

Certificate of Analysis

Laboratory Report

SAMPLE NAME : Balsam Fir
CLIENT NAME : Plant Therapy
CLIENT LOT # : BN0110R
APRC LOT# : PT230317A

Column : ZB5 (60 m length × 0.25 mm inner diameter × 0.25 µm film thickness)
Instrument : Shimadzu Nexis GC-2030
Carrier gas : Helium 80 psi
Temperature ramp : 2 degrees Celsius per minute up to 260-degree Celsius
Split ratio : 30:1
Sample preparation : 5% w/v solution with Dichloromethane

Interpretation on this sample:

The analysis of Balsam Fir sample meets the standard chemical profile of *Abies balsamea* essential oil.

Analyzed by : Dr Prabodh Satyal
Reviewed by : Ambika Poudel

Issued Date : 03-21-2023

PHYSICAL ANALYSIS REPORT

PRODUCT INFORMATION

Analyzed by : Dr. Prabodh Satyal
Analyzed : 03-21-2023
Sample Type : Essential Oil
Sample Name : Balsam Fir
Client Name : Plant Therapy
Client Lot# : BN0110R
APRC Lot# : PT230317A

Organoleptic Information

Apperance	Clear, mobile liquid
Color	Colorless
Aroma	Woody, resinous, fir

Physical Constants Information (at 20 °C)

Tests	Observed Value
Optical Rotation	-23°
Refractive Index	1.4674
Specific Gravity	0.87619

Commennts:

Observed physical constant of this Balsam Fir essential oil.

Prepared by : Joseph Hilton
Reviewed by : Ambika Poudel

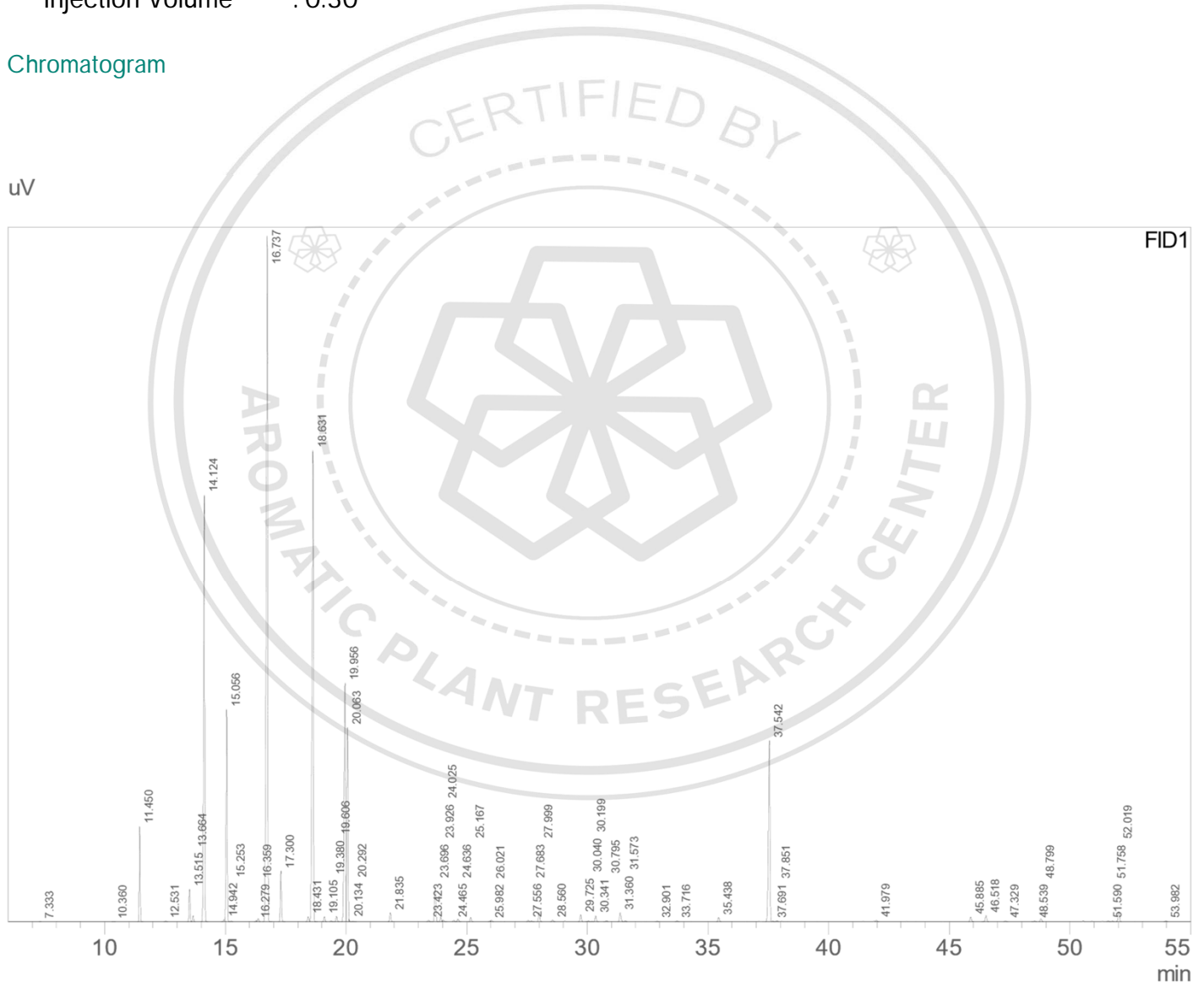
Date: 03-21-2023
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GCMS Analysis

Sample Information

Analyzed by : Dr. Prabodh Satyal
Analyzed : 03-21-2023
Sample Type : Essential Oil
Sample Name : Balsam Fir
Client Name : Plant Therapy
Client Lot# : BN0110R
APRC Lot# : PT230317A
Injection Volume : 0.30

Chromatogram



Peak Table

R-Time	Compounds	Area%
7.333	Toluene	0.010
10.360	3-cis-Hexenol	0.008
11.450	Santene	2.478
12.531	Santolina triene isomer	0.022
13.515	Tricyclene	0.932
13.664	alpha-Thujene	0.171
14.124	alpha-Pinene	13.220
14.942	alpha-Fenchene	0.066
15.056	Camphene	6.567
15.253	Thuja-2,4(10)-diene	0.019
16.279	3,7,7-Trimethyl-1,3,5-cycloheptatriene	0.039
16.359	Sabinene	0.104
16.737	beta-Pinene	26.701
17.300	Myrcene	1.596
18.431	alpha-Phellandrene	0.191
18.631	delta-3-Carene	18.284
19.105	alpha-Terpinene	0.165
19.380	2,2,5,5-Tetramethyl-3-cyclopenten-1-one	0.033
19.606	para-Cymene	0.193
19.956	Limonene	9.927
20.063	beta-Phellandrene	6.318
20.134	1,8-Cineole	0.027
20.292	Methyl 2-methyl heptanoate	0.018
21.835	gamma-Terpinene	0.306
23.423	para-Mentha-2,4(8)-diene	0.057
23.696	Terpinolene	1.236
23.926	Fenchone	0.171
24.025	para-Cymenene	0.060
24.465	6-Camphenone	0.061
24.636	Linalool	0.111
25.167	cis-Thujone	0.150
25.982	beta-Thujone	0.024
26.021	endo-Fenchol	0.055
27.556	trans-Pinocarveol	0.058
27.683	Epoxy terpinolene	0.035
27.999	Camphor	0.348
28.560	Camphene hydrate	0.075
29.725	Borneol	0.269
30.040	cis-Pinocamphone	0.034
30.199	para-1,8-Menthadien-4-ol	0.016
30.341	Terpinen-4-ol	0.226
30.795	Cryptone+ Cymenol	0.051
31.360	alpha-Terpineol	0.402
31.573	Methyl chavicol	0.039
32.901	endo-Fenchyl acetate	0.022
33.716	Thymol methyl ether	0.034
35.438	Piperitone	0.169
37.542	Bornyl acetate	7.600
37.691	Isobornyl acetate	0.023
37.851	Thymol	0.041
41.979	alpha-Longipinene	0.064
45.885	Longifolene	0.191
46.518	beta-Caryophyllene	0.272
47.329	trans-alpha-Bergamotene	0.028
48.539	trans-beta-Farnesene	0.037
48.799	alpha-Humulene	0.117
51.590	beta-Himachalene	0.041
51.758	beta-Cadinene	0.031
52.019	beta-Bisabolene	0.415
53.982	trans-alpha-Bisabolene	0.043
	Total	100.000

Allergen Report

PRODUCT INFORMATION

Analyzed By : Dr. Prabodh Satyal
 Sample Name : Balsam Fir
 APRC Lot# : PT230317A

Analyzed : 03-21-2023
 Client Name : Plant Therapy
 Client Lot# : BN0110R

EU COSMETIC ALLERGEN DECLARATIONS			
Ref #	Ingredient	CAS#	Result (%)
74	AMYL CINNAMIC ALCOHOL	101-85-9	ND
67	AMYL CINNAMIC ALDEHYDE	122-40-7	ND
80	ANISYL ALCOHOL	105-13-5	ND
68	BENZYL ALCOHOL	100-51-6	ND
85	BENZYL BENZOATE	120-51-4	ND
81	BENZYL CINNAMATE	103-41-3	ND
75	BENZYL SALICYLATE	118-58-1	ND
69	CINNAMIC ALCOHOL	104-54-1	ND
76	CINNAMIC ALDEHYDE	104-55-2	ND
70	CITRAL	5392-40-5	ND
86	CITRONELLOL	106-22-9	ND
77	COUMARIN	91-64-5	ND
88	LIMONENE	5989-27-5	9.928
71	EUGENOL	97-53-0	ND
82	FARNESOL	4602-84-0	ND
78	GERANIOL	106-24-1	ND
87	HEXYL CINNAMICALDEHYDE	101-86-0	ND
72	HYDROXYCITRONELLAL	107-75-5	ND
73	ISOEUGENOL	97-54-1	ND
83	LILIAL	80-54-6	ND
84	LINALOOL	78-70-6	0.112
79	LYRAL	31906-04-4	ND
89	METHYL HEPTINE CARBONATE	111-12-6	ND
90	G-METHYL IONONE	127-51-5	ND
91	OAKMOSS	90028-68-5	ND
92	TREEMOSS	90028-67-4	ND
-	ESTROGOLE	140-67-0	ND
102	METHYL EUGENOL	93-15-2	ND
360	SAFROLE	94-59-7	ND

ND: Not detected or <LoD

Prepared By: Sunita Timsina
 Reviewed By: Ambika Poundel

Date: 03-21-2023
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