



Essential Oil University

GC/MS Report

Item	Lot
Spearmint EO <i>Mentha spicata</i>	9A
Date	Analyst
10/15/2025	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:** 9A**Production Method:** Steam distilled**Sample Type:** EO - Single**Country of Origin:** USA**Analysis Date:** 10/15/2025**Manufacture Date:** September 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

-55.88

1.49042

0.93396



Ret. Time	Component	Ret. Idx.	Conc. %	
4.218	3-Methylbutanal	636	0.05%	
4.334	2-Methylbutanal	650	0.04%	
4.791	2-Ethylfuran	701	0.01%	
5.430	Isopentyl alcohol	728	0.01%	
5.510	2-Methylbutanol	732	0.01%	
6.391	Methyl 2-methylbutyrate	770	0.01%	
8.788	Ethyl 2-methylbutyrate	843	0.01%	
9.087	Hex-(3Z)-enol	850	0.02%	
9.490	Hex-(2E)-enol	860	0.01%	
10.884	2,5-Diethyl tetrahydrofuran	895	0.09%	
12.165	Hashishene	919	0.11%	
12.433	alpha-Thujene	924	0.03%	
12.858	alpha-Pinene	931	0.42%	ALLERGEN
13.790	Camphene	948	0.01%	
13.991	Thuja-2,4(10)-diene	951	0.01%	
15.077	Sabinene	970	0.3%	
15.395	beta-Pinene	976	0.5%	ALLERGEN
15.763	3-Octanone	982	0.02%	
16.011	Myrcene	987	2.45%	PROP. 65
16.448	3-Octanol	995	1.04%	
16.900	Octanal	1002	0.02%	
16.959	Pseudolimonene	1003	0.05%	
17.025	Unidentified	1004	0.02%	
17.107	alpha-Phellandrene	1005	0.01%	
17.767	alpha-Terpinene	1015	0.26%	ALLERGEN
18.255	para-Cymene	1023	0.22%	
18.574	Limonene	1027	13.77%	ALLERGEN IFRA
18.675	beta-Phellandrene	1029	0.05%	
18.770	1,8-Cineole	1030	2.88%	
18.950	cis-beta-Ocimene	1033	0.16%	
19.505	Phenylacetaldehyde	1041	0.01%	IFRA
19.649	trans-beta-Ocimene	1044	0.08%	
20.466	gamma-Terpinene	1056	0.42%	
21.272	trans-Sabinene hydrate	1068	0.33%	
22.297	Terpinolene	1083	0.11%	ALLERGEN
22.627	para-Cymenene	1088	0.01%	
23.253	Linalool	1098	0.07%	ALLERGEN IFRA
23.370	cis-Sabinene hydrate	1100	0.03%	
23.483	2-Methylbutyl-2-methylbutyrate	1101	0.02%	
24.600	3-Octyl acetate	1117	0.27%	



Ret. Time	Component	Ret. Idx.	Conc. %	
24.797	trans-para-Mentha-2,8-dienol	1120	0.01%	
24.990	cis-para-Menth-2-en-1-ol	1123	0.03%	
25.222	Unidentified	1126	0.02%	
25.854	trans-Limonene oxide	1135	0.03%	
26.134	trans-Pinocarveol	1139	0.03%	
26.219	trans-para-Menth-2-en-1-ol	1140	0.02%	
26.335	Unidentified	1142	0.01%	
26.443	trans-Verbenol	1144	0.01%	
27.140	Unidentified	1154	0.02%	
27.183	Menthone	1154	0.08%	
27.625	Pinocarpone	1161	0.03%	
27.803	Unidentified	1163	0.02%	
27.953	alpha-Phellandrene-8-ol	1165	0.04%	
28.166	delta-Terpineol	1168	0.08%	ALLERGEN
28.297	Borneol	1170	0.02%	
28.502	(3Z,5E)-1,3,5-Undecatriene	1173	0.01%	
28.687	Menthol	1176	0.16%	ALLERGEN
28.890	Terpinen-4-ol	1179	0.78%	
29.361	trans-Isocarveol	1186	0.01%	
29.647	Methyl salicylate	1190	0.01%	ALLERGEN
29.899	alpha-Terpineol	1193	0.18%	ALLERGEN
30.101	cis-Dihydrocarvone	1196	0.65%	
30.170	1,6- Dihydrocarveol	1197	0.15%	
30.550	trans-Dihydrocarvone	1203	0.07%	
30.855	trans-Piperitol	1207	0.01%	
31.534	trans-Carveol	1217	0.21%	
32.467	cis-Carveol	1231	0.17%	
32.716	cis-3-Hexenyl isovalerate	1234	0.04%	IFRA
33.389	Carvone	1244	68.08%	ALLERGEN IFRA
33.635	Carvotanacetone	1248	0.02%	
33.930	Piperitone	1252	0.09%	
34.559	cis-Carvone oxide	1261	0.02%	IFRA
34.942	Unidentified isomer I	1267	0.02%	
35.265	Unidentified isomer I	1272	0%	
35.429	trans-Carvone oxide	1274	0.05%	IFRA
36.296	Dihydroedulan I	1287	0.06%	
36.645	Dihydroedulan II	1292	0.07%	
38.663	Dihydrocarvyl acetate	1322	0.23%	
39.193	trans-Carveyl acetate	1330	0.01%	IFRA
39.851	Myrcen-8-yl acetate	1340	0.02%	



Ret. Time	Component	Ret. Idx.	Conc. %	
40.419	Eugenol	1349	0.02%	ALLERGEN IFRA
40.901	Carvyl acetate	1356	0.43%	IFRA
42.066	alpha-Copaene	1374	0.03%	
42.593	beta-Bourbonene	1382	1%	
42.793	alpha-Bourbonene	1385	0.07%	
42.946	beta-Elemene	1387	0.06%	
43.099	cis-Jasmone	1389	0.38%	
43.942	cis-beta-Caryophyllene	1402	0.02%	ALLERGEN
44.820	beta-Ylangene	1416	0.1%	
44.889	beta-Caryophyllene	1417	0.98%	ALLERGEN
45.319	cis-beta-Farnesene	1424	0.01%	
45.532	beta-Copaene	1428	0.1%	
46.437	Isogermacrene D	1442	0.09%	
46.941	trans-beta-Farnesene	1450	0.43%	
47.137	alpha-Humulene	1453	0.04%	
47.948	gamma-Murolene	1466	0.06%	
48.727	Germacrene D	1479	0.56%	
50.978	delta-Cadinene	1515	0.03%	
55.510	Viridiflorol	1592	0.12%	
65.047	Unidentified	1763	0.04%	

Total Identified Compounds **99.93 %**



TIC
25,204,006

