32.625	cis-Carveol	1233	0.25%	
32.836	cis-3-Hexenyl isovalerate	1236	0.06%	IFRA



Ret. Time	Component	Ret. Idx.	Conc. %	
33.565	Carvone	1247	63.35%	IFRA
33.740	Unidentified	1249	0.02%	
34.027	Piperitone	1253	0.11%	
34.636	cis-Carvone oxide	1262	0.02%	IFRA
35.019	Unidentified	1268	0.02%	
35.358	Unidentified	1273	0.01%	
35.508	trans-Carvone oxide	1275	0.05%	IFRA
36.381	Unidentified	1288	0.05%	
36.425	Menthyl acetate	1288	0.02%	
36.732	Unidentified	1293	0.09%	
38.745	Dihydrocarvyl acetate	1323	0.29%	
39.279	trans-Carveyl acetate	1331	0.01%	
39.935	Myrcen-8-yl acetate	1341	0.02%	
40.486	Eugenol	1350	0.18%	IFRA
40.984	cis-Carveyl acetate	1357	0.58%	
42.156	alpha-Copaene	1375	0.04%	
42.680	beta-Bourbonene	1383	1.21%	
42.874	alpha-Bourbonene	1386	0.09%	
43.034	beta-Elementene	1388	0.08%	
43.177	cis-Jasmone	1391	0.47%	
43.389	Unidentified	1394	0.02%	
43.815	Unidentified	1400	0%	
43.899	Unidentified	1402	0.01%	
44.031	cis-beta-Caryophyllene	1404	0.03%	
44.186	Unidentified	1406	0.01%	
44.553	Unidentified	1412	0.01%	
44.890	beta-Ylangene	1417	0.09%	
44.977	beta-Caryophyllene	1419	1.21%	
45.289	Unidentified	1424	0.01%	
45.408	cis-beta-Farnesene	1426	0.02%	
45.615	beta-Copaene	1429	0.13%	
45.799	Unidentified	1432	0.01%	
46.527	Isogermacrene D	1444	0.11%	
47.033	trans-beta-Farnesene	1452	0.55%	
47.228	alpha-Humulene	1455	0.05%	
48.042	beta-Copaene	1468	0.08%	
48.814	Germacrene D	1480	0.66%	
49.048	Unidentified	1484	0.01%	
49.715	Bicyclogermacrene	1494	0.01%	
51.067	delta-Cadinene	1517	0.04%	



Ret. Time	Component	Ret. Idx.	Conc. %	
53.080	Unidentified	1551	0.01%	
54.863	Caryophyllene oxide	1581	0.01%	
55.598	Viridiflorol	1593	0.16%	

Total Identified Compounds **99.56 %**

