



Essential Oil University

GC/MS Report

Item	Lot
Cardamom EO, Pure & Natural <i>Elettaria cardamomum</i>	1C
Date	Analyst
11/26/2025	Dr. Robert S. Pappas

© Copyright 2025 by Essential Oil University. All rights reserved. Any publishing, copying, use, dissemination, or distribution of this report, including online, without the express written permission of Essential Oil University is strictly prohibited.

The analysis of this batch sample, Cardamom EO, Pure & Natural, meets the expected chemical profile for authentic essential oil of *Elettaria cardamomum*. 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: Cardamom EO, Pure & Natural
Botanical Name: Elettaria cardamomum
Lot Number: 1C
Production Method: Hydrodistillation

Sample Type: EO - Single
Country of Origin: Guatemala
Analysis Date: 11/26/2025
Manufacture Date: November 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	METHOD	RESULTS
Optical Rotation @20°C	USP[781]	+12.00
Refractive Index @20°C	USP[831]	1.46304
Specific Gravity @20°C	USP[841]	0.92973



Ret. Time	Component	Ret. Idx.	Conc. %	
4.202	3-Methylbutanal	634	0%	
12.380	alpha-Thujene	923	0.11%	
12.803	alpha-Pinene	930	1.63%	ALLERGEN
13.733	Camphene	947	0.03%	
15.022	Sabinene	969	3.97%	
15.336	beta-Pinene	975	0.91%	ALLERGEN
15.666	6-Methyl hept-5-en-2-one	981	0.01%	
15.952	Myrcene	986	0.59%	PROP. 65
16.015	Unidentified	987	0.03%	
16.837	Octanal	1001	0.01%	
17.049	alpha-Phellandrene	1004	0.02%	
17.708	alpha-Terpinene	1014	0.15%	ALLERGEN
18.198	para-Cymene	1022	0.14%	
18.511	Limonene	1026	3.1%	ALLERGEN IFRA
18.615	beta-Phellandrene	1028	0.02%	
18.742	1,8-Cineole	1030	30.92%	
18.896	cis-beta-Ocimene	1032	0.03%	
19.594	trans-beta-Ocimene	1043	0.04%	
20.404	gamma-Terpinene	1055	0.44%	
21.212	trans-Sabinene hydrate	1067	0.09%	
22.240	Terpinolene	1083	0.2%	ALLERGEN
23.196	Linalool	1097	4.34%	ALLERGEN IFRA
23.285	cis-Sabinene hydrate	1098	0.05%	
24.124	trans-4,8-Dimethyl-nona-1,3,7-triene	1110	0.03%	
24.924	cis-para-Menth-2-en-1-ol	1122	0.02%	
26.168	trans-para-Menth-2-en-1-ol	1140	0.01%	
26.515	Camphor	1145	0.05%	ALLERGEN
28.108	delta-Terpineol	1168	0.02%	ALLERGEN
28.231	Borneol	1169	0.02%	
28.825	Terpinen-4-ol	1178	1.24%	
29.831	alpha-Terpineol	1192	1.51%	ALLERGEN
30.610	Decanal	1204	0.01%	
30.874	Octyl acetate	1207	0.01%	
31.812	Nerol	1221	0.02%	
32.760	Neral	1235	0.05%	ALLERGEN IFRA
33.179	Carvone	1241	0.02%	ALLERGEN IFRA
33.266	Unidentified	1242	0.01%	
33.549	Linalyl acetate	1246	5.1%	ALLERGEN
33.630	Geraniol	1248	0.03%	ALLERGEN IFRA
34.355	Unidentified	1258	0.01%	



Ret. Time	Component	Ret. Idx.	Conc. %	
34.783	Geranial	1264	0.06%	ALLERGEN IFRA
35.611	Terpinyl acetate isomer	1277	0.33%	
35.796	Terpinyl acetate isomer	1279	0.15%	
35.936	Bornyl acetate	1281	0.53%	
36.097	Isobornyl acetate	1284	0.13%	
36.712	Terpin-1-en-4-yl acetate	1293	0.11%	
37.862	delta-Terpinyl acetate	1310	0.11%	
38.388	Methyl geranate	1318	0.06%	
39.101	beta-Terpinyl acetate	1329	0.33%	
40.145	alpha-Terpinyl acetate	1344	38.73%	
40.226	gamma-Terpinyl acetate	1346	2.4%	
40.833	Neryl acetate	1355	0.03%	
41.729	Unidentified	1369	0.01%	
42.115	Geranyl acetate	1374	0.64%	ALLERGEN
42.515	Unidentified	1380	0.01%	
42.675	Unidentified	1383	0.01%	
42.878	Unidentified	1386	0.04%	
44.820	beta-Caryophyllene	1416	0.04%	ALLERGEN
45.653	Terpinyl propionate	1430	0.03%	
47.080	alpha-Humulene	1452	0.02%	
49.163	beta-Selinene	1486	0.11%	
49.587	alpha-Selinene	1492	0.05%	
50.617	gamma-Cadinene	1509	0.02%	
51.596	cis-Nerolidol	1526	0.02%	
52.711	alpha-Elemol	1544	0.02%	
53.441	trans-Nerolidol	1557	1%	
82.366	Unidentified	2115	0.02%	

Total Identified Compounds **99.86 %**



TIC
14,573,347

