

Black Pepper Piper nigrum

India

Batch #IN-59082

Monoterpenes	59.3%	Monoterpenols	1.33%	Sesquiterpenes	36.92%
limonene	15.13	terpinen-4-ol	0.53	β caryophyllene	22.52
δ 3 carene	10.04	linalool	0.52	α copaene	2.77
β pinene	9.40	α terpineol	0.1	δ elemene	2.46
α pinene	8.86	(E) sabinene hydrate	0.06	α humulene	1.7
sabinene	7.35	cis-pinocarveol	0.03	β cadinene	1.17
myrcene	2.33	(Z) para-menth-2-en-1-ol	0.02	β bisabolene	1.00
α phellandrene	2.30	(E) para-menth-2-en-1-ol	0.02	β elemene	0.84
α thujene	1.15	trans-pinovareol	0.02	α selinene	0.79
para cymene	0.77	para-cymen-8-ol	0.02	β selinene	0.70
terpinolene	0.60	cis-piperitol	0.01	germacrene d	0.57
γ terpinene	0.37			α muurolene	0.46
camphene	0.33			γ elemene	0.38
α terpinene	0.22	Ketones	0.03%	β cubebene	0.24
isoterpinolene	0.19	camphor	0.02	α cubebene	0.22
(E) β ocimene	0.16	2-undecanone	0.01	α guaiene	0.16
o cymene	0.04			6.9 guaiadiene	0.14
(Z) β ocimene	0.03			γ muurolene	0.12
pseudolimonene	0.02	Esters	0.05%	α gurjunene	0.10
para cymenene	0.01	(Z) sesquisabinene hydrate	0.05	cyclosativene	0.09
				bicyclogermacrene	0.08
				trans-muurola-3-5-diene	0.06
				dauca-5,8-diene	0.06
				(E) cadina-1,4-diene	0.05
Ethers	0.79%	Sesquiterpenols	0.91%	(E,E) α farnesene	0.04
caryophyllene oxide	0.71	cubebol	0.25	γ cadinene	0.04
humulene epoxide II	0.03	α muurolol	0.23	germacrene B	0.04
1,8 cineole	0.05	isopathulenol	0.19	longicyclene	0.03
		(E) nerolidol	0.11	(E) α bisabolene	0.03
		τ muurolol	0.06	alloaromadendrene	0.02
		spathulenol	0.05	cis-caryophyllene	0.02
		viridiflorol	0.01	β sesquiphellandrene	0.01
		1,10 di-epi-cubebol	0.01	trans γ bisabolene	0.01

Client



Source



Pepper, Black (*Piper nigrum*)
IN-59099

Sample

Pepper, Black (*Piper nigrum*)
Batch #:..... | IN-59099
Type:..... | Essential Oil
CAS Number:... | 8006-82-4
Nature's Gift

Client



Website

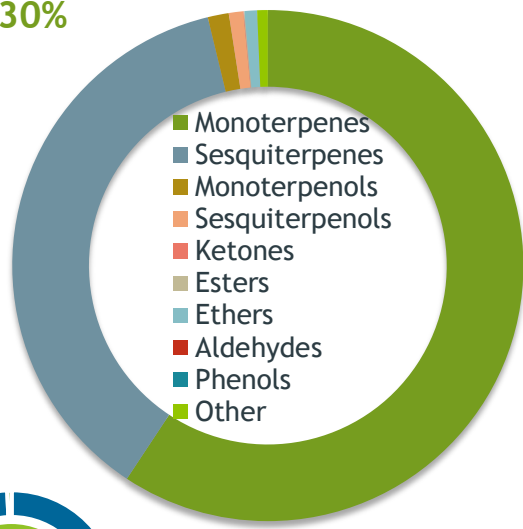


Primary

22.52% | **beta-Caryophyllene**
15.13 | **Limonene**
10.04% | **delta-3-Carene**

Monoterpenes

59.30%



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 Pepper, Black (*Piper nigrum*)

Internal Number: | EVS-3894



Essential Validation Services

747 SW 2nd Ave IMB 12 Suite 306
Gainesville, FL 32601

317.361.5044 | <https://essentialvalidationservices.com/>

Alan Christen

Monoterpenes	59.30%	59.30%
Sesquiterpenes	36.92%	36.92%
Monoterpenols		1.33%
Sesquiterpenols		0.91%
Ketones		0.03%
Esters		0.05%
Ethers		0.79%
Aldehydes		0.00%
Phenols		0.00%
Other		0.67%

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Client



Source

Pepper, Black (*Piper nigrum*)

IN-59099

Total Percentage		99.33%		
Number	RT	Area %	Compound Name	Chemical Family
1	8.29	1.15%	alpha-Thujene	Monoterpene
2	8.55	8.86%	alpha-Pinene	Monoterpene
3	9.17	0.33%	Camphene	Monoterpene
4	10.14	7.35%	Sabinene	Monoterpene
5	10.32	9.40%	beta-Pinene	Monoterpene
6	10.89	2.33%	Myrcene	Monoterpene
7	11.45	0.02%	Pseudolimonene	Monoterpene
8	11.55	2.30%	alpha-Phellandrene	Monoterpene
9	11.68	10.04%	delta-3-Carene	Monoterpene
10	12.03	0.22%	alpha-Terpinene	Monoterpene
11	12.16	0.04%	o-Cymene	Monoterpene
12	12.37	0.77%	para-Cymene	Monoterpene
13	12.61	15.13%	Limonene	Monoterpene
14	12.74	0.05%	1,8-Cineole	Monoterpene Ether
15	12.95	0.03%	(Z)-beta-Ocimene	Monoterpene
16	13.41	0.16%	(E)-beta-Ocimene	Monoterpene
17	13.90	0.37%	gamma-Terpinene	Monoterpene
18	14.48	0.06%	trans-Sabinene hydrate	Monoterpenol
19	14.97	0.19%	Isoterpinolene	Monoterpene
20	15.13	0.60%	Terpinolene	Monoterpene
21	15.34	0.01%	para-Cymenene	Monoterpene
22	15.89	0.52%	Linalool	Monoterpenol
23	16.96	0.02%	cis-para-Menth-2-en-1-ol	Monoterpenol
24	17.66	0.02%	trans-Pinocarveol	Monoterpenol
25	17.79	0.02%	trans-para-Menth-2-en-1-ol	Monoterpenol
26	17.95	0.02%	Camphor	Monoterpene Ketone
27	19.53	0.53%	Terpinen-4-ol	Monoterpenol
28	19.85	0.02%	para-Cymen-8-ol	Monoterpenol
29	20.22	0.10%	alpha-Terpineol	Monoterpenol
30	20.58	0.03%	cis-Pinocarveol	Monoterpenol
31	20.90	0.01%	cis-Piperitol	Monoterpenol
32	24.73	0.01%	2-Undecanone	Aliphatic Ketone
33	26.49	2.46%	delta-Elemene	Sesquiterpene
34	26.99	0.22%	alpha-Cubebene	Sesquiterpene
35	27.83	0.09%	Cyclosativene	Sesquiterpene

Client



Source



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IN-59099

Number	RT	Area %	Compound Name	Chemical Family
36	28.195	2.77%	alpha-Copaene	Sesquiterpene
37	28.49	0.03%	Longicyclene	Sesquiterpene
38	28.73	0.24%	beta-Cubebene	Sesquiterpene
39	28.81	0.84%	beta-Elemene	Sesquiterpene
40	29.39	0.02%	cis-Caryophyllene	Sesquiterpene
41	29.52	0.10%	alpha-Gurjunene	Sesquiterpene
42	30.08	22.52%	beta-Caryophyllene	Sesquiterpene
43	30.47	0.38%	gamma-Elemene	Sesquiterpene
44	30.71	0.16%	alpha-Guaiene	Sesquiterpene
45	31.22	0.06%	trans-Muurola-3,5-diene	Sesquiterpene
46	31.47	1.70%	alpha-Humulene	Sesquiterpene
47	31.67	0.02%	allo-Aromadendrene	Sesquiterpene
48	32.20	0.06%	Dauca-5,8-diene	Sesquiterpene
49	32.33	0.14%	6,9-Guaiadiene	Sesquiterpene
50	32.53	0.57%	Germacrene D	Sesquiterpene
51	32.83	0.70%	beta-Selinene	Sesquiterpene
52	32.95	0.12%	gamma-Muurolene	Sesquiterpene
53	33.14	0.79%	alpha-Selinene	Sesquiterpene
54	33.29	0.46%	alpha-Muurolene	Sesquiterpene
55	33.42	0.08%	Bicyclogermacrene	Sesquiterpene
56	33.61	0.04%	(E,E)-alpha-Farnesene	Sesquiterpene
57	33.71	1.00%	beta-Bisabolene	Sesquiterpene
58	33.83	0.04%	gamma-Cadinene	Sesquiterpene
59	33.96	0.25%	Cubebol	Sesquiterpenol
60	34.08	1.17%	beta-Cadinene	Sesquiterpene
61	34.33	0.01%	beta-Sesquiphellandrene	Sesquiterpene
62	34.43	0.01%	trans-gamma-Bisabolene	Sesquiterpene
63	34.60	0.05%	trans-Cadina-1,4-diene	Sesquiterpene
64	34.99	0.03%	trans-alpha-Bisabolene	Sesquiterpene
65	35.31	0.05%	cis-Sesquisabinene hydrate	Monoterpene Ester
66	35.57	0.04%	Germacrene B	Sesquiterpene
67	35.82	0.11%	(E)-Nerolidol	Sesquiterpenol
68	36.30	0.05%	Spathulenol	Sesquiterpenol
69	36.48	0.71%	Caryophyllene oxide	Sesquiterpene Ether
70	37.54	0.03%	Humulene epoxide II	Sesquiterpene Ether
71	38.01	0.01%	1,10-di-epi-Cubenol	Sesquiterpenol

ESSENTIAL VALIDATION SERVICES | 14 / NW 27th AVE GAINESVILLE, FLORIDA 32601 | 352-350-5044

- 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
 - This report is valid for 1 year from the analyzed date

