

Sample & Analysis Information

Sample Information

Sample Name: Lemongrass Essential Oil**Botanical Name:** Cymbopogon flexuosus**Lot Number:** 13259**Production Method:** Steam distilled**Sample Type:** EO - Single**Country of Origin:** India**Analysis Date:** 4/15/2025**Manufacture Date:** April 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

-2.08

1.48508

0.89930

Ret. Time	Component	Ret. Idx.	Conc. %	
3.027	Unidentified	551	0.04%	
3.572	2-Methyl 3-buten-2-ol	606	0.05%	
3.986	3-Methylbutanal	648	0.01%	
4.505	2-Ethylfuran	700	0.01%	
5.083	3-Methyl 1-butanol	728	0.01%	
7.554	Unidentified	825	0.01%	
9.097	4-Heptanone	866	0.02%	
9.554	Unidentified	878	0.01%	
9.951	Unidentified	889	0.01%	
10.904	Unidentified	910	0.01%	
11.489	Tricyclene	921	0.21%	
12.036	alpha-Pinene	931	0.32%	
12.921	Camphene	947	1.64%	
14.164	Sabinene	970	0.01%	
14.462	beta-Pinene	975	0.03%	
14.790	6-Methyl hept-5-en-2-one	981	3.02%	
15.094	Myrcene	987	0.03%	
15.150	para-Cymenene	988	0.1%	
15.287	6-Methyl hept-5-en-2-ol	991	0.02%	
15.445	Unidentified	994	0.01%	
15.558	trans-Dehydroxylinalool oxide	996	0.03%	
15.643	Unidentified	997	0.01%	
15.942	Octanal	1002	0.05%	
16.053	Unidentified	1004	0.01%	
16.135	alpha-Phellandrene	1005	0.01%	
17.264	para-Cymene	1023	0.03%	
17.350	Unidentified	1024	0.01%	
17.558	Limonene	1027	1.84%	IFRA
17.670	beta-Phellandrene	1029	0.02%	
17.737	1,8-Cineole	1030	0.05%	
17.959	cis-beta-Ocimene	1033	0.21%	
18.635	trans-beta-Ocimene	1044	0.15%	
18.752	Unidentified	1046	0.01%	
19.064	Melonol	1050	0.03%	
19.411	gamma-Terpinene	1056	0.02%	
20.258	4-Nonanone	1069	1.64%	
20.992	Unidentified	1080	0.01%	
21.194	Terpinolene	1083	0.06%	
21.240	trans-Linalool oxide (pyranoid)	1084	0.02%	
21.522	4-Nonanol	1088	0.04%	

Ret. Time	Component	Ret. Idx.	Conc. %	
21.616	Rosefuran	1090	0.14%	
21.814	Unidentified	1093	0.02%	
22.075	Perillene	1097	0.08%	
22.144	Linalool	1098	1.52%	IFRA
22.240	Unidentified	1099	0.01%	
22.371	6-Methyl heptadi-3,5-en-2-one	1101	0.02%	IFRA
22.536	alpha-Pinene oxide	1104	0.14%	
22.778	Unidentified	1107	0.05%	
23.628	trans-para-Mentha-2,8-dienol	1120	0.02%	
23.741	Unidentified	1121	0.01%	
24.074	allo-Ocimene	1126	0.01%	
24.468	Unidentified	1132	0.01%	
24.623	Unidentified	1134	0.01%	
24.753	Epiphotocitral A	1136	0.18%	
25.100	exo-Isocitral	1141	0.07%	IFRA
25.465	trans-Chrysanthemal	1146	0.34%	
25.715	Citronellal	1150	0.25%	IFRA
26.346	Isoneral	1159	0.35%	IFRA
26.495	Unidentified	1161	0.01%	
26.897	Isoborneol	1167	0.18%	
27.060	Borneol	1170	0.28%	
27.474	Menthhol	1176	0.06%	
27.641	Isogeranial	1178	0.85%	IFRA
28.565	Unidentified	1191	0.06%	
28.668	alpha-Terpineol	1193	0.21%	
29.012	trans-Isopiperitenol	1198	0.03%	
29.460	Decanal	1205	0.22%	
30.226	cis-Isopiperitenol	1216	0.02%	
30.662	Nerol	1222	0.13%	
30.854	Citronellol	1225	0.1%	IFRA
31.711	Neral	1238	28.96%	IFRA
32.461	Geraniol	1249	6.3%	IFRA
32.662	Piperitone	1252	0.14%	
33.768	Geranial	1268	37.32%	IFRA
33.978	4-Undecanone	1271	0.08%	
34.322	Unidentified	1276	0.01%	
34.551	trans-Carvone oxide	1279	0.29%	IFRA
35.654	Geranyl formate	1296	0.06%	
37.187	Methyl geranate	1319	0.01%	
38.041	Unidentified	1332	0.04%	

Ret. Time	Component	Ret. Idx.	Conc. %	
38.839	Unidentified	1344	0.08%	
39.045	Citronellyl acetate	1347	0.02%	IFRA
39.146	Unidentified	1349	0.01%	
39.622	Neryl acetate	1356	0.03%	
39.772	Unidentified	1358	0.04%	
40.303	Isoledene	1366	0.31%	
40.413	Unidentified	1368	0.05%	
40.726	alpha-Copaene	1373	0.03%	
40.914	Geranyl acetate	1376	4.46%	
41.239	beta-Bourbonene	1381	0.03%	
41.520	Unidentified	1385	0.04%	
41.624	beta-Elemene	1387	0.13%	
41.753	Sativene	1389	0.03%	
42.948	Dodecanal	1407	0.02%	
43.517	beta-Caryophyllene	1416	1.66%	
44.161	beta-Copaene	1427	0.03%	
44.360	Unidentified	1430	0.01%	
44.877	6,9-Guanidiene	1438	0.02%	
45.215	trans-Isoeugenol	1443	0.24%	IFRA
45.359	cis-Murrola-3,5-diene	1446	0.04%	
45.755	alpha-Humulene	1452	0.19%	
46.167	Unidentified	1459	0.02%	
46.790	trans-Cadina-1(6),4-diene	1469	0.04%	
46.978	gamma-Murolene	1472	0.01%	
47.235	Unidentified	1476	0.01%	
47.344	Germacrene D	1478	0.09%	
47.532	Unidentified	1481	0.01%	
48.015	gamma-Amorphene	1488	0.02%	
48.150	Unidentified	1491	0.03%	
48.240	epi-Cubebol	1492	0.14%	
48.435	alpha-Murolene	1495	0.04%	
48.694	Unidentified	1499	0.01%	
48.875	alpha-Chamigrene	1502	0.02%	
49.016	Cuparene	1505	0.02%	
49.312	gamma-Cadinene	1510	1.43%	
49.429	Cubebol	1512	0.17%	
49.616	delta-Cadinene	1515	0.41%	
49.815	cis-Calamenene	1518	0.02%	
49.875	Unidentified	1519	0.02%	
50.134	trans-gamma-Bisabolene	1524	0.18%	

Ret. Time	Component	Ret. Idx.	Conc. %	
50.316	Unidentified	1527	0.03%	
50.464	trans-Cadina-1,4-diene	1529	0.04%	
50.590	Unidentified	1531	0.02%	
50.711	alpha-Cadinene	1533	0.05%	
51.390	alpha-Elemol	1545	0.04%	
51.534	Unidentified	1547	0.02%	
51.868	Geranyl butyrate	1553	0.07%	
52.001	Germacrene B	1555	0.02%	
52.643	Unidentified	1566	0.01%	
53.362	Caryophyllene oxide	1578	0.62%	
54.979	Humulene epoxide II	1606	0.05%	
55.306	1,10-di-epi-Cubenol	1612	0.02%	
56.018	Epicubenol	1624	0.03%	
56.859	Unidentified	1639	0.04%	
57.568	Unidentified	1652	0.03%	
58.119	Unidentified	1662	0.01%	
58.399	Unidentified	1667	0.02%	
68.307	Unidentified	1853	0.01%	
76.287	Unidentified	2016	0.01%	
76.621	Unidentified	2023	0.02%	
78.178	Unidentified	2056	0.06%	
79.856	Unidentified	2092	0.1%	
80.071	Unidentified	2097	0.04%	
81.509	Unidentified	2129	0.02%	
81.889	Unidentified	2138	0.01%	
86.184	Unidentified	2236	0.01%	

Total Identified Compounds **98.81 %**

