



Villeurbanne le : 2019/14/09

Renseignements :  
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**REPORT ANALYSIS N° 17/00191**

**SUBJECT :**

*Composition study of a hemp essential oil*

**SCIENTIFIC RESPONSIBLE**

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**1. Your references**

Order from : order letter 17/09 2017/11/18

**2. Analysis sample**

Date of receipt of samples : 2019/09/02

Sample reference	N° ISA	Date of receipt
Hemp EO Batch 17PRCH16	17/02695	2017/09/02

**3. Analysis done by**

SAINT-MARTIN Patrice

**4. Analytical conditions**

Regard with NF-T-75-401 (1995 May), analysis done using gas chromatography with double FID using 2 columns different polarity : HP-1 and INNOWAX.

**5. Results**

(See next page)

HEMP ESSENTIAL OIL TYPICAL TERPENE ANALYSIS

HEXANAL	0,01	ALPHA TERPINEOL + HEXYL BUTYRATE (+ METHYL CHAVICOL)	0,11
OCTANE	0,02	(E) PIPERITOL + unidentified compound	0,03
(E) 2 HEXENAL	0,01	CITRONNELLOL	0,04
(Z) 3 HEXENOL	0,03	(E) ANETHOL	0,07
(E) 2 HEXENOL	0,01	HEXYL HEXANOATE	0,13
HEXANOL	0,02	ALPHA YLANGENE + unidentified compound	0,04
HEPTANONE 2	0,06	ALPHA COPAENE	0,02
HEPTANAL	0,12	BETA ELEMENE	0,04
Unidentified compound	0,24	ISOCARYOPHYLLENE	0,22
ALPHA THUJENE	0,13	(Z) ALPHA BERGAMOTENE + unidentified compound	0,16
ALPHA PINENE	10,01	ALPHA SANTALENE	0,17
CAMPHENE	0,15	(E) BETA CARYOPHYLLENE	11,98
6 METHYL 5 HEPTEN ONE 2	0,02	GAMMA ELEMENE	0,04
OCTEN 1 OL 3	0,02	(E) ALPHA BERGAMOTENE	1,06
SABINENE	0,12	ALPHA GUAIENE	0,03
BETA PINENE (+ 6 METHYL 5 HEPTEN 2 OL)	3,97	GUAIDIENE 6,9	0,05
2 AMYL FURAN	0,01	AROMADENDRENE	0,02
MYRCENE	31,88	(E) BETA FARNESENE	1,33
(Z) 3 HEXENYL ACETATE	0,02	ALPHA HUMULENE	3,60
HEXYL ACETATE	0,01	ALLO-AROMADENDRENE	0,35
ALPHA PHELLANDRENE	0,42	GAMMA MUUROLENE + SELINA 4,11 DIENE (1)	0,10
DELTA 3 CARENE	0,75	SELINA 4,11 DIENE (2)	0,25
ALPHA TERPINENE	0,30	BETA SELINENE	0,63
PARA-CYMENE	0,10	VALENCENE + unidentified compound	0,13
LIMONENE	1,50	ALPHA SELINENE	0,45
1,8 CINEOLE + BETA PHELLANDRENE	1,19	(E,E) ALPHA FARNESENE	0,14
(Z) BETA OCIMENE	0,72	BETA CURCUMENE	0,23
(E) BETA OCIMENE	7,04	SESQUICINEOLE	0,04
GAMMA TERPINENE (+ OCTANOL 1)	0,28	GAMMA CADINENE	0,05
(E) THUJANOL 4	0,07	CALAMENENE	<0,005
FENCHONE	0,02	DELTA CADINENE	0,03
METHYL BENZOATE	<0,005	7 EPI ALPHA SELINENE	0,29
PARA-CYMENTENE	0,10	12-NOR-CARYOPHYLL 5 ENE 2 ONE	0,02
TERPINOLENE	13,30	SELINA 4,7(11) DIENE + (E) ALPHA BISABOLENE	0,41
NONANAL	0,07	GAMMA SELINENE	0,35
LINALOL	0,09	SELINA 3,7(11) DIENE	0,47
(Z) THUJANOL 4	0,02	(E) NEROLIDOL	0,13
ALPHA FENCHOL	<0,005	GERMACRENE B	0,07
(E) 1,3,8 ou 1,5,8 PARAMENTHATRIENE	0,10	SPATHULENOL	0,02
(Z) PARA MENTH 2 EN 1 OL	0,05	EPOXY ISOCARYOPHYLLENE	0,10
CAMPHOR + (E) EPOXY OCIMENE	0,02	CARYOPHYLLENE OXIDE	1,27
(E) PARA MENTH 2 EN 1 OL	0,03	LEDOL + unidentified compound	0,03
IPSDIENOL	0,10	HUMULENE EPOXIDE	0,30
EPOXY TERPINOLENE	0,18	(Z) EUDESM 6 EN 4 OL + unidentified compound	0,07
MENTHONE + unidentified compound	0,07	(2S,5E) CARYOPHYLL 5 EN 12 AL + unidentified compound	0,06
BORNEOL + unidentified compound	0,04	CARYOPHYLLA 4(12),8(13) DIEN 5 BETA OL	0,06
LIMONEN 4 OL	0,07	TRIMETHYL 6,10,14 PENTADECANONE 2	0,02
PARA-CYMEN 8 OL	0,14	Unidentified compound	0,15
TERPINEN 4 OL	0,06	<b>TOTAL (%)</b>	<b>99,05</b>

Chromatographic profile in accordance with our previous datas.



**6. Annexes**

Chromatograms

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