



Essential Oil University

GC/MS Report

Item	Lot
Peppermint EO <i>Mentha piperita</i>	5M
Date	Analyst
6/9/2025	Dr. Robert S. Pappas

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The analysis of this batch sample, Peppermint EO, meets the expected chemical profile for authentic essential oil of *Mentha piperita*. 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:** Peppermint EO**Botanical Name:** Mentha piperita**Lot Number:** 5M**Production Method:** Steam distilled**Sample Type:** EO - Single**Country of Origin:** India**Analysis Date:** 6/9/2025**Manufacture Date:** March 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

-26.20

1.46005

0.90000



Ret. Time	Component	Ret. Idx.	Conc. %	
3.688	2-Methyl-1-propanol	618	0.01%	
3.982	3-Methylbutanal	648	0.04%	
4.086	2-Methylbutanal	658	0.04%	
4.296	trans-3-Penten-2-ol	679	0.01%	
4.505	2-Ethylfuran	700	0.01%	
5.078	3-Methyl 1-butanol	727	0.01%	
5.152	2-Methylbutanol	731	0.02%	
8.187	Ethyl 2-methylbutyrate	842	0.01%	
8.463	Hex-(3Z)-enol	849	0.01%	
8.966	Hexanol	863	0.01%	
10.161	2,5-Diethyl tetrahydrofuran	895	0.04%	
11.633	alpha-Thujene	923	0.03%	
12.031	alpha-Pinene	931	0.68%	
12.915	Camphene	947	0.01%	
13.039	3-Methylcyclohexanone	949	0.04%	
13.110	Thuja-2,4(10)-diene	951	0.01%	
14.165	Sabinene	970	0.56%	
14.462	beta-Pinene	975	1.23%	
14.848	3-Octanone	983	0.02%	
15.086	Myrcene	987	0.55%	
15.515	Octan-3-ol	995	0.38%	
15.985	Pseudolimonene	1003	0.02%	
16.129	alpha-Phellandrene	1005	0.01%	
16.785	alpha-Terpinene	1015	0.27%	
17.264	para-Cymene	1023	0.13%	
17.561	Limonene	1027	2%	IFRA
17.741	1,8-Cineole	1030	5.57%	
17.954	cis-beta-Ocimene	1033	0.24%	
18.632	trans-beta-Ocimene	1044	0.04%	
19.409	gamma-Terpinene	1056	0.56%	
20.181	trans-Sabinene hydrate	1068	0.42%	
21.196	Terpinolene	1083	0.08%	
22.006	Nonan-3-ol	1096	0.01%	
22.145	Linalool	1098	0.26%	IFRA
22.215	cis-Sabinene hydrate	1099	0.03%	
22.364	2-Methylbutyl-2-methylbutyrate	1101	0.02%	
22.736	2-Methylbutyl isovalerate	1107	0.04%	
23.487	3-Octyl acetate	1118	0.01%	
23.827	cis-para-Menth-2-en-1-ol	1122	0.02%	
24.077	allo-Ocimene	1126	0.01%	



Ret. Time	Component	Ret. Idx.	Conc. %	
24.863	trans-Sabinol	1138	0.02%	
24.935	trans-Pinocarveol	1139	0.02%	
25.050	trans-para-Menth-2-en-1-ol	1140	0.02%	
25.274	Unidentified	1144	0.01%	
25.475	Isopulegol	1146	0.11%	
25.570	Unidentified	1148	0.01%	
26.061	Menthone	1155	22.23%	
26.196	Unidentified	1157	0.03%	
26.305	Unidentified	1159	0.01%	
26.513	Menthofuran	1162	1.61%	
26.617	Isomenthone	1163	4.1%	
26.961	Neomenthol	1168	3.64%	
27.060	Borneol	1170	0.02%	
27.350	trans-Isopulegone	1174	0.12%	
27.632	Menthol	1178	41.61%	
27.728	Terpinen-4-ol	1179	0.61%	
27.945	Unidentified	1182	0.02%	
28.003	Unidentified	1183	0.02%	
28.256	Isomenthol	1187	0.35%	
28.466	Neoisomenthol	1190	0.09%	
28.693	alpha-Terpineol	1193	0.23%	
28.906	Unidentified	1196	0.01%	
29.619	Neoisopulegol	1207	0.02%	
30.049	Unidentified	1213	0.02%	
30.830	Citronellol	1225	0.01%	IFRA
31.448	cis-3-Hexenyl isovalerate	1234	0.03%	IFRA
31.602	Pulegone	1236	0.49%	
32.003	Carvone	1242	0.02%	IFRA
32.405	Unidentified	1248	0.01%	
32.657	Piperitone	1252	0.48%	
33.285	Unidentified	1261	0.01%	
33.845	Unidentified	1269	0.01%	
33.937	Neomenthyl acetate	1270	0.16%	
34.705	Unidentified	1282	0.01%	
34.985	Unidentified	1286	0.02%	
35.130	Menthyl acetate	1288	5.78%	
35.333	Unidentified	1291	0.01%	
36.130	Isomenthyl acetate	1303	0.09%	
36.324	Unidentified	1306	0.01%	
37.885	delta-Elemene	1329	0.02%	



Ret. Time	Component	Ret. Idx.	Conc. %	
40.736	alpha-Copaene	1373	0.03%	
41.251	beta-Bourbonene	1381	0.14%	
41.437	Unidentified	1384	0.01%	
41.635	beta-Elemene	1387	0.06%	
43.455	beta-Ylangene	1415	0.04%	
43.532	beta-Caryophyllene	1416	2.5%	
44.171	beta-Copaene	1427	0.04%	
45.072	Isogermacrene D	1441	0.01%	
45.495	Unidentified	1448	0.01%	
45.644	trans-beta-Farnesene	1450	0.1%	
45.770	alpha-Humulene	1452	0.03%	
46.567	Unidentified	1465	0.01%	
46.994	gamma-Muurolene	1472	0.01%	
47.361	Germacrene D	1478	1.21%	
48.245	Bicyclogermacrene	1492	0.13%	
48.458	Unidentified	1495	0.02%	
49.328	gamma-Cadinene	1510	0.01%	
49.633	delta-Cadinene	1515	0.04%	
53.380	Caryophyllene oxide	1578	0.02%	
54.111	Viridiflorol	1591	0.04%	

Total Identified Compounds **99.75 %**

