



PLANT THERAPY

100% PURE ESSENTIAL OILS

GC/MS BATCH NUMBER: O30102

ESSENTIAL OIL: ORANGE ORGANIC
BOTANICAL NAME: CITRUS SINENSIS
ORIGIN: MEXICO

KEY CONSTITUENTS IN THIS BATCH OF ORGANIC ORANGE OIL	%
LIMONENE	94.9
β -MYRCENE	2.0
α -PINENE	0.6
LINALOOL	0.4
OCTANAL	0.3
SABINENE	0.2
GERANIAL	0.09
NONANAL	0.05
NERAL	0.05
VALENCENE	0.04
β -PINENE	0.02
NOOTKATONE	0.01

Comments from Robert Tisserand: A wonderfully fresh sweet orange odor. This oil conforms to the ISO standard.

CUSTOMER :

**PLANT THERAPY
126 Locust Street South
Twin Falls, ID 83 301
USA**

Sample nature: ESSENTIAL OIL
Botanical species: CITRUS SINENSIS ORGANIC
Reference name: ORANGE ORGANIC
Batch number: O30102
Origin: MEXICO
Part: FRESH FRUIT RIND
Pyrenessences reference: D595
Date of reception: 04/30/2015
Date analysis: 05/11/2015
Packaging: Amber flask of 5 mL – ambient temperature
Analysis: Classic

Validated report by :

Daniel DANTIN



GAS CHROMATOGRAPHY norm NF ISO 11024

Analysis conditions :

CPG 7890 / MS 5975 AGILENT – Column : VF WAX polar 60 m × 0,25 mm × 0,5 µm

CPG 5890 FID AGILENT - Column : VF WAX polar 60 m × 0,25 mm × 0,5 µm

Temperature program : 6 mn to 60 °C –2 °C/mn→250 °C - 20mn to 250 °C

Carrier gas He : 23 psis/MS – 30 psis/FID

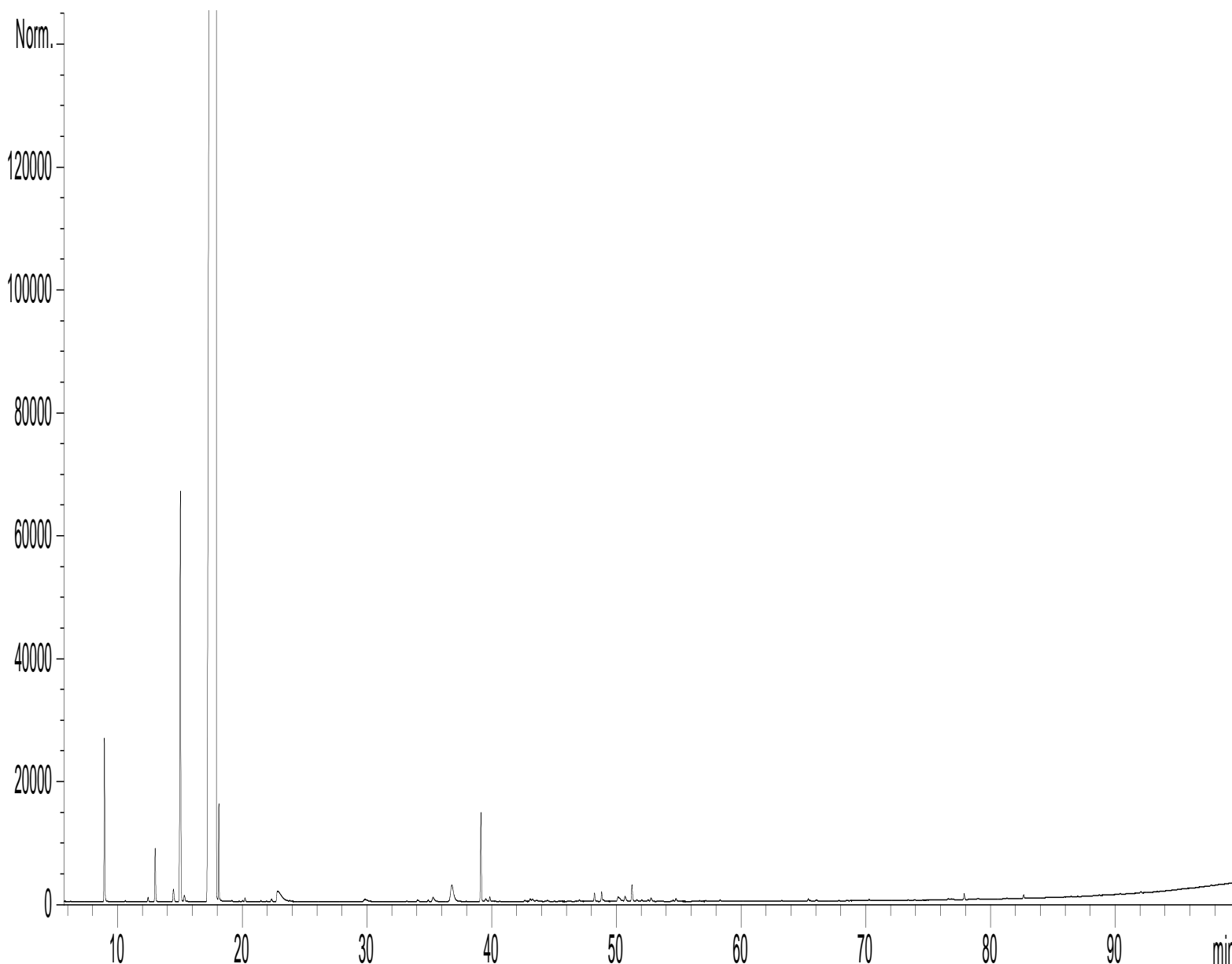
Sample injection / split : 1 µl of 10 % solution in hexane,

Mass range : 30 to 350, Oil components are identified by a combination of retention times (our own database) and mass spectra library NKS 75 000 records,

Percentages are calculated from GC/FID peaks areas without using corrections factors,

Chromatographic profile (GC/FID)

FID1 A, (Y:\PLANTHER\CS15D595.D)



Identification results 1 : ORANGE ORGANIC BATCH O30102

Peak	RT (min)	Compound name	%	Norm (%)	Allergens (%)
1	8,9	α-PINENE	0,56	0,4 – 0,8	
2	9,1	α-THUYENE	0,01		
3	10,6	CAMPHENE	0,01		
4	12,4	β-PINENE	0,02	0,02 – 0,15	
5	13,0	SABINENE	0,22	0,2 – 0,8	
6	14,5	Δ3-CARENE	0,07		
7	15,0	β-MYRCENE	1,95	1,5 – 3,5	
8	15,4	α-PHELLANDRENE	0,04		
9	15,5	ψ-LIMONENE	0,01		
10	17,9	LIMONENE	94,91	93,0 – 96,0	94,91
11	18,1	β-PHELLANDRENE	0,31		
12	19,2	Cis-β-OCIMENE	0,01		
13	20,0	γ-TERPINENE	0,01		
14	20,2	Trans-β-OCIMENE	0,02		
15	21,5	p-CYMENE	0,01		
16	22,4	TERPINOLENE	0,02		
17	22,8	OCTANAL	0,27	0,1 – 0,4	
18	29,9	NONANAL	0,05	0,01 – 0,06	
19	33,2	Cis-1,2-EPOXYDE DE LIMONENE	0,01		
20	34,0	Trans-THUYANOL	0,01		
21	34,1	Trans-1,2- LIMONENE EPOXIDE	0,01		
22	34,9	ISOMENTHONE + OCTYL ACETATE	0,01		
23	35,3	CITRONELLAL	0,05		
24	36,8	α-COPAENE + DECANAL	0,27		
25	39,1	LINALOOL	0,38	0,15 – 0,7	0,38
26	39,5	β1-CUBEBENE	0,02		
27	39,9	1-OCTANOL	0,03		
28	42,7	β-ELEMENE	0,01		
29	43,1	β-CUBEBENE	0,02		
30	43,3	β-CARYOPHYLLENE	0,02		
31	43,6	Cis-DIHYDROCARVONE	0,01		
32	44,5	cis-p-MENTHA-2,8-DIEN-1-OL	0,01		
33	47,0	E-β-FARNESENE	0,01		
34	47,5	Trans-p-2,8-MENTHADIEN-1-OL	0,01		
35	47,8	α-HUMULENE	0,01		
36	48,2	NERAL	0,05	0,03 – 0,1	0,05
37	48,8	α-TERPINEOL	0,05		
38	49,0	SESQUITERPENE	0,01		
39	50,1	DODECANAL	0,04		
40	50,2	GERMACRENE D	0,03		
41	50,7	VALENCENE	0,04	0,01 – 0,4	
42	51,3	GERANIAL	0,09	0,05 – 0,2	0,09
43	51,6	CARVONE + BICYCLOGERMACRENE	0,01		
44	52,0	α-FARNESENE	0,01		
45	52,6	CITRONELLOL	0,01		0,01

Identification results 2 : ORANGE ORGANIC BATCH O30102

Peak	RT (min)	Compound name	%	Norm (%)	Allergens (%)
46	52,8	δ-CADINENE	0,03		
47	53,6	β-SESQUIPHELLANDRENE	0,01		
48	54,6	NEROL	0,01		
49	54,8	PERILLALDEHYDE	0,03		
50	56,7	Trans-CARVEOL	0,01		
51	57,2	GERANIOL	0,01		0,01
52	58,3	PERILLYL ACETATE	0,01		
53	65,4	LIMONEN-10-OL	0,01		
54	66,1	CARYOPHYLLENE EPOXIDE	0,01		
55	70,3	ELEMOL	0,01		
56	77,9	β-SINENSAL	0,03		
57	79,0	CAPRIC ACID	0,01		
58	82,7	α-SINENSAL	0,02		
59	92,1	NOOTKATONE	0,01	0,01 – 0,06	
		TOTAL	99,94		95,45