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Healing Body, Mind and Spirit with Pure Essential Oils

Since 1995

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## Black Pepper

Piper nigrum

Madagascar

Batch #MG-59285

### Monoterpenes 48.49%

limonene	14.69
$\alpha$ pinene	10.43
$\beta$ pinene	9.43
$\delta$ 3 carene	8.10
myrcene	2.01
$\alpha$ phellandrene	1.82
terpinolene	0.45
camphene	0.40
o cymene	0.31
(E) $\beta$ ocimene	0.25
sabinene	0.21
isoterpinolene	0.14
$\gamma$ terpinene	0.07
$\alpha$ thujene	0.06
$\alpha$ terpinene	0.04
(Z) $\beta$ ocimene	0.03
para cymene	0.02
pseudolimonene	0.02
para cymenene	0.01

### Ethers 0.77%

caryophyllene oxide	0.59
allo-aromadendrene epo:	0.1
humulene epoxide II	0.06
(Z) limonene oxide	0.01
(E) limonene oxide	0.01

### Aldehydes 0.01%

beta-cyclocitral	0.01
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### Phenols 0.01%

eugenol	0.01
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### Monoterpenols 0.57%

linalool	0.34
$\alpha$ terpineol	0.14
para-cymen-8-ol	0.03
terpinen-4-ol	0.02
(E) para-menth-2-en-1-ol	0.02
(E) sabinene hydrate	0.01
trans-pinocarveol	0.01

### Ketones 0.04%

camphor	0.04
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### Esters 0.03%

linalool formate	0.02
bornyl acetate	0.01

### Sesquiterpenols 1.25%

isopathulenol	0.57
pogostol	0.18
elemol	0.1
spathulenol	0.07
junenol	0.07
globulol	0.06
longiborneol	0.04
$\tau$ muurolol	0.03
khusinol	0.03
$\alpha$ muurolol	0.02
(E) nerolidol	0.02
viridiflorol	0.02
$\tau$ cadinol	0.02
cubebol	0.01
$\alpha$ bisabolol	0.01

### Sesquiterpenes 47.34%

$\beta$ caryophyllene	25.8
$\delta$ elemene	4.11
germacrene d	4.04
$\beta$ selinene	2.93
$\beta$ elemene	2.35
$\alpha$ humulene	2.33
$\alpha$ selinene	2.28
$\alpha$ guaiane	0.65
$\gamma$ elemene	0.49
$\alpha$ ylangene	0.45
$\delta$ cadinene	0.3
$\alpha$ copaene	0.24
$\alpha$ gurjunene	0.18
$\alpha$ cubebene	0.14
$\gamma$ muurolene	0.14
viridiflorene	0.12
$\beta$ copaene	0.11
$\beta$ bisabolene	0.1
(E,E) $\alpha$ farnesene	0.09
germacrene B	0.06
$\gamma$ gurgunene	0.06
$\beta$ cadinene	0.05
$\gamma$ selinene	0.05
trans-muurola-3-5-diene	0.04
$\gamma$ cadinene	0.04
(E) cadiene-1,4-diene	0.03
$\alpha$ muurolene	0.03
$\alpha$ calacorene	0.03
6.9 guaiadiene	0.02
cis-caryophyllene	0.02
(E) calamenene	0.02
$\alpha$ cadinene	0.02
(E) $\alpha$ bisabolene	0.01
(E) $\gamma$ bisabolene	0.01

Date of Analysis: 10/17/2022

Client



Source



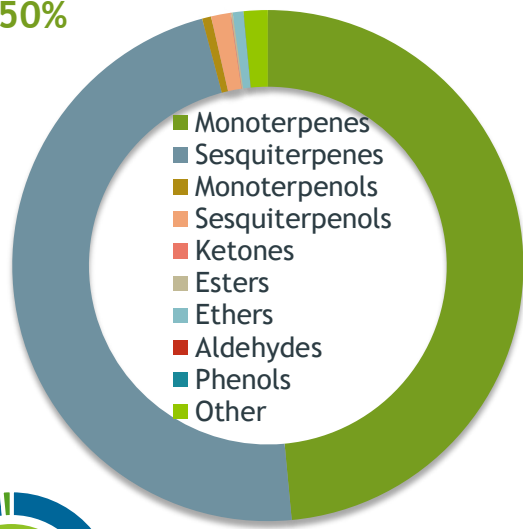
Pepper, Black (*Piper nigrum*)  
MG-59285

Sample

Pepper, Black (*Piper nigrum*)  
Batch #:..... MG-59285  
Type:..... Essential Oil  
CAS Number:.... 8006-82-4  
**Nature's Gift**

Monoterpenes

48.50%



Percentage Identified

Client



Website



Primary

25.80% beta-Caryophyllene  
14.69% Limonene  
10.43% alpha-Pinene

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-5332



Essential Validation Services

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

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

*Alan Christen*

Monoterpenes	48.50%	48.50%
Sesquiterpenes	47.34%	47.34%
Monoterpenols		0.57%
Sesquiterpenols		1.22%
Ketones		0.04%
Esters		0.11%
Ethers		0.67%
Aldehydes		0.00%
Phenols		0.01%
Other		1.52%

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Client



Source

Pepper, Black (*Piper nigrum*)

MG-59285

Total Percentage		98.48%		
Number	RT	Area %	Compound Name	Chemical Family
1	7.73	0.06%	alpha-Thujene	Monoterpene
2	8.00	10.43%	alpha-Pinene	Monoterpene
3	8.57	0.40%	Camphene	Monoterpene
4	9.51	0.21%	Sabinene	Monoterpene
5	9.70	9.43%	beta-Pinene	Monoterpene
6	10.26	2.01%	Myrcene	Monoterpene
7	10.79	0.02%	Pseudolimonene	Monoterpene
8	10.91	1.82%	alpha-Phellandrene	Monoterpene
9	11.03	8.10%	delta-3-Carene	Monoterpene
10	11.36	0.04%	alpha-Terpinene	Monoterpene
11	11.49	0.02%	para-Cymene	Monoterpene
12	11.70	0.31%	ortho-Cymene	Monoterpene
13	11.97	14.69%	Limonene	Monoterpene
14	12.28	0.03%	(Z)-beta-Ocimene	Monoterpene
15	12.73	0.25%	(E)-beta-Ocimene	Monoterpene
16	13.19	0.07%	gamma-Terpinene	Monoterpene
17	13.72	0.01%	trans-Sabinene hydrate	Monoterpenol
18	14.25	0.14%	Isoterpinolene	Monoterpene
19	14.41	0.45%	Terpinolene	Monoterpene
20	14.63	0.01%	para-Cymenene	Monoterpene
21	15.14	0.34%	Linalool	Monoterpenol
22	16.54	0.01%	cis-Limonene oxide	Monoterpene Ether
23	16.74	0.01%	trans-Limonene oxide	Monoterpene Ether
24	16.87	0.01%	trans-Pinocarveol	Monoterpenol
25	17.11	0.04%	Camphor	Monoterpene Ketone
26	18.73	0.02%	Terpinen-4-ol	Monoterpenol
27	19.07	0.03%	para-Cymen-8-ol	Monoterpenol
28	19.42	0.14%	alpha-Terpineol	Monoterpenol
29	19.81	0.02%	trans-para-Mentha-1(7),8-dien-2-ol	Monoterpenol
30	20.50	0.02%	Linalool formate	0.00
31	21.33	0.01%	beta-Cyclocitral	Monoterpene
32	23.43	0.01%	Bornyl acetate	Monoterpene Ester
33	25.70	4.11%	delta-Elemene	Sesquiterpene
34	26.18	0.14%	alpha-Cubebene	Sesquiterpene
35	26.41	0.01%	Eugenol	Phenylpropanoid

Client



Source

Pepper, Black (*Piper nigrum*)

MG-59285

Number	RT	Area %	Compound Name	Chemical Family
36	27.062	0.45%	alpha-Ylangene	Phenylpropanoid
37	27.37	0.24%	alpha-Copaene	Sesquiterpene
38	28.02	2.35%	beta-Elemene	Sesquiterpene
39	28.57	0.02%	cis-Caryophyllene	Sesquiterpene
40	28.69	0.18%	alpha-Gurjunene	Sesquiterpene
41	29.32	25.80%	beta-Caryophyllene	Sesquiterpene
42	29.66	0.49%	gamma-Elemene	Sesquiterpene
43	29.89	0.65%	alpha-Guaiene	Sesquiterpene
44	30.12	0.02%	6,9-Guaiadiene	Sesquiterpene
45	30.47	0.11%	beta-Copaene	Sesquiterpene
46	30.65	2.33%	alpha-Humulene	Sesquiterpene
47	30.91	0.04%	trans-Muurolo-3,5-diene	Sesquiterpene
48	31.36	0.06%	gamma-Gurjunene	Sesquiterpene
49	31.53	0.14%	gamma-Muuroloene	Sesquiterpene
50	31.73	4.04%	Germacrene D	Sesquiterpene
51	31.82	0.05%	gamma-Selinene	Sesquiterpene
52	32.03	2.93%	beta-Selinene	Sesquiterpene
53	32.13	0.12%	Viridiflorene	Sesquiterpene
54	32.33	2.28%	alpha-Selinene	Sesquiterpene
55	32.47	0.03%	alpha-Muuroloene	Sesquiterpene
56	32.63	0.05%	beta-Cadinene	Sesquiterpene
57	32.82	0.09%	(E,E)-alpha-Farnesene	Sesquiterpene
58	32.90	0.10%	beta-Bisabolene	Sesquiterpene
59	33.01	0.04%	gamma-Cadinene	Sesquiterpene
60	33.10	0.01%	Cubebol	Sesquiterpenol
61	33.26	0.30%	delta-Cadinene	Sesquiterpene
62	33.34	0.02%	trans-Calamenene	Sesquiterpene
63	33.62	0.01%	trans-gamma-Bisabolene	Sesquiterpene
64	33.78	0.03%	trans-Cadina-1,4-diene	Sesquiterpene
65	33.95	0.02%	alpha-Cadinene	Sesquiterpene
66	34.09	0.03%	alpha-Calacorene	Sesquiterpene
67	34.19	0.01%	trans-alpha-Bisabolene	Sesquiterpene
68	34.42	0.10%	Elemol	Sesquiterpenol
69	34.72	0.06%	Germacrene B	Sesquiterpene
70	35.01	0.02%	(E)-Nerolidol	Sesquiterpenol
71	35.60	0.59%	Caryophyllene oxide	Sesquiterpene Ether

