

Dr. Duke's Phytochemical and Ethnobotanical Databases

Chemicals found in *Salvia officinalis*

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
9	CAMPHENE	Leaf	20.0	18592.0	6.834837822452428	--
35	BORNEOL	Shoot		7000.0	6.370019299829522	--
5	BETA-THUJONE	Leaf	200.0	9968.0	2.7606909658238585	--
35	BORNEOL	Leaf Essent. Oil	16000.0	250000.0	2.73359024149356	--
6	ALPHA-THUJONE	Leaf	200.0	10172.0	2.575761084269138	--
12	BORNYL-ACETATE	Shoot	5.0	1780.0	2.5481701537732313	--
7	LINALYL-ACETATE	Plant	0.0	6048.0	2.330313404492723	--
41	CAMPHOR	Leaf Essent. Oil	44000.0	458000.0	2.005169580755753	--
17	THUJONE	Plant	2500.0	13000.0	1.9856348958487122	List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
12	STIGMASTEROL	Leaf	5.0	230.0	1.7806618408085848	--
13	BETA-PINENE	Leaf Essent. Oil	21000.0	55000.0	1.622889330955553	--
2	CARNOSIC-ACID	Leaf		12400.0	1.5899657743835183	--
9	CAMPHENE	Leaf Essent. Oil	28000.0	66400.0	1.484566818920243	--
17	THUJONE	Leaf	1453.0	12636.0	1.4138087279087124	Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.
57	ROSMARINIC-ACID	Plant	30000.0	50600.0	1.3515537858959146	--
13	BETA-PINENE	Plant	20.0	1540.0	1.2273041399455444	--
67	1,8-CINEOLE	Plant	390.0	6288.0	1.2033227605211898	--
7	ISOBORNEOL	Shoot	0.0	784.0	1.1758265637832626	Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.
9	CAMPHENE	Essential Oil	30200.0	60700.0	1.1306904837156095	--
47	BETA-SITOSTEROL	Stem		1214.0	1.0861956164972184	--
23	ALPHA-TERPINEOL	Leaf	5.0	910.0	1.0071602347564552	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
64	OLEANOLIC-ACID	Stem		400.0	1.0	--
28	ALPHA-PINENE	Et		35000.0	1.0	--
17	THUJONE	Essential Oil	451300.0	531000.0	1.0	--
60	LIMONENE	Plant	39.0	2380.0	0.9769131249982739	--
35	BORNEOL	Essential Oil	19700.0	156000.0	0.627691236095563	--
28	ALPHA-PINENE	Plant	7.0	1540.0	0.6083638735756228	--
2	ALPHA-HUMULENE	Leaf	110.0	616.0	0.5782902434464878	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
41	CAMPHOR	Essential Oil	76000.0	305000.0	0.54343127227621	--
5	SABINOL	Leaf	85.0	476.0	0.31621378249351945	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
23	TERPINEN-4-OL	Leaf	10.0	1120.0	0.29918716656064637	--
57	ROSMARINIC-ACID	Inflorescence	30000.0	42000.0	0.25850024578765574	--
2	ALPHA-HUMULENE	Leaf Essent. Oil		29000.0	0.25622083823143005	--
9	TERPINOLENE	Plant		112.0	0.2506839298132136	--
47	BETA-SITOSTEROL	Leaf	5.0	2449.0	0.24430946587626218	--
8	CARYOPHYLLENE-OXIDE	Plant	55.0	308.0	0.16441757054150238	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
31	CARYOPHYLLENE	Leaf	1.0	1430.0	0.1300669724943753	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
2	PHYTOSTEROLS	Leaf		2440.0	0.0028854038801737	Spiller, G. A. 1996 (Spiller, G. A. Ed. 1996. CRC Handbook of Lipids in Human Nutrition. CRC Press. Boca Raton, FL. 233 pp.)
41	CAMPHOR	Leaf	0.0	9324.0	-0.03988163889064865	--
35	TANNIN	Plant	20000.0	80000.0	-0.053082229266390064	--
31	THIAMIN	Leaf	7.0	8.0	-0.06349209547044472	Father Nature's Farmacy: The aggregate of all these three-letter citations.

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
11	GAMMA-TERPINENE	Leaf	15.0	140.0	-0.1019870841807531	--
22	MYRCENE	Plant	0.0	336.0	-0.10695418064014987	--
16	P-CYMENE	Shoot	15.0	495.0	-0.10900236438234769	--
31	CARYOPHYLLENE	Essential Oil		33000.0	-0.14865660979366116	--
13	BETA-PINENE	Essential Oil	11300.0	26100.0	-0.15085215632839455	--
15	RIBOFLAVIN	Leaf	0.6	3.6	-0.16098657500422545	--
53	LINALOOL	Plant	0.0	3500.0	-0.1908197582561713	--
2	CAMPESTEROL	Leaf		120.0	-0.2035509596292973	Spiller, G. A. 1996 (Spiller, G. A. Ed. 1996. CRC Handbook of Lipids in Human Nutrition. CRC Press. Boca Raton, FL. 233 pp.)
28	ALPHA-PINENE	Essential Oil	11700.0	40100.0	-0.2072109908720455	--
5	SABINENE	Leaf	10.0	56.0	-0.22552904691038753	Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.
60	LIMONENE	Essential Oil	6600.0	85000.0	-0.2478161403169539	--
14	POTASSIUM	Leaf	3878.0	24700.0	-0.24922981870565544	--
13	ALPHA-TERPINENE	Leaf	10.0	56.0	-0.2834251845983478	--
27	LINOLEIC-ACID	Seed		73000.0	-0.29236236831545726	--
1	SODIUM	Plant	11.0	12.0	-0.30341378566295807	Father Nature's Farmacy: The aggregate of all these three-letter citations.
22	MYRCENE	Leaf Essent. Oil	9000.0	15700.0	-0.3056695322092534	--
2	ALPHA-HUMULENE	Essential Oil		19300.0	-0.306582227205239	--
22	MYRCENE	Essential Oil	3700.0	10400.0	-0.3077036496607786	--
12	PINENE	Leaf	420.0	2352.0	-0.35113562909022744	Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.
4	PHELLANDRENE	Leaf	100.0	560.0	-0.35918289789876834	Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
64	OLEANOLIC-ACID	Leaf	140.0	786.0	-0.36135857674665767	--
89	URSOLIC-ACID	Leaf	1255.0	1300.0	-0.38650833417091646	--
3	BETA-PHELLANDRENE	Leaf	5.0	28.0	-0.39745256523265804	Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.
53	LINALOOL	Leaf Essent. Oil	4000.0	46600.0	-0.40077393425160296	--
4	SILICON	Leaf	0.5	3.1	-0.40397146474890056	--
112	ASCORBIC-ACID	Leaf	55.0	350.0	-0.4114445568899699	--
39	NIACIN	Leaf	10.0	62.0	-0.4318167758906651	--
28	ALPHA-PINENE	Leaf Essent. Oil	35000.0	55000.0	-0.4505855480163243	--
14	MANGANESE	Leaf	0.5	3.0	-0.4548985090553243	--
1	SODIUM	Leaf	170.0	1080.0	-0.4554694713688264	--
13	ALPHA-TERPINENE	Essential Oil		11200.0	-0.4634179308976379	--
9	DELTA-CADINENE	Plant	2.0	14.0	-0.4659017963716953	--
13	BETULIN	Leaf		15.0	-0.47962706385165327	--
77	ZINC	Leaf	1.0	5.9	-0.4905596892021207	--
65	MAGNESIUM	Leaf	444.0	2830.0	-0.5003307709599559	--
16	P-CYMENE	Leaf Essent. Oil	7000.0	17700.0	-0.5156620336360256	--
60	LIMONENE	Leaf Essent. Oil	10000.0	36400.0	-0.517322999711508	--
28	CALCIUM	Leaf	1696.0	10800.0	-0.5218305708813075	--
23	TERPINEN-4-OL	Leaf Essent. Oil	2000.0	3000.0	-0.523716551964413	--
20	CARNOSOL	Leaf		1660.0	-0.5296891454855135	--
12	COPPER	Leaf	7.0	8.0	-0.540960423661207	USDA's Ag Handbook 8 and sequelae)
4	BORON	Leaf	25.0	41.0	-0.5517818218876644	Betting on Boron, Unpublished draft by J. A. Duke on file at USDA, draft and papers relating to boron percentages. Includes Internat. Z. Vit. Ern. Forschung 43:1973 (boron).
53	LINALOOL	Essential Oil	1700.0	5000.0	-0.560725569158283	--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
23	TERPINEN-4-OL	Essential Oil		4500.0	-0.5734207195469667	--
13	ALPHA-TERPINENE	Leaf Essent. Oil		2000.0	-0.5761001164044018	--
57	ROSMARINIC-ACID	Shoot	2000.0	5800.0	-0.5832582116490932	--
5	SABINENE	Essential Oil		1200.0	-0.5875917391877868	--
16	P-CYMENE	Essential Oil	3100.0	5400.0	-0.5888102139189108	--
9	TERPINOLENE	Leaf Essent. Oil		2000.0	-0.5940205732207128	--
5	SABINENE	Leaf Essent. Oil		2000.0	-0.6066700271910461	--
23	ALPHA-TERPINEOL	Essential Oil		3700.0	-0.6091856576306849	--
24	CHROMIUM	Leaf	0.1	0.3	-0.621193465203015	--
5	ALUMINUM	Leaf	18.0	115.0	-0.6571553869693828	--
2	CARNOSIC-ACID	Shoot		35.0	-0.666399572485972	--
4	PHOSPHORUS	Leaf	201.0	1280.0	-0.6791795625313858	--
11	GAMMA-TERPINENE	Leaf Essent. Oil		3000.0	-0.6853547696905973	--
18	OLEIC-ACID	Seed		35500.0	-0.6872693677072723	--
14	POTASSIUM	Plant	10700.0	11630.0	-0.7090536999047472	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
3	BETA-PHELLANDRENE	Leaf Essent. Oil		1000.0	-0.8347075553554938	--
23	ALPHA-TERPINEOL	Leaf Essent. Oil		1000.0	-0.8444420280137835	--
89	URSOLIC-ACID	Stem		200.0	-0.8584003823146588	--
6	IRON	Leaf	2.4	15.0	-0.8825570778618611	--
6	MASLINIC-ACID	Leaf		46.0	-0.8872714302780136	--
4	TIN	Leaf	1.3	8.0	-0.9124295958448216	--
15	FIBER	Leaf		87000.0	-0.9217097607872751	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
20	CARNOSOL	Shoot		34.0	-0.9354703756918734	--
53	BETA-CAROTENE	Leaf	6.0	39.0	-0.9680962342519674	--
22	MYRCENE	Et		8000.0	-1.0	--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
2	POMOLIC-ACID	Leaf		3.0	-1.0	--
60	LIMONENE	Et		14000.0	-1.0	--
12	PINENE	Essential Oil		84000.0	-1.0	--
16	P-CYMENE	Et		11000.0	-1.0	--
7	ISOBORNEOL	Leaf Essent. Oil		28000.0	-1.0	--
2	HUMULENE	Essential Oil		17900.0	-1.0	--
6	ALPHA-THUJONE	Et		206000.0		--
78	LUTEOLIN	Shoot				--
18	TERPINEOL	Leaf				Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.
3	GENKWANIN	Leaf				Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
3	SALVIN-MONOMETHYL-ETHER	Leaf				--
1	ROSMANOL-9-ETHYL-ETHER	Shoot		144.0		--
53	CITRAL	Plant				Stitt, Paul. Why George should eat broccoli.
1	VIRIDIFLOROL	Leaf				--
5	BETA-THUJONE	Essential Oil	52300.0	142500.0		--
6	ALPHA-THUJONE	Essential Oil	73300.0	408500.0		--
18	TERPINEOL	Essential Oil				--
1	DELTA-CADINOL	Leaf Essent. Oil				--
2	3-ISOTHUJONE	Leaf				--
11	ALPHA-PHELLANDRENE	Leaf Essent. Oil				--
3	SALVIN	Plant				J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.
5	ROSMANOL	Shoot		11.0		--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
3	CIRSILIOL	Plant				Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
24	VANILLIC-ACID	Plant				Stitt, Paul. Why George should eat broccoli.
47	BETA-SITOSTEROL	Sprout Seedling				--
3	ALPHA-CEDRENE	Leaf Essent. Oil				--
1	ROSMADIAL	Resin, Exudate, Sap		6000.0		--
2	CAMPESTEROL	Fruit				Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.
9	DELTA-CADINENE	Leaf Essent. Oil				--
62	GALLIC-ACID	Plant				Stitt, Paul. Why George should eat broccoli.
34	SALICYLIC-ACID	Plant				Stitt, Paul. Why George should eat broccoli.
5	ROSMANOL	Resin, Exudate, Sap				--
10	CIRSILINEOL	Plant				Stitt, Paul. Why George should eat broccoli.
6	UVAOL	Plant				--
47	BETA-SITOSTEROL	Root				--
1	LABIATIC-ACID	Leaf				Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
3	ALPHA-CADINOL	Leaf Essent. Oil				--
3	CYNAROSIDE	Leaf				--
7	FUMARIC-ACID	Plant				--
63	MENTHOL	Plant				--
41	CAMPHOR	Pericarp Essent. Oil		229000.0		--
7	CHRYSOERIOL	Plant				Stitt, Paul. Why George should eat broccoli.
47	BETA-SITOSTEROL	Fruit Essent. Oil				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
12	STIGMASTEROL	Fruit Essent. Oil				--
1	ISOCARYOPHYLLENE	Plant				--
35	BORNEOL	Et		79000.0		--
4	PHELLANDRENE	Essential Oil		20000.0		--
102	CAFFEIC-ACID	Shoot				--
8	STEARIC-ACID	Seed				Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.
1	CHOLESTEROL	Fruit Essent. Oil				--
4	NEPETIN	Plant				--
13	ALPHA-TERPINENE	Et		1000.0		--
63	MENTHOL	Leaf				--
9	BETA-AMYRIN	Plant				--
9	CAMPHENE	Et		47000.0		--
1	ISOROSMANOL	Shoot		57.0		--
11	ALPHA-PHELLANDRENE	Leaf				Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.
24	PECTIN	Shoot				--
13	BETA-PINENE	Et		18000.0		--
1	VIRIDIFLOROL	Essential Oil				--
2	METHYL-ISOVALERATE	Plant	7.0	42.0		--
8	STEARIC-ACID	Fruit Essent. Oil				--
13	PALMITIC-ACID	Fruit Essent. Oil				--
77	CHLOROGENIC-ACID	Inflorescence				--
61	FERULIC-ACID	Plant				Stitt, Paul. Why George should eat broccoli.
43	CATECHIN	Plant				--
2	MANOOL	Shoot	556.0	1478.0		--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
9	BETA-AMYRIN	Leaf		1000.0		--
8	TYROSINE	Plant				Stitt, Paul. Why George should eat broccoli.
7	ISOBORNEOL	Essential Oil		3800.0		--
11	PANTOTHENIC-ACID	Plant				Stitt, Paul. Why George should eat broccoli.
89	URSOLIC-ACID	Root				--
1	CHOLESTEROL	Fruit				Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.
8	CARYOPHYLENE-OXIDE	Essential Oil		13100.0		--
17	FARNESOL	Plant				--
2	MANOOL	Essential Oil				--
2	ASPARAGINE	Plant				--
3	ALPHA-CEDRENE	Plant				Stitt, Paul. Why George should eat broccoli.
13	PALMITIC-ACID	Seed				Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.
2	TRANS-PINOCARVEOL	Leaf Essent. Oil				--
77	CHLOROGENIC-ACID	Shoot				--
7	HISPIDULIN	Leaf				--
101	APIGENIN	Shoot				--
13	DIOSMETIN	Plant				Stitt, Paul. Why George should eat broccoli.
78	LUTEOLIN	Leaf				--
5	ROSMANOL	Plant				Stitt, Paul. Why George should eat broccoli.
2	CAMPESTEROL	Fruit Essent. Oil				--
10	ALPHA-AMYRIN	Plant				--
71	THYMOL	Leaf				--
15	MALIC-ACID	Plant				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
71	THYMOL	Essential Oil				--
12	GLYCINE	Plant				Stitt, Paul. Why George should eat broccoli.
51	ELLAGIC-ACID	Plant				Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. Herbal Medicine - A Guide for Health-care Professionals. The Pharmaceutical Press, London. 296pp.
1	SERINE	Plant				Stitt, Paul. Why George should eat broccoli.
20	CARNOSOL	Resin, Exudate, Sap		36000.0		--
57	ROSMARINIC-ACID	Leaf				--
27	LINOLEIC-ACID	Fruit Essent. Oil				--
3	AROMADENDRENE	Plant				--
102	CAFFEIC-ACID	Inflorescence				--
2	HUMULENE	Leaf Essent. Oil				--
10	ALPHA-AMYRIN	Leaf		1800.0		--
25	P-COUMARIC-ACID	Plant				Stitt, Paul. Why George should eat broccoli.
2	BETA-MYRCENE	Essential Oil				--
17	THUJONE	Et		457000.0		--
11	ALPHA-PHELLANDRENE	Essential Oil				--
7	CARNOSOLIC-ACID	Leaf		2100.0		--
5	GLUTAMINE	Plant				--
18	OLEIC-ACID	Fruit Essent. Oil				--
6	BETA-SITOSTEROL-D-GLUCOSIDE	Seed				--
60	SELENIUM	Leaf				--
53	LINALOOL	Et		11000.0		--
101	APIGENIN	Plant				Stitt, Paul. Why George should eat broccoli.
5	BETA-THUJONE	Leaf Essent. Oil	174000.0	356000.0		--
3	ALANINE	Plant				Stitt, Paul. Why George should eat broccoli.

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
9	OXALIC-ACID	Plant				--
6	ALPHA-THUJONE	Leaf Essent. Oil	200000.0	363300.0		--
7	LUTEOLIN-7-GLUCOSIDE	Plant				Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.
2	ALPHA-HUMULENE	Et		21000.0		--
20	CARNOSOL	Plant				--
11	GAMMA-TERPINENE	Et		4000.0		--
35	GERANIOL	Plant				Stitt, Paul. Why George should eat broccoli.
2	MYRTENOL	Leaf Essent. Oil		2000.0		--
3	SALVIOL	Essential Oil				--
2	CARNOSIC-ACID	Resin, Exudate, Sap		57000.0		--
57	ROSMARINIC-ACID	Tissue Culture				--
2	COBALT	Leaf				--
5	BETA-THUJONE	Et		151000.0		--