

**Dr. Duke's Phytochemical and Ethnobotanical Database**

**Chemicals Found in *Mentha arvensis* var. *piperascens***

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
2	(+)-CARVONE	Essential Oil	--	--		Jim Duke's personal files.
1	(+)-PIPERITENONE-OXIDE	Leaf	--	2900	-1.0692702191867607	
4	(+)-PULEGONE	Leaf	1100	8400	1.6412173114963589	
4	(+)-PULEGONE	Plant	--	25455	1	
3	(-)-BORNEOL	Leaf	500	600		
4	(-)-MENTHOL	Leaf	1500	9600	-0.13664468500079888	
2	(-)-MENTHONE	Leaf	500	4400	-0.41193606418331424	
1	(-)-PIPERITONE	Leaf	240	7700	1	
67	1,8-CINEOLE	Leaf	--	--		Jim Duke's personal files.
16	ACETIC-ACID	Plant	--	--		Guenther, E., The Essential Oils, 6 volumes, D. van Nostrand, New York, 1948-1952.
28	ALPHA-PINENE	Plant	10	300	-0.26916907964228254	
7	ANISALDEHYDE	Shoot	--	--		Jim Duke's personal files.
3	BETA-PHELLANDRENE	Plant	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
13	BETA-PINENE	Plant	10	1445	1.124729385882718	
13	BETA-PINENE	Leaf	--	800	0.7508636062406463	
28	CALCIUM	Plant	13500	13500	-0.009562051564718019	Suziki, A., Morimoto, I., and Okitsu, T., Elution of Metals from Crude Drugs, Shoykugaku Zasshi 36(3):190-195.

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
9	CAMPHENE	Plant	--	--		Guenther, E., The Essential Oils, 6 volumes, D. van Nostrand, New York, 1948-1952.
1	CAPROIC-ACID	Plant	--	--		Guenther, E., The Essential Oils, 6 volumes, D. van Nostrand, New York, 1948-1952.
19	CARVONE	Essential Oil	--	--		Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.
19	CARVONE	Leaf	8100	26000	5.048754540985525	
31	CARYOPHYLLENE	Plant	--	--		Guenther, E., The Essential Oils, 6 volumes, D. van Nostrand, New York, 1948-1952.
3	CIS-OCIMENE	Essential Oil	--	--		Jim Duke's personal files.
12	COPPER	Plant	20	20	0.6626022066114992	Suziki, A., Morimoto, I., and Okitsu, T., Elution of Metals from Crude Drugs, Shoykugaku Zasshi 36(3):190-195.
76	EUGENOL	Essential Oil	--	--		Jim Duke's personal files.
13	FORMIC-ACID	Plant	--	--		Guenther, E., The Essential Oils, 6 volumes, D. van Nostrand, New York, 1948-1952.
6	FURFURAL	Plant	2	5	-0.4983416206388216	Guenther, E., The Essential Oils, 6 volumes, D. van Nostrand, New York, 1948-1952.
11	GAMMA-TERPINENE	Essential Oil	--	--		Jim Duke's personal files.
11	GAMMA-TERPINENE	Leaf	--	900	1.36337998309933	
2	GERMACRENE-D	Leaf	300	400	-0.20129073177947823	
2	GERMACRENE-D	Essential Oil	--	--		Jim Duke's personal files.

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
31	HESPERIDIN	Plant	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
6	IRON	Plant	400	400	-0.2672486162776693	Suziki, A., Morimoto, I., and Okitsu, T., Elution of Metals from Crude Drugs, Shoykugaku Zasshi 36(3):190-195.
1	ISOMENTHOL	Essential Oil	--	--		Jim Duke's personal files.
3	ISOMENTHONE	Leaf	300	600	-0.4825959961896006	
3	ISOPULEGOL	Essential Oil	--	--		Jim Duke's personal files.
4	ISOPULEGONE	Leaf	240	770	-1.4142135623730947	
1	ISOVALERALDEHYDE	Plant	--	--		Guenther, E., The Essential Oils, 6 volumes, D. van Nostrand, New York, 1948-1952.
5	ISOVALERIC-ACID	Plant	30	90	1	Guenther, E., The Essential Oils, 6 volumes, D. van Nostrand, New York, 1948-1952.
3	L-MENTHOL	Plant	373	29515		
2	L-MENTHYL-ACETATE	Plant	85	4200		
60	LIMONENE	Leaf	20	3520	3.2552582140948236	
53	LINALOOL	Leaf	--	--		Jim Duke's personal files.
78	LUTEOLIN	Shoot	--	--		Jim Duke's personal files.
65	MAGNESIUM	Plant	2830	2830	-0.38378745316107926	Suziki, A., Morimoto, I., and Okitsu, T., Elution of Metals from Crude Drugs, Shoykugaku Zasshi 36(3):190-195.
14	MANGANESE	Plant	44	44	-0.3795487464259209	Suziki, A., Morimoto, I., and Okitsu, T., Elution of Metals from Crude Drugs, Shoykugaku Zasshi 36(3):190-195.

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
5	MENTHOFURAN	Plant	4200	12600	1.6912182092538641	
63	MENTHOL	Leaf	1000	24385	2.2215192266445816	
30	MENTHONE	Leaf	250	25680	2.6118994892791703	
30	MENTHONE	Plant	71	24000	3.4108177532842308	
22	MYRCENE	Leaf	10	2485	0.7240430590989703	
16	P-CYMENE	Leaf	9	29	-0.3760203807398916	
3	PIPERITENONE	Plant	--	--		Chemical Constituents of Oriental Herbs (3 diff. books)
2	PIPERITENONE-OXIDE	Leaf	260	7320	0.8759003813049827	
7	PIPERITONE	Leaf	13	1285	0.3195633749094698	
7	PIPERITONE	Leaf	240	7700	3.6970310693516097	Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.
14	POTASSIUM	Plant	35100	35100	0.9277235520248976	Suziki, A., Morimoto, I., and Okitsu, T., Elution of Metals from Crude Drugs, Shoykugaku Zasshi 36(3):190-195.
28	PULEGONE	Plant	100	24960	2.11770459496291	
1	RAFFINOSE	Plant	--	--		Leung, A.Y., Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics, John Wiley & Sons, New York, 1980.
57	ROSMARINIC-ACID	Leaf	71	228	-0.9802701242157968	
57	ROSMARINIC-ACID	Plant	28000	28000	-0.022447952153288788	Fitoterapia No.62: 166.
1	SODIUM	Plant	860	860	-0.25647164723432153	Suziki, A., Morimoto, I., and Okitsu, T., Elution of Metals from Crude Drugs, Shoykugaku Zasshi 36(3):190-195.

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
1	STACHYOSE	Plant	--	--		Leung, A.Y., Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics, John Wiley & Sons, New York, 1980.
35	TANNIN	Plant	--	--		Leung, A.Y., Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics, John Wiley & Sons, New York, 1980.
17	THUJONE	Plant	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
77	ZINC	Plant	28	28	-0.23812799612849617	Suziki, A., Morimoto, I., and Okitsu, T., Elution of Metals from Crude Drugs, Shoykugaku Zasshi 36(3):190-195.