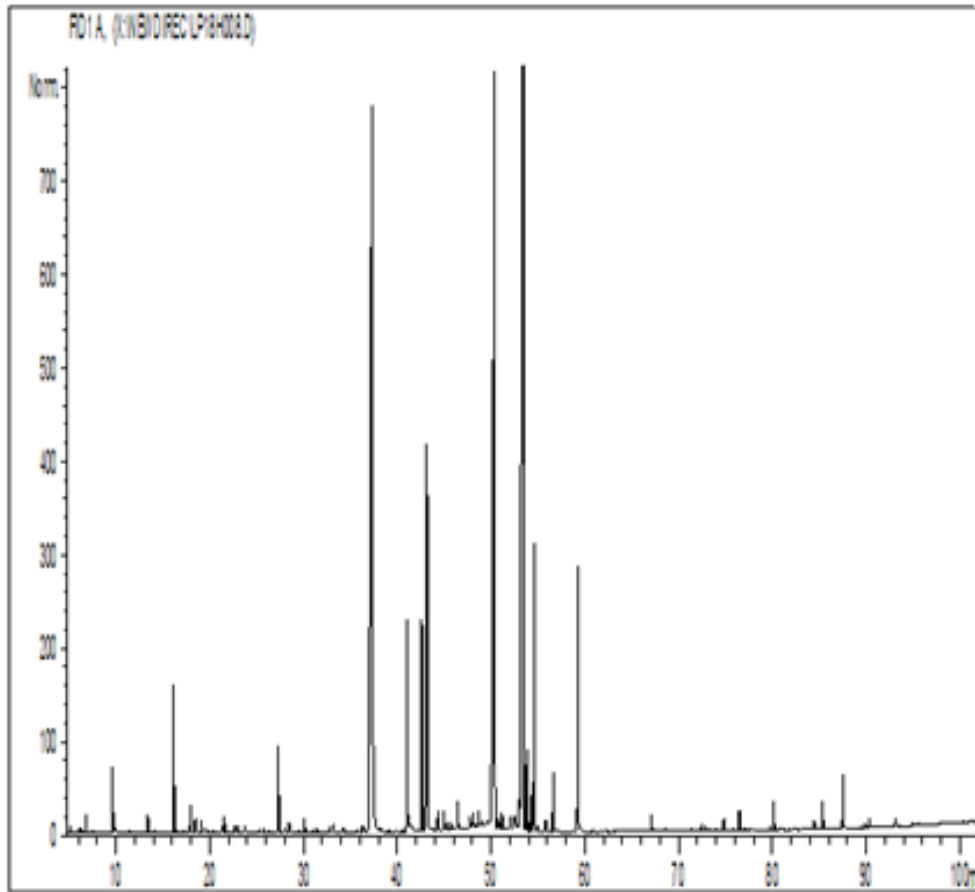




GCMS ANALYSIS

PRODUCT NAME: Tea Tree Lemon Essential Oil
DATE: July 20, 2016



Due to volume turnover, this report is not lot specific. It is representative of the quality of this oil produced by the manufacturer of this product. Specific lots may vary slightly as is the case in natural products.



NEW DIRECTIONS AROMATICS

Peak	RT (min)	Compound name	%
1	4.8	OCTANE	0,01
2	5,1	ACETONE	0,03
3	6,1	1-METHYL-3-CYCLOPENTANE	0,02
4	6,2	1-METHYLETHYL-CYCLOHEXANE	0,02
5	6,3	2,6-DIMETHYL-3-HEPTENE	0,01
6	6,5	BUTANAL, 2-METHYL	0,01
7	6,6	ISOVALERALDEHYDE	0,01
8	6,8	ETHANOL	0,09
9	7,6	3-METHYL-HEXATRIENE	0,01
10	8,4	DIMETHYL HEPTADIENE	0,01
11	9,6	α -PINENE	0,49
12	9,7	α -THUYENE	0,02
13	9,9	PRENOL	0,02
14	10,0	ETHYL BUTYRATE	0,04
15	10,3	TOLUENE	0,01
16	11,5	CAMPHERE	0,01
17	13,4	β -PINENE	0,16
18	13,9	ISOAMYL ACETATE	0,01
19	14,0	SABINENE	0,02
20	14,3	METHYL 2-METHYLVALERATE	0,01
21	15,0	METHYL ISOVALERATE	0,01
22	16,1	β -MYRCENE	1,32
23	16,4	α -PHELLANDRENE	0,02
24	17,3	α -TERPINENE	0,01
25	17,9	2,3-DEHYDRO-1,8-CINEOLE	0,27
26	18,4	LIMONENE	0,14
27	19,1	1,8-CINEOLE	0,10
28	19,4	MENTHATRIENE ISOMER	0,04
29	19,8	2-HEXANAL	0,01
30	20,4	Cis- β -OCIMENE	0,02
31	21,3	γ -TERPINENE	0,03
32	21,4	MENTHATRIENE ISOMER	0,02
33	21,6	Trans- β -OCIMENE	0,16
34	22,6	COMPONENT Mw=128	0,06
35	22,7	3,8-p-MENTHADIENE	0,05
36	22,9	p-CYME	0,05
37	23,7	TERPINOLENE	0,06
38	24,1	TERPINOLENE ISOMER	0,01
39	25,1	ALIPHATIC ESTER	0,01
40	25,3	CYCLOHEXANE TETRAMETHYL ISOMER	0,03
41	25,4	CYCLOHEXANE TETRAMETHYL ISOMER	0,02
42	25,7	3-HEXEN-1-OL ACETATE	0,02
43	26,3	METHYL PENTANOL	0,02
44	27,2	METHYL CYCLOPENTANOL	0,01
45	27,3	6-METHYL-5-HEPTEN-2-ONE	0,82

Disclaimer & Caution

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NEW DIRECTIONS AROMATICS

Peak	RT (min)	Compound name	%
46	28.0	1-HEXANOL	0,03
47	28.4	MELONAL	0,12
48	28,6	ROSE Cis-OXIDE	0,03
49	29,4	ROSE Trans-OXIDE	0,02
50	29,8	CYCLOHEPTADIENE	0,01
51	30,1	3-HEXEN-1-OL	0,12
52	30,9	2-NONANONE	0,02
53	31,4	ANISALDEHYDE TRIMETHYL Mw=150	0,05
54	31,5	MENTHATRIENE ISOMER	0,01
55	32,6	PERILLENE	0,02
56	32,8	Cis-p-MENTHANE-8-OL	0,06
57	33,2	Trans-p-MENTHANE-8-OL	0,07
58	34,1	α -p-DIMETHYLSTYRENE	0,04
59	34,3	LINALOOL Cis-EPOXIDE	0,04
60	35,4	β -METHYL-5-HEPTEN-2-OL	0,01
61	35,6	Trans-THUYANOL	0,05
62	36,3	α -CUBEBENE	0,08
63	36,5	SESQUITERPENE	0,02
64	37,2	CITRONELLAL	21,92
65	38,1	α -COPAENE	0,06
66	39,0	ISONERAL	0,03
67	39,8	SESQUITERPENE	0,02
68	40,5	α -GURJUNENE	0,04
69	41,0	LINALOOL	2,39
70	41,3	PHOTOCITRAL A	0,42
71	42,6	ISOPULEGOL	2,42
72	43,2	PULEGOL	5,57
73	43,4	Trans-p-MENTH-2-EN-1-OL	0,08
74	43,7	PHOTOCITRAL B	0,02
75	43,9	SESQUITERPENE	0,01
76	44,3	β -ELEMENE	0,26
77	44,6	TERPINENE-4-OL	0,03
78	44,9	β -CARYOPHYLLENE	0,27
79	45,1	SESQUITERPENE	0,05
80	45,3	SESQUITERPENE	0,11
81	45,8	SESQUITERPENE	0,11
82	45,9	AROMADENDRENE	0,04
83	46,4	ISOISOPULEGOL	0,38
84	47,1	SESQUITERPENE	0,01
85	47,7	2,6-DIMETHYL-5-HEPTEN-1-OL	0,14
86	48,0	ALLO-AROMADENDRENE	0,22
87	48,6	CITRONELLYL ACETATE	0,14
88	49,0	MENTHADIENOL ISOMER	0,03
89	49,6	ZONARENE	0,04
90	50,3	NERAL	19,39

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NEW DIRECTIONS AROMATICS

Peak	RT (min)	Compound name	%
91	50,6	γ -MUUROLENE	0,12
92	50,7	α -TERPINEOL	0,09
93	51,1	LEDENE	0,24
94	52,0	GERMACRENE D	0,16
95	52,4	Cis-p-MENTHA-1,2-DIEN-8-OL	0,16
96	52,6	TERPENIC ALCOHOL	0,15
97	52,9	PIPERITONE	0,27
98	53,4	GERANIAL	27,28
99	53,7	BICYCLOGERMACRENE	0,91
100	53,9	ISOPIPERITENOL	0,02
101	54,2	GARANYL ACETATE + BERGAMOTENE ISOMER	0,36
102	54,6	CITRONELLOL	3,44
103	54,8	γ -CADINENE	0,06
104	55,3	SESQUITERPENE	0,01
105	55,7	trans-p-MENTHA-1,2-DIEN-8-OL + SESQUITERP.	0,15
106	56,3	CADINA-1,4-DIENE	0,01
107	56,6	NEROL	0,61
108	56,8	α -AMORPHENE	0,01
109	57,0	SESQUITERPENE	0,02
110	57,2	SESQUITERPENE	0,01
111	59,3	GERANIOL	3,03
112	59,4	p-CYMENE-8-OL	0,05
113	64,8	PALUSTROL	0,02
114	65,4	SESQUITERPENOL	0,01
115	67,0	HYDROXY- α -TERPENYL ACETATE	0,21
116	67,3	ALIPHATIC ALCOHOL	0,02
117	67,9	CARYOPHYLLENE EPOXIDE	0,02
118	68,5	METHYLEUGENOL	0,03
119	69,0	Epi-GLOBULOL	0,01
120	69,9	EPOXY ALIPHATIC COMPONENT	0,01
121	70,0	NEROLIDOL	0,01
122	70,2	LEDOL	0,01
123	71,3	GLEENOL	0,04
124	71,5	EPI-CUBENOL	0,02
125	71,9	CUBENOL	0,02
126	72,5	GLOBULOL	0,11
127	72,9	VIRIDIFLOROL	0,06
128	73,2	EUDESMOL ISOMER	0,03
129	73,9	10-Epi- γ -EUDESMOL	0,02
130	74,2	EUDESMOL ISOMER	0,02
131	74,4	ROSIFOLIOL	0,02
132	74,8	SPATHULENOL	0,15
133	75,7	CINNAMYL ACETATE	0,01
134	75,8	SESQUITERPENOL	0,03
135	76,4	EUGENOL	0,23

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NEW DIRECTIONS AROMATICS

Peak	RT (min)	Compound name	%
136	77,0	T-CADINOL	0,05
137	77,5	SESQUITERPENOL Mw= 222	0,03
138	77,7	SESQUITERPENOL	0,02
139	77,8	δ-CADINOL	0,02
140	78,3	SESQUITERPENOL	0,01
14	78,4	SSEQUITERPENOL	0,01
142	78,6	SESQUITERPENOL	0,01
143	79,3	CADINOL ISOMER	0,01
144	79,5	ISOSPATHULENOL	0,01
145	79,7	β-NOOTKATOL	0,05
146	80,1	CITRONELIC ACID	0,31
174	81,2	CITRONELLYL GERANYLATE	0,02
148	81,7	SESQUITERPENOL	0,01
149	82,2	CITRONELLYL GERANYLATE ISOMER	0,02
150	82,3	CITRONELLYL GERANYLATE ISOMER	0,03
151	82,9	CITRONELLYL CITRONELLATE ISOMER	0,01
152	84,4	GERANIC ACID	0,12
153	85,3	CITRONELLYL GERANYLATE	0,34
154	85,6	CITRONELLYL GERANYLATE ISOMER	0,01
155	85,8	CITRONELLYL CITRONELLATE ISOMER	0,01
156	86,5	GERANYLLINALOL ISOMER	0,01
157	87,6	CITRONELLYL CITRONELLATE	0,63
158	87,7	GERANYLGERANIADIENE	0,02
159	89,3	GERANYL CITRONELLATE ISOMER	0,01
160	89,8	GERANYL CITRONELLATE ISOMER	0,06
161	90,3	GERANYLLINALOL ISOMER	0,09
162	92,8	GERANYLLINALOL ISOMER	0,01
163	93,1	CITRONELLYL GERANYLATE ISOMER	0,09
164	93,5	SESQUITERPENOL	0,02
165	93,8	CITRONELLYL GERANYLATE ISOMER	0,01
166	94,9	SESQUITERPENOL	0,04
167	95,6	SESQUITERPENOL	0,04
168	96,9	SESQUITERPENOL	0,01
169	97,8	SESQUITERPENOL	0,01
170	98,6	SESQUITERPENOL	0,01
171	99,5	SESQUITERPENOL	0,01
172	102,5	SESQUITERPENOL	0,01
173	103,5	CITRONELLYL GERANYLATE ISOMER	0,05
174	106,4	CITRONELLYL GERANYLATE ISOMER	0,07
175	108,8	CITRONELLYL GERANYLATE ISOMER	0,05
		TOTAL	99,94

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