



NHR ORGANIC OILS
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Certificate of Analysis & Gas Chromatography **Organic Hemp Essential Oil** *(Cannabis sativa)*

Nature of the product : ORGANIC ESSENTIAL OIL
Botanical Name : *Cannabis sativa* L.
Commercial Name : HEMP ORGANIC ESSENTIAL OIL
Batch Number : 221225-1
Origin : France

GAS CHROMATOGRAPHY (standard NF ISO 11024)

Méthodologie :	selon la norme ISO 11024
Préparation de l'échantillon :	aucune
Appareillage :	- GC/MS Agilent 7890/5977 - GC/FID Agilent 6890
Colonne :	VF-Wax (polaire)
Méthode d'acquisition :	2SPUR_R
Identification des pics :	- bibliothèque MS interne "ESSENCE.L" - bibliothèque MS commerciale "NIST.L" - temps de rétention (base de données interne)
Seuil d'intégration :	0,01%
Seuil d'investigation :	0.01%

Pics	TR(min)	Components	%
1	7.89	alpha-PINENE	7.86
2	7.93	alpha-THUYENE	0.12
3	9.15	CAMPHENE	0.12
4	10.65	beta-PINENE	3.29
5	11.12	SABINENE	0.11
6	12.34	delta3-CARENE	0.74
7	13.15	beta-MYRCENE	28.64
8	13.23	alpha-PHELLANDRENE	0.34
9	13.78	alpha-TERPINENE	0.34
10		2-HEPTANONE	
11	13.95	HEPTANAL	0.08
12	14.74	LIMONENE	1.43

13	15.09	beta-PHELLANDRENE	1.20
14		1,8-CINEOLE	
15	15.62	2-HEXENAL	0.01
16	16.61	cis-beta-OCIMENE	0.53
17	17.23	gamma-TERPINENE	0.25
18	17.67	trans-beta-OCIMENE	6.36
19	18.62	p-CYMENE	0.10
20	19.58	TERPINOLENE	14.30
21	21.31	ACETATE DE 3-HEXEN-1-OL	0.01
22	22.53	6-METHYL-5-HEPTEN-2-ONE	0.01
23	23.28	1-HEXANOL	0.02
24	24.90	ALLO-OCIMENE	0.01
25	25.27	3-HEXEN-1-OL	0.03
26		COMPOSE TERPENIQUE	
27	26.14	NONANAL	0.17
28		FENCHONE	
29	26.66	2-HEXEN-1-OL	0.02
30	27.11	COMPOSE TERPENIQUE	0.03
31	27.54	BUTYRATE D'HEXYLE	0.04
32	27.78	PERILLENE	0.04
33	28.15	COMPOSE AROMATIQUE Mw=134	0.06
34	28.87	alpha,p-DIMETHYLSTYRENE	0.10
35	29.30	cis-1,2-EPOXYDE DE LIMONENE	0.01
36	29.54	1-OCTEN-3-OL	0.02
37	30.41	trans-THUYANOL	0.08
38	30.60	Epoxy-4,8-TERPINOLENE	0.16
39	31.88	YLANGENE	0.03
40	32.45	alpha-COPAENE	0.02
41	33.06	COMPOSE TERPENIQUE	0.02
42	34.83	alpha-GURJUNENE	0.02
43	35.28	BERGAMOTENE ISOMERE	0.04
44	35.56	COMPOSE TERPENIQUE	0.03
45	35.64	cis-THUYANOL	0.03
46	35.76	LINALOL	0.16
47	36.06	COMPOSE Mw=152	0.02
48	36.45	SESQUITERPENE	0.04
49	36.60	BERGAMOTENE ISOMERE	0.05
50	36.93	PINOCARVONE	0.01
51	37.16	SESQUITERPENE	0.01
52	37.35	alpha-cis-BERGAMOTENE	0.18
53	37.62	alpha-SANTALENE	0.52
54	38.07	FENCHOL	0.06
55	38.28	SESQUITERPENE	0.01
56	38.57	alpha-trans-BERGAMOTENE	1.40
57	39.26	beta-CARYOPHYLLENE	13.16
58	39.41	SESQUITERPENE	0.02
59	39.64	6,9-GUAIADIENE	0.06
60	39.85	CAPROATE D'HEXYLE	0.09
61	40.31	ESTER HEXENYLIQUE	0.01
62	40.49	COMPOSE TERPENIQUE	0.04
63	40.64	cis-p-MENTH-2-EN-1-OL	0.01
64	41.13	SESQUITERPENE	0.02
65	41.39	beta-SANTALENE	0.09
66	41.56	GERMACRENE A	0.06
67	41.66	SESQUITERPENE	0.04
68	41.94	ALLO-AROMADENDRENE	0.45
69	42.09	SESQUITERPENE	0.01

70	42.27	trans-PINOCARVEOL	0.05
71	42.39	SESQUITERPENE	0.02
72	42.55	FARNESENE ISOMERE	0.06
73	42.93	FARNESENE ISOMERE	0.06
74	43.39	alpha-HUMULENE	5.85
75		E-beta-FARNESENE	
76	43.63	SESQUITERPENE	0.02
77	43.75	SESQUITERPENE	0.11
78	44.05	4,5-di-epi-ARISTOLOCHENE	0.03
79	44.27	LAVANDULAL	0.21
80		Z-beta-FARNESENE	
81	44.66	gamma-MUUROLENE	0.34
82	44.84	SESQUITERPENE	0.10
83	45.07	BORNEOL	0.03
84	45.25	SESQUITERPENE	0.04
85	45.36	SESQUITERPENE	0.04
86	45.86	EREMOPHILENE	0.02
87	46.21	alpha-BULNESENE	0.08
88	46.36	beta-SELINENE	0.89
89	46.50	SESQUITERPENE	0.01
90	46.66	alpha-SELINENE	0.55
91	46.88	beta-BISABOLENE	0.22
92	47.14	BICYCLOGERMACRENE	0.22
93	47.69	beta-CURCUMENE	0.18
94		COMPOSÉ OXYDE	
95	47.90	SESQUITERPENE	0.01
96	48.19	E,E-alpha-FARNESENE	0.25
97	48.63	delta-CADINENE	0.12
98		gamma-CADINENE	
99	48.90	7-epi-alpha-SELINENE	0.10
100		CITRONELLOL	
101	49.24	delta-SELINENE	0.35
102	49.36	beta-SESQUIPHELLANDRENE	0.18
103	49.62	trans-alpha-BISABOLENE	0.17
104	49.88	SELINA-3,7-DIENE	0.94
105		alpha-PANASINSEN	
106	50.03	CADINA-1,4-DIENE	0.01
107	50.38	MYRTENOL	0.01
108	51.06	SESQUITERPENE	0.03
109	51.17	ESTER CITRONELLIQUE	0.02
110	52.13	E,E-2,6-DIMETHYL-3,5,7-OCTATRIENE-2-OL	0.01
111	52.45	trans-ANETHOL	0.23
112		SESQUITERPENE	
113	52.63	GERMACRENE B	0.24
114	53.57	p-CYMENE-8-OL	0.04
115	54.04	E-GERANYL ACETONE	0.02
116	55.09	COMPOSÉ TERPENIQUE	0.02
117	57.23	OXYDE D'HUMULENE	0.01
118	57.62	PALUSTROL	0.02
119	57.88	COMPOSÉ TERPENIQUE	0.01
120	58.13	COMPOSÉ TERPENIQUE	0.02
121	58.32	COMPOSÉ TERPENIQUE	0.02
122	58.61	SESQUITERPENOL	0.02
123	59.30	COMPOSÉ TERPENIQUE	0.02
124	59.92	COMPOSÉ TERPENIQUE	0.03
125	60.42	OXYDE D'ISOCARYOPHYLLENE	0.09

126	60.97	OXYDE DE CARYOPHYLLENE	2.01
127	61.15	COMPOSÉ AROMATIQUE	0.01
128	61.39	COMPOSÉ SESQUITERPENIQUE	0.03
129	61.49	COMPOSÉ SESQUITERPENIQUE	0.02
130	61.78	COMPOSÉ TERPENIQUE	0.04
131	62.11	COMPOSÉ TERPENIQUE	0.01
132	62.23	COMPOSÉ AROMATIQUE	0.01
133	62.63	HUMULOL	0.12
134		SESQUITERPENOL	
135	62.78	COMPOSÉ SESQUITERPENIQUE	0.03
136	63.32	LEDOL	0.03
137	63.88	EPOXY-6,7-HUMULENE	0.60
138		NEROLIDOL	
139	64.57	COMPOSÉ TERPENIQUE	0.04
140	64.85	COMPOSÉ TERPENIQUE	0.01
141	65.20	COMPOSÉ SESQUITERPENIQUE	0.02
142	65.66	COMPOSÉ TERPENIQUE	0.04
143	65.77	COMPOSÉ TERPENIQUE	0.02
144	66.19	COMPOSÉ TERPENIQUE	0.03
145	66.32	COMPOSÉ AROMATIQUE	0.03
146	66.55	COMPOSÉ AROMATIQUE	0.03
147	66.92	COMPOSÉ SESQUITERPENIQUE	0.02
148	67.34	COMPOSÉ AROMATIQUE	0.06
149	68.37	TRIMETHYL-PENTADECANONE	0.02
150	68.57	COMPOSÉ Mw=220	0.03
151	69.51	COMPOSÉ AROMATIQUE	0.03
152	70.07	SESQUITERPENOL	0.10
153	70.59	COMPOSÉ AROMATIQUE	0.01
154	70.79	COMPOSÉ TERPENIQUE	0.04
155	71.50	SESQUITERPENOL	0.05
156	71.90	COMPOSÉ AROMATIQUE	0.01
157	72.29	GERANYLGERANIADIENE	0.07
158	72.62	COMPOSÉ SESQUITERPENIQUE	0.02
159	72.76	COMPOSÉ TERPENIQUE	0.01
160	73.12	COMPOSÉ TERPENIQUE	0.03
161	73.39	COMPOSÉ SESQUITERPENIQUE	0.02
162	73.78	COMPOSÉ AROMATIQUE	0.02
163	74.16	COMPOSÉ SESQUITERPENIQUE	0.03
164	74.47	COMPOSÉ SESQUITERPENIQUE	0.09
165		DITERPENE	
166	74.80	COMPOSÉ SESQUITERPENIQUE	0.03
167	75.80	COMPOSÉ SESQUITERPENIQUE	0.05
168	76.12	COMPOSÉ SESQUITERPENIQUE	0.08
169	76.39	CARYOPHYLLA-2,6-DIEN-5-alpha-OL	0.17
170	78.03	COMPOSÉ SESQUITERPENIQUE	0.06
171	78.17	COMPOSÉ SESQUITERPENIQUE	0.03
172	78.98	COMPOSÉ SESQUITERPENIQUE	0.02
173	79.98	OXYDE SESQUITERPENIQUE	0.09
174	101.96	NONACOSANE	0.02
175	173.91	CANNABIDIOL	0.20
		TOTAL	99.95

Chromatographic Profile (GC/FID)

