Aromatic Plant Research Center

We provide uncompromising
quality control for your products.

Customer : doTERRA International
Lot Number : 233171
Date Filled : 12/13/2023

Column : ZB5 (60 m length × 0.25 mm inner diameter × 0.25 µm film thickness)
Instrument : Shimadzu GCMS-QP2010 Ultra
Carrier gas : Helium 80 psi
Temperature ramp : 2 degrees celsius per minute up to 260-degrees celsius
Split ratio : 30:1
Sample preparation : 5%w/v solution with Dichloromethane.

Comments:
The analysis of this Peppermint lot revealed no contaminants or adulteration.
The sample meets the expected chemical profile for authentic essential oils of Mentha piperita.

Analysied by : Ambika Poudel
Reviewed by : Dr. Prabodh Satyal

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Aromatic Plant Research Center
230 N 1200 E STE 100
Lehi, UT 84043
www.aromaticplant.org

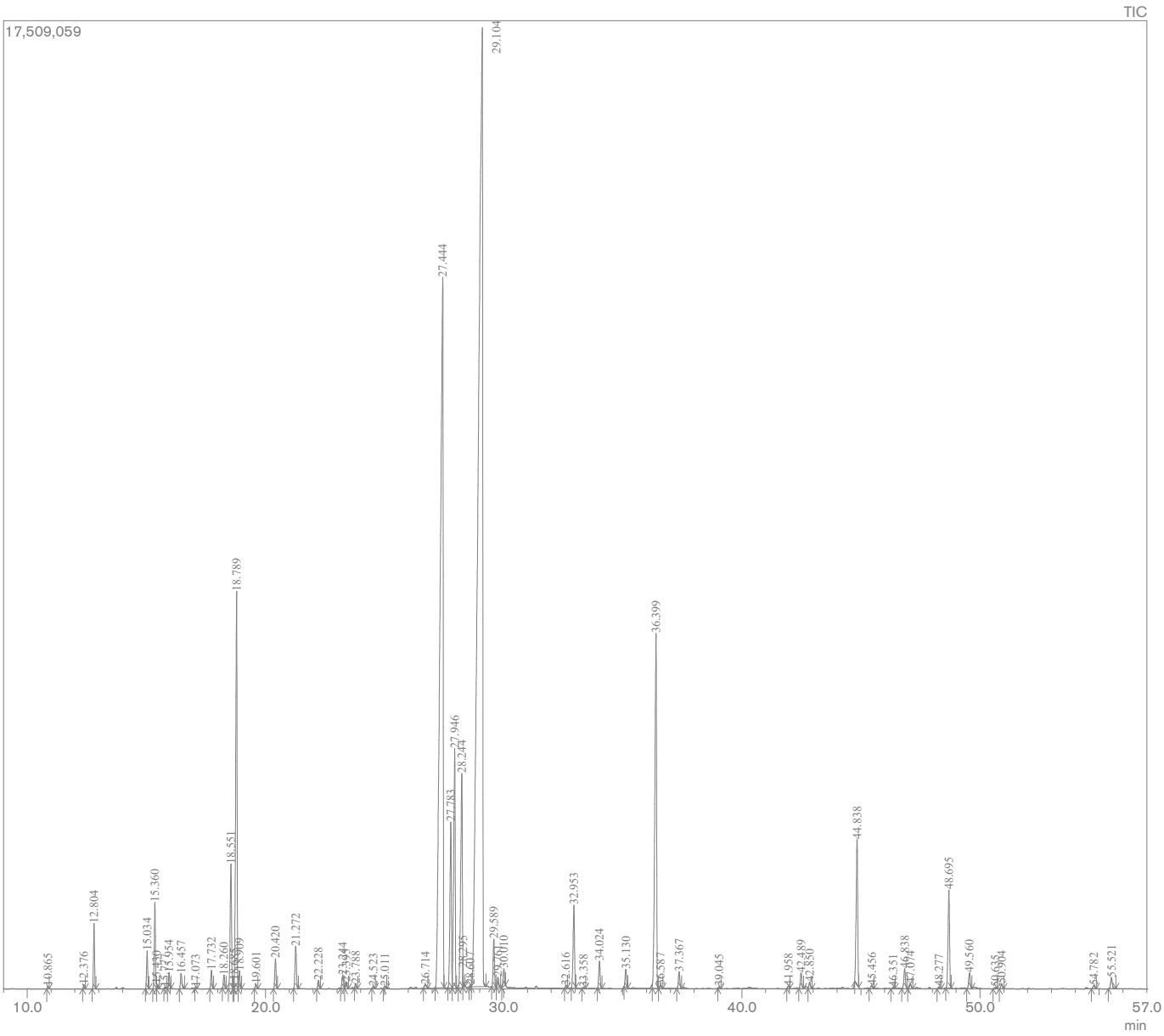
Peppermint Essential Oil

Customer : doTERRA International

Lot Number : 233171

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Chromatogram



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Peak Report

Peak#	R.Time	Name	Area%
1	10.865	2,5-Diethyl tetrahydrofuran	0.03
2	12.376	alpha-Thujene	0.04
3	12.804	alpha-Pinene	0.66
4	15.034	Sabinene	0.41
5	15.360	beta-Pinene	0.97
6	15.430	1-Octen-3-ol	0.04
7	15.777	3-Octanone	0.02
8	15.954	Myrcene	0.18
9	16.457	3-Octanol	0.21
10	17.073	alpha-Phellandrene	0.01
11	17.732	alpha-Terpinene	0.22
12	18.260	para-Cymene	0.17
13	18.551	Limonene	1.71
14	18.685	beta-Phellandrene	0.04
15	18.789	1,8-Cineole	5.39
16	18.909	cis-beta-Ocimene	0.21
17	19.601	trans-beta-Ocimene	0.06
18	20.420	gamma-Terpinene	0.37
19	21.272	cis-Sabinene hydrate	0.60
20	22.228	Terpinolene	0.10
21	23.244	Linalool	0.21
22	23.395	2-Methyl butyl 2-methyl butyrate	0.10
23	23.788	2-Methyl butyl isovalerate	0.06
24	24.523	3-Octanol acetate	0.03
25	25.011	cis-para-Menth-2-en-1-ol	0.03
26	26.714	Isopulegol	0.07
27	27.444	Menthone	21.61
28	27.783	Menthofuran	2.36
29	27.946	Isomenthone	3.57
30	28.244	Neomenthol	3.56
31	28.295	delta-Terpineol	0.07
32	28.607	trans-Isopulegone	0.03
33	29.104	Menthol	42.46
34	29.589	iso-Menthol	0.61
35	29.761	neoiso-Menthol	0.13
36	30.010	alpha-Terpineol	0.23
37	32.616	3-cis-Hexenyl 3-methyl butanoate	0.03
38	32.953	Pulegone	1.16
39	33.358	Carvone	0.02
40	34.024	Piperitone	0.38
41	35.130	neo-Menthyl acetate	0.24
42	36.399	Menthyl acetate	6.20
43	36.587	Dihydroedulan	0.04
44	37.367	iso-Menthyl acetate	0.24
45	39.045	delta-Elemene	0.02
46	41.958	alpha-Copaene	0.04
47	42.489	beta-Bourbonene	0.23
48	42.850	beta-Elemene	0.09
49	44.838	beta-Caryophyllene	2.22
50	45.456	beta-Copaene	0.05
51	46.351	Aromadendrene	0.02
52	46.838	trans-beta-Farnesene	0.30
53	47.074	alpha-Humulene	0.08
54	48.277	trans-Cadina-1(6),4-diene	0.03
55	48.695	Germacrene D	1.47
56	49.560	Bicyclogermacrene	0.24
57	50.635	gamma-Cadinene	0.02
58	50.904	delta-Cadinene	0.08
59	54.782	Caryophyllene oxide	0.05
60	55.521	Viridiflorol	0.19
			100.00

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