

GC/MS & COA ROSEMARY - 11288A10320 DECEMBER 2020

CERTIFICATE OF ANALYSIS

Product: Rosemary Essential Oil – ct Cineole (Morocco)

Lot No.: 11288A10320

Best Before: March, 2022 - Store in airtight containers; in a cool dry area; away from

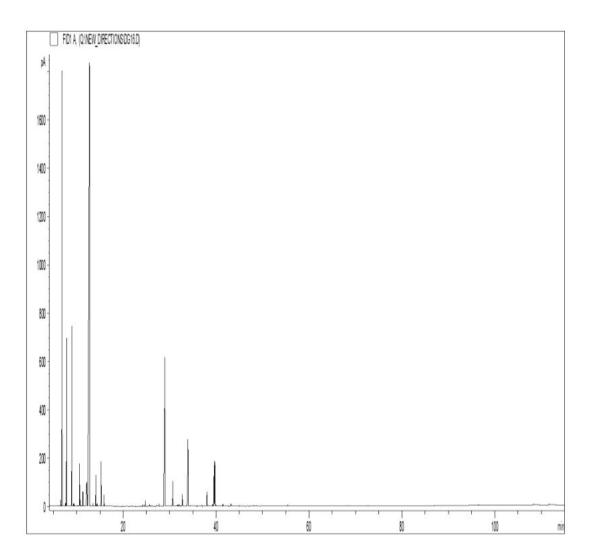
direct sunlight.

Properties Specifications Results

Appearance: Colorless to pale yellow to greenish liquid. **Odor:** Characteristic camphoraceous odor. Complies **Solubility:** Soluble in alcohol, Insoluble in water. Complies

Specific Gravity: 0.907 to 0.920 @ 20°C 0.9117 **Refractive Index:** 1.464 to 1.472 @ 20°C 1.4667 **Optical Rotation:** -2° to +5° @ 20°C +1.24°

1,8-cineole: 40 – 53 % 46.3 **α-pinene:** 8 – 14 % 12.85 **Camphene:** 6 – 14 % **Limonene:** 1.5 – 3.5 % 2.1



Peak	RT (min)	Compound name	%
1	4,28	ACETONE	0,01
2	6,51	TRICYCLENE	0,17
3	6,83	alpha-PINENE	13,40
4	6,84	alpha-THUYENE	0,37
5	7,58	alpha-FENCHENE	0,09
6	7,82	CAMPHENE	4,46
7	8,96	beta-PINENE	5,58
8	9,26	SABINENE	0,06
9	9,39	PINADIENE	0,07
10	10,19	delta3-CARENE	0,03
11	10,59	beta-MYRCENE	1,48
12	10,77	alpha-PHELLANDRENE	0,20
13	10,92	psi-LIMONENE	0,03
14	11,33	alpha-TERPINENE	0,63
15	12,18	LIMONENE	2,39
16	12,74	1,8-CINEOLE	44,97
17	13,49	cis-beta-OCIMENE	0,07
18	14,10	gamma-TERPINENE	0,89
19	14,27	trans-beta-OCIMENE	0,03
20	14,39	3-OCTANONE	0,07
21	15,26	p-CYMENE	1,37
22	15,86	TERPINOLENE	0,34
23	20,88	3-HEXEN-1-OL	0,02
24	24,21	alpha-p-DIMETHYLSTYRENE	0,05
25	24,76	1-OCTEN-3-OL	0,20
26	25,65	trans-THUYANOL	0,07
27	27,14	YLANGENE	0,04
28	27,32	SESQUITERPENE	0,02
29	27,72	alpha-COPAENE	0,11
30	28,97	CAMPHOR	11,52

Peak	RT (min)	Compound name	%
31	29,16	alpha-PINOCAMPHONE	0,02
32	30,50	beta-PINOCAMPHONE	0,03
33	30,67	LINALOOL	0,96
34	31,62	NEOISOPULEGOL	0,05
35	31,87	trans-p-MENTH-2-EN-1-OL	0,06
36	32,04	BORNYL FORMIATE	0,06
37	32,49	ISOPULEGOL	0,04
38	32,71	BORNYL ACETATE	0,49
39	32,82	FENCHOL	0,04
40	33,59	alpha-trans-BERGAMOTENE	0,03
41	33,94	beta-CARYOPHYLLENE	3,33
42	33,95	TERPINENE-4-OL	0,54
43	34,42	AROMADENDRENE	0,04
44	34,79	AROMATIC COMPOUND	0,02
45	35,41	cis-p-MENTH-2-EN-1-OL	0,02
46	36,82	SESQUITERPENE	0,02
47	36,96	trans-PINOCARVEOL	0,05
48	37,55	SESQUITERPENE	0,01
49	38,04	alpha-HUMULENE	0,37
50	38,05	delta-TERPINEOL	0,35
51	38,92	trans-VERBENOL	0,02
52	39,21	gamma-MUUROLENE	0,08
53	39,58	alpha-TERPINEOL	1,84
54	39,76	BORNEOL	2,06
55	39,92	VERBENONE	0,08
56	40,79	MUUROLENE ISOMER	0,02
57	40,96	SESQUITERPENE	0,02
58	41,29	alpha-MUUROLENE	0,05
59	41,46	beta-BISABOLENE	0,08
	42,28	trans-PIPERITOL	0,01

Peak	RT (min)	Compound name	%
61	43,18	delta-CADINENE	0,11
62	43,26	gamma-CADINENE	0,05
63	43,50	CITRONELLOL	0,02
64	43,90	beta-SESQUIPHELLANDRENE	0,01
65	44,92	MYRTENOL	0,03
66	47,38	CALAMENENE	0,03
67	48,11	p-CYMENE-8-OL	0,04
68	48,60	alpha-CALACORENE	0,02
69	55,41	CARYOPHYLLENE EPOXIDE	0,06
70	57,00	METHYLEUGENOL	0,01
71	64,79	ISOCARVACROL	0,02
72	68,32	COMPOUND Mw=234	0,02
73	72,67	SESQUITERPENIC EPOXIDE	0,02
74	96,49	PALMITIC ACID	0,04
		TOTAL	99,99

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