



Essential Oil University

GC/MS Report

Item	Lot
NOP Peppermint EO <i>Mentha piperita</i>	3Q
Date	Analyst
12/16/2024	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: 3Q
Production Method: Steam distilled

Sample Type: EO - Certified Organics
Country of Origin: India
Analysis Date: 12/16/2024
Manufacture Date: July 2024

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

-23.60
1.46062
0.90508



Ret. Time	Component	Ret. Idx.	Conc. %	
4.040	3-Methylbutanal	647	0.01%	
4.148	2-Methylbutanal	658	0.01%	
4.365	Unidentified	679	0.01%	
4.579	Unidentified	700	0%	
5.165	1-Pentanol	727	0.02%	
5.244	2-Methylbutanol	731	0.01%	
8.357	Unidentified	842	0.01%	
10.369	2,5-Diethyltetrahydrofuran	895	0.04%	
11.869	alpha-Thujene	924	0.04%	
12.273	alpha-Pinene	931	0.7%	
13.169	Camphene	947	0.02%	
13.283	3-Methylcyclohexanone	950	0.01%	
13.380	Unidentified	951	0.01%	
14.432	Sabinene	970	0.45%	
14.731	beta-Pinene	976	1.11%	
15.120	Unidentified	983	0.02%	
15.365	Myrcene	987	0.19%	
15.791	3-Octanol	995	0.16%	
16.274	Unidentified	1003	0.01%	
16.421	alpha-Phellandrene	1006	0.03%	
17.078	alpha-Terpinene	1016	0.29%	
17.558	para-Cymene	1023	0.21%	
17.860	Limonene	1028	1.86%	IFRA
18.032	1,8-Cineole	1030	6.17%	
18.252	cis-beta-Ocimene	1034	0.2%	
18.935	trans-beta-Ocimene	1044	0.05%	
19.721	gamma-Terpinene	1056	0.51%	
20.489	trans-Sabinene hydrate	1068	0.4%	
21.528	Terpinolene	1084	0.14%	
22.331	Unidentified	1096	0.02%	
22.474	Linalool	1098	0.16%	IFRA
22.520	Unidentified	1099	0.04%	
22.692	2-Methylbutyl-2-methylbutyrate	1102	0.08%	
22.930	Unidentified	1105	0.01%	
23.064	2-Methylbutyl-3-methylbutyrate	1107	0.05%	
23.710	Unidentified	1116	0%	
23.831	Unidentified	1118	0.02%	
24.161	cis-para-Menth-2-en-1-ol	1123	0.03%	
24.426	Unidentified	1127	0.01%	
25.202	Unidentified	1138	0.02%	



Ret. Time	Component	Ret. Idx.	Conc. %	
25.393	Unidentified	1141	0.03%	
25.688	Unidentified	1145	0%	
25.815	Isopulegol	1147	0.08%	
26.403	Menthone	1155	21.37%	
26.865	Menthofuran	1162	2.74%	
26.958	Isomenthone	1163	3.82%	
27.306	Neomenthol	1169	4.49%	
27.695	trans-Isopulegone	1174	0.05%	
27.977	Menthol	1178	36.78%	
28.073	Terpinen-4-ol	1180	1.1%	
28.600	Isomenthol	1187	0.63%	
28.810	Neoisomenthol	1190	0.19%	
29.034	alpha-Terpineol	1194	0.3%	
29.270	Unidentified	1197	0.01%	
29.989	Unidentified	1208	0.01%	
30.402	Unidentified	1214	0.02%	
31.180	Unidentified	1225	0.02%	
31.797	cis-3-Hexenyl isovalerate	1234	0.05%	IFRA
31.952	Pulegone	1236	0.74%	
32.240	Unidentified	1241	0.01%	
32.349	Carvone	1242	0.03%	IFRA
32.785	Unidentified	1249	0.01%	
33.005	Piperitone	1252	0.38%	
34.297	Neomenthyl acetate	1271	0.59%	
34.452	Unidentified	1273	0.02%	
35.370	Unidentified	1286	0.04%	
35.505	Menthyl acetate	1288	8.54%	
35.711	Dihydroedulan I	1291	0.05%	
36.500	Isomenthyl acetate	1303	0.39%	
36.693	Unidentified	1306	0.01%	
38.271	Unidentified	1330	0.01%	
41.133	alpha-Copaene	1374	0.02%	
41.650	beta-Bourbonene	1382	0.17%	
41.819	Unidentified	1384	0.01%	
42.031	beta-Elemene	1388	0.07%	
43.931	beta-Caryophyllene	1417	2.09%	
44.576	beta-Copaene	1428	0.03%	
46.032	trans-beta-Farnesene	1451	0.19%	
46.169	alpha-Humulene	1453	0.08%	
46.451	Unidentified	1458	0.01%	



Ret. Time	Component	Ret. Idx.	Conc. %	
46.979	Unidentified	1466	0.01%	
47.392	trans-Muurola-4(14),5-diene	1473	0.01%	
47.768	Germacrene D	1479	1.29%	
48.653	Bicyclogermacrene	1493	0.2%	
48.856	Unidentified	1496	0.02%	
49.727	gamma-Cadinene	1511	0.01%	
50.036	delta-Cadinene	1516	0.05%	
53.787	Caryophyllene oxide	1579	0.02%	
54.516	Viridiflorol	1591	0.1%	

Total Identified Compounds **99.6 %**

