



Essential Oil University

GC/MS Report

Item	Lot
NOP Peppermint EO <i>Mentha piperita</i>	5M
Date	Analyst
7/23/2025	Dr. Robert S. Pappas

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The analysis of this batch sample, NOP 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:** NOP Peppermint EO**Botanical Name:** Mentha piperita**Lot Number:** 5M**Production Method:** Steam distilled**Sample Type:** EO - Certified Organics**Country of Origin:** India**Analysis Date:** 7/23/2025**Manufacture Date:** November 2022

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

-23.40

1.46105

0.90646



Ret. Time	Component	Ret. Idx.	Conc. %	
4.201	3-Methylbutanal	672	0.01%	
4.547	3-Penten-2-ol	687	0.01%	
5.395	3-Methylbutanol	723	0.02%	
5.477	2-Methylbutanol	727	0.02%	
8.743	Ethyl 2-methylbutyrate	838	0.01%	
10.830	2,5-Diethyltetrahydrofuran	890	0.04%	
12.366	alpha-Thujene	920	0.05%	
12.786	alpha-Pinene	927	0.79%	
13.712	Camphene	944	0.02%	
13.839	3-Methylcyclohexanone	946	0.01%	
13.925	Thuja-2,4(10)-diene	947	0.01%	
14.995	Sabinene	966	0.52%	
15.310	beta-Pinene	972	1.21%	
15.690	3-Octanone	978	0.02%	
15.933	Myrcene	983	0.18%	
16.366	Octan-3-ol	990	0.19%	
16.871	Pseudolimonene	999	0.01%	
17.023	alpha-Phellandrene	1002	0.02%	
17.690	alpha-Terpinene	1012	0.24%	
18.173	para-Cymene	1019	0.46%	
18.487	Limonene	1023	2.03%	IFRA
18.610	beta-Phellandrene	1025	0.05%	
18.688	1,8-Cineole	1027	6.3%	
18.875	cis-beta-Ocimene	1029	0.2%	
19.570	trans-beta-Ocimene	1040	0.05%	
20.377	gamma-Terpinene	1052	0.44%	
21.168	trans-Sabinene hydrate	1064	0.5%	
22.204	Terpinolene	1079	0.14%	
22.522	para-Cymenene	1084	0.01%	
23.010	Nonan-3-ol	1091	0.02%	
23.154	Linalool	1094	0.21%	IFRA
23.255	cis-Sabinene hydrate	1095	0.04%	
23.382	2-Methylbutyl-2-methylbutyrate	1097	0.08%	
23.758	2-Methylbutyl isovalerate	1103	0.04%	
24.513	3-Octyl acetate	1113	0.02%	
24.884	cis-para-Menth-2-en-1-ol	1119	0.05%	
25.114	allo-Ocimene	1122	0.01%	
25.923	trans-Sabinol	1134	0.03%	
26.124	trans-para-Menth-2-en-1-ol	1136	0.04%	
26.554	Isopulegol	1143	0.11%	



Ret. Time	Component	Ret. Idx.	Conc. %	
26.833	Unidentified	1147	0.01%	
27.150	Menthone	1151	20.5%	
27.305	Unidentified	1153	0.01%	
27.601	Menthofuran	1158	3.09%	
27.711	Isomenthone	1159	4.18%	
28.058	Neomenthol	1164	4.83%	
28.203	Borneol	1166	0.03%	
28.426	trans-Isopulegone	1169	0.09%	
28.737	Menthol	1174	33.44%	
28.839	Terpinen-4-ol	1175	1.25%	
29.211	para-Cymen-8-ol	1181	0.01%	
29.369	Isomenthol	1183	0.7%	
29.569	Neoisomenthol	1186	0.21%	
29.792	alpha-Terpineol	1189	0.34%	
29.993	Unidentified	1192	0.03%	
30.598	Unidentified	1200	0.01%	
30.740	trans-Piperitol	1203	0.01%	
31.170	Unidentified	1209	0.04%	
31.769	Nerol	1217	0.01%	
31.922	Citronellol	1220	0.02%	IFRA
32.568	cis-3-Hexenyl isovalerate	1229	0.06%	IFRA
32.730	Pulegone	1231	0.88%	
33.116	Carvone	1237	0.04%	IFRA
33.527	Geraniol	1243	0.02%	IFRA
33.788	Piperitone	1247	0.48%	
34.980	Unidentified	1264	0.02%	
35.084	Neomenthyl acetate	1266	0.66%	
35.202	Unidentified	1267	0.02%	
36.294	Menthyl acetate	1283	8.77%	
36.538	Unidentified	1287	0.07%	
37.306	Isomenthyl acetate	1298	0.45%	
37.495	Dihydrocarvyl acetate	1301	0.03%	
39.097	delta-Elemene	1325	0.01%	
40.029	Menthafurolactone isomer I	1339	0.02%	
40.109	Menthafurolactone isomer II	1340	0.02%	
41.979	alpha-Copaene	1369	0.03%	
42.395	Unidentified	1375	0.01%	
42.501	beta-Bourbonene	1376	0.27%	
42.705	alpha-Bourbonene	1380	0.03%	
42.861	beta-Elemene	1382	0.11%	



Ret. Time	Component	Ret. Idx.	Conc. %	
43.005	Unidentified	1384	0.01%	
44.101	Unidentified	1401	0.02%	
44.801	beta-Caryophyllene	1412	2.48%	
45.437	beta-Copaene	1422	0.04%	
46.347	Isogermacrene D	1436	0.02%	
46.863	trans-beta-Farnesene	1445	0.26%	
47.045	alpha-Humulene	1448	0.11%	
47.321	Alloaromodendrene	1452	0.01%	
47.855	Unidentified	1460	0.02%	
48.253	gamma-Murolene	1467	0.03%	
48.639	Germacrene D	1473	1.34%	
48.865	2-Methyl phenethylbutyrate	1477	0.01%	
49.526	Bicyclogermacrene	1487	0.22%	
49.714	alpha-Murolene	1490	0.03%	
50.587	gamma-Cadinene	1504	0.02%	
50.895	delta-Cadinene	1509	0.08%	
52.895	Unidentified	1543	0.01%	
54.358	Spathulenol	1567	0.03%	
54.681	Caryophyllene oxide	1573	0.09%	
55.407	Viridiflorol	1585	0.18%	

Total Identified Compounds **99.75 %**

