

Blue Tansy Tanacetum annuum

Batch No. MA-59349
Morocco

Monoterpenes	48.99%	Monoterpenols	5.71%	Sesquiterpenes	13.11%
sabinene	14.40	borneol	2.11	3,6-dihydrochamazulene	4.86
β pinene	6.74	terpinen-4-ol	1.60	β caryophyllene	1.94
myrcene	6.33	thymol	0.80	(Z) β farnesene	1.83
para cymene	5.85	linalool	0.51	germacrene d	1.44
α phellandrene	5.67	α terpineol	0.31	β selinene	0.74
limonene	3.05	(E) sabinene hydrate	0.12	β sesquiphellandrene	0.65
α pinene	2.93	(E) pinocarveol	0.09	β elemene	0.46
γ terpinene	1.26	para-cymen-8-ol	0.08	bicyclogermacrene	0.24
camphene	1.09	(E) piperitol	0.04	α humulene	0.17
α terpinene	0.81	carvacrol	0.03	4,5-di-epi-aristolochene	0.13
isoterpinolene	0.46	(E) verbenol	0.02	(E) α bergamotene	0.10
α thujene	0.33			ar-curcumene	0.09
tricyclene	0.05			(E) β farnesene	0.09
δ 3 carene	0.02			α copaene	0.08
		Esters	0.55%	δ elemene	0.07
		2-methyl butyl 2-methylbutyrate	0.23	γ muurolene	0.05
		propyl 2-methylbutyrate	0.09	germacrene B	0.05
		(E) para-menth-2-en-1-ol	0.07	β copaene	0.04
Aldehydes	0.25%	(Z) 3-hexenyl isovalerate	0.07	allo-aromadendrene	0.03
cuminal	0.10	hexyl 2-methyl butanoate	0.05	α dehydro-ar-himachalene	0.03
decanal	0.05	2 methyl butyl isovalerate	0.02	α muurolene	0.02
α campholene aldehyde	0.04	ethyl isovalerate	0.01		
geranial	0.03	3-methylamyl valerate	0.01		
phellandral	0.03				
		Ketones	14.56%	Other	10.83%
Ethers	1.04%	camphor	13.97	2-methylbutyric acid	0.07
caryophyllene oxide	0.41	limona ketone	0.30	1-octanol	0.03
1,8 cineole	0.35	verbenone	0.07	4,10-dihydrochamazulene	0.33
6,7 epoxy myrcene	0.23	phytone	0.07	5,6-dihydrochamazulene	0.92
β pinene oxide	0.05	carvotanacetone	0.05	chamazulene	7.40
		6-methyl-5-hepten-2-one	0.04	tricosane	0.01
		piperitone	0.03	pentacosane	0.02
Sesquiterpenols	1.87%	β damascenone	0.03	Unknown	1.99
β eudesmol	1.56			2-methyl-4-methylhexyl butanoic ac	0.06
hinesol	0.14				
elemol	0.07				
(Z) sesquisabinene hydrate	0.05				
spathulenol	0.05				

Client



Source



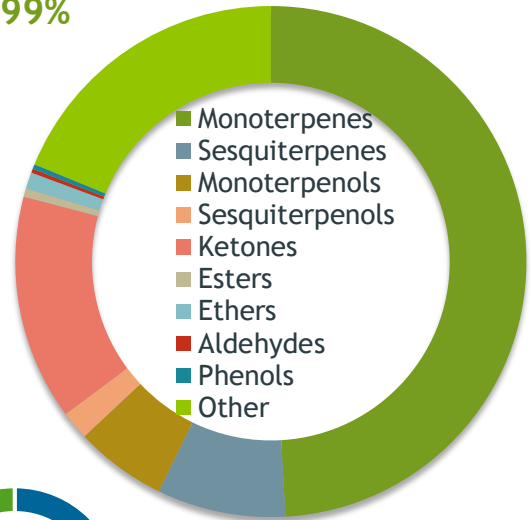
Blue Tansy (*Tanacetum annuum*)
MA-59349

Sample

Blue Tansy (*Tanacetum annuum*)
Batch #:..... MA-59349
Type:..... Essential Oil
CAS Number:... N/A
Nature's Gift

Monoterpenes

48.99%



Client

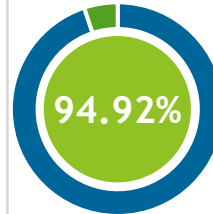


Website



Primary

14.40% Sabinene
13.97% Camphor
7.40% Chamazulene



Percentage Identified

Result



Conclusion

No adulterants, diluents, or contaminants were detected via this method. This oil meets the expected profile for genuine Essential Oil of Blue Tansy (*Tanacetum annuum*)

Internal Number: | EVS-5703



Essential Validation Services

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<https://essentialvalidationservices.com/>

Alan Chastain

Monoterpenes	48.99%	48.99%
Sesquiterpenes	8.12%	8.12%
Monoterpenols	5.78%	5.78%
Sesquiterpenols	1.82%	1.82%
Ketones	14.23%	14.23%
Esters	0.53%	0.53%
Ethers	1.04%	1.04%
Aldehydes	0.25%	0.25%
Phenols	0.30%	0.30%
Other	18.75%	18.75%

Client



Source

Blue Tansy (*Tanacetum annuum*)

MA-59349

Total Percentage		94.92%		
Number	RT	Area %	Compound Name	Chemical Family
1	5.62	0.07%	2-Methylbutyric acid	Aliphatic Acid
2	5.76	0.01%	Ethyl isovalerate	Aliphatic Ester
3	7.98	0.05%	Tricyclene	Monoterpene
4	8.14	0.33%	alpha-Thujene	Monoterpene
5	8.40	2.93%	alpha-Pinene	Monoterpene
6	8.91	0.09%	Propyl 2-methylbutyrate	Aliphatic Ester
7	9.01	1.09%	Camphene	Monoterpene
8	9.98	14.40%	Sabinene	Monoterpene
9	10.14	6.74%	beta-Pinene	Monoterpene
10	10.52	0.04%	6-Methyl-5-hepten-2-one	Aliphatic Ketone
11	10.72	6.33%	Myrcene	Monoterpene
12	11.37	5.67%	alpha-Phellandrene	Monoterpene
13	11.48	0.02%	delta-3-Carene	Monoterpene
14	11.84	0.81%	alpha-Terpinene	Monoterpene
15	12.18	5.85%	para-Cymene	Monoterpene
16	12.38	3.05%	Limonene	Monoterpene
17	12.47	0.35%	1,8-Cineole	Monoterpene Ether
18	13.69	1.26%	gamma-Terpinene	Monoterpene
19	14.22	0.12%	trans-Sabinene hydrate	Monoterpenol
20	14.37	0.03%	1-Octanol	Aliphatic Alcohol
21	14.92	0.46%	Isoterpinolene	Monoterpene
22	15.21	0.23%	6,7-Epoxy myrcene	Monoterpene Ether
23	15.64	0.51%	Linalool	Monoterpenol
24	15.79	0.23%	2-Methylbutyl 2-methylbutyrate	Aliphatic Ester
25	16.05	0.02%	2-Methyl Butyl Isovalerate	Monoterpene Ester
26	16.69	0.07%	trans-para-Menth-2-en-1-ol	Monoterpenol
27	16.78	0.04%	alpha-Campholene aldehyde	Monoterpene Aldehyde
28	16.98	0.30%	Limona ketone	Simple Phenolic
29	17.27	0.02%	trans-Verbenol	Monoterpenol
30	17.42	0.09%	trans-Pinocarveol	Monoterpenol
31	17.67	13.97%	Camphor	Monoterpene Ketone
32	18.24	0.05%	beta-Pinene oxide	Monoterpene Ether
33	18.84	2.11%	Borneol	Monoterpenol
34	19.25	1.60%	Terpinen-4-ol	Monoterpenol
35	19.59	0.08%	para-Cymen-8-ol	Monoterpenol

Client



Source



Blue Tansy (*Tanacetum annuum*)
MA-59349

Number	RT	Area %	Compound Name	Chemical Family
36	19.738	0.01%	3-Methylamyl valerate	Monoterpenol
37	19.95	0.31%	alpha-Terpineol	Monoterpenol
38	20.53	0.05%	Decanal	Aliphatic Aldehyde
39	20.60	0.04%	trans-Piperitol	Monoterpenol
40	21.04	0.07%	Verbenone	Monoterpene Ketone
41	21.63	0.07%	cis-3-Hexenyl isovalerate	Aliphatic Ester
42	21.87	0.05%	Hexyl 2-methyl butanoate	Monoterpene Ester
43	22.04	0.10%	Cuminal	Monoterpene Aldehyde
44	22.34	0.05%	Carvotanacetone	Monoterpene Ketone
45	22.56	0.03%	Piperitone	Monoterpene Ketone
46	23.27	0.03%	Geranial	Monoterpene Aldehyde
47	23.60	0.03%	Phellandral	Monoterpene Aldehyde
48	24.40	0.80%	Thymol	Monoterpenol
49	24.73	0.03%	Carvacrol	Monoterpenol
50	24.93	0.06%	10 Butanoic acid, 2-methyl-4-methylhexyl es	0.00
51	26.02	0.07%	delta-Elemene	Sesquiterpene
52	27.87	0.08%	alpha-Copaene	Sesquiterpene
53	28.03	0.03%	beta-Damascenone	terpene Ketone/Aroma Chemical
54	28.49	0.46%	beta-Elemene	Sesquiterpene
55	29.66	1.94%	beta-Caryophyllene	Sesquiterpene
56	30.10	0.04%	beta-Copaene	Sesquiterpene
57	30.31	0.10%	trans-alpha-Bergamotene	Sesquiterpene
58	30.63	1.83%	(Z)-beta-Farnesene	Sesquiterpene
59	31.13	0.17%	alpha-Humulene	Sesquiterpene
60	31.20	0.09%	(E)-beta-Farnesene	Sesquiterpene
61	31.31	0.03%	allo-Aromadendrene	Sesquiterpene
62	31.75	0.13%	27.63 Aristolochene<4,5-di-epi->	0.00
63	31.99	0.05%	gamma-Muurolene	Sesquiterpene
64	32.19	1.44%	Germacrene D	Sesquiterpene
65	32.28	0.09%	ar-Curcumene	Sesquiterpene
66	32.48	0.74%	beta-Selinene	Sesquiterpene
67	32.78	0.24%	Bicyclogermacrene	Sesquiterpene
68	32.96	0.02%	alpha-Muurolene	Sesquiterpene
69	33.44	4.86%	3,6-Dihydrochamazulene	Azulene
70	33.98	0.65%	beta-Sesquiphellandrene	Sesquiterpene
71	34.13	0.03%	alpha-Dehydro-ar-himachalene	Sesquiterpene



Source



Blue Tansy (Tanacetum annuum)
 MA-59349

72	34.75	0.05%	cis-Sesquisabinene hydrate	Monoterpene Ester
73	34.90	0.07%	Elemol	Sesquiterpenol
74	35.42	0.05%	Germacrene B	Sesquiterpene
75	35.94	0.05%	Spathulenol	Sesquiterpenol
76	36.10	0.41%	Caryophyllene oxide	Sesquiterpene Ether
77	37.36	0.33%	4,10-Dihydrochamazulene	Azulene
78	37.86	0.92%	5,6-Dihydrochamazulene	Azulene
79	37.96	0.14%	Hinesol	Sesquiterpenol
80	38.83	1.56%	beta-Eudesmol	Sesquiterpenol
81	41.53	7.40%	Chamazulene	Azulene
82	45.61	0.07%	Phytone	Aliphatic Ketone
83	50.89	1.11%	UK	
84	58.50	0.01%	Tricosane	Alkane
85	60.11	0.88%	UK	
86	60.21	0.02%	Pentacosane	Alkane

ESSENTIAL VALIDATION SERVICES | 14 / SW 2nd AVE GAINESVILLE, FLORIDA 32601 | 31 / -351-5044

- Essential Oil testing is performed by using qualitative GC-MS. Method: SOP.T.01 Client Method
- This report may not be published without the consent of Essential Validation Services.
- Chromatograph image may be requested