

Dr. Duke's Phytochemical and Ethnobotanical Databases

Chemicals found in *Monarda didyma*

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
67	1,8-CINEOLE	Leaf	30.0	50.0	-0.5237932089119647	--
67	1,8-CINEOLE	Flower		22.0	-0.450800530876068	Flavour and Fragrance Journal, 6: 80.
67	1,8-CINEOLE	Plant	100.0	2735.0	0.2060272699376145	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
0	1-OCTEN-3-OL	Plant	30.0	310.0	0.21803278046411767	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
2	3-OCTANOL	Plant	25.0	240.0	-0.15539468377643498	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
0	3-OCTANONE	Plant	5.0	40.0	-0.23819021088318515	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
0	3-OCTYL-ACETATE	Plant	10.0	110.0	-0.4874208354416648	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
0	ALPHA-COPAENE	Leaf				Flavour and Fragrance Journal, 6: 80.
0	ALPHA-COPAENE	Flower				Flavour and Fragrance Journal, 6: 80.
28	ALPHA-PINENE	Plant	5.0	350.0	-0.23378468636736702	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
28	ALPHA-PINENE	Leaf	50.0	90.0	-0.21870131411883623	--
28	ALPHA-PINENE	Flower		18.0	-0.695718784714942	Flavour and Fragrance Journal, 6: 80.
13	ALPHA-TERPINENE	Plant	5.0	40.0	-0.44130969594840336	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
13	ALPHA-TERPINENE	Leaf	10.0	15.0	-0.30461131542122966	--
13	ALPHA-TERPINENE	Flower		25.0	-0.6227631044837592	Flavour and Fragrance Journal, 6: 80.
23	ALPHA-TERPINEOL	Plant	1.0	420.0	-0.15539863426025058	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
23	ALPHA-TERPINEOL	Leaf	25.0	40.0	-0.5200330695844766	--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
23	ALPHA-TERPINEOL	Flower		20.0	-0.624932209361464	Flavour and Fragrance Journal, 6: 80.
0	ALPHA-THUJENE	Plant	2.0	20.0	-0.5526197902491747	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
0	BETA-BOURBONENE	Plant	5.0	70.0	-2.6699532303189845E-4	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
0	BETA-BOURBONENE	Leaf	50.0	90.0	-0.010077552677954457	--
0	BETA-BOURBONENE	Flower		10.0	-0.5826574853920841	Flavour and Fragrance Journal, 6: 80.
0	BETA-CARYOPHYLLENE	Flower		30.0	-0.5961530809679855	Flavour and Fragrance Journal, 6: 80.
0	BETA-CARYOPHYLLENE	Leaf				Flavour and Fragrance Journal, 6: 80.
0	BETA-COPAENE	Plant	5.0	40.0		Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
13	BETA-PINENE	Plant	25.0	240.0	-0.1763503893352365	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
13	BETA-PINENE	Leaf	45.0	80.0	-0.3111303351356378	--
13	BETA-PINENE	Flower		7.0	-0.581400234916731	Flavour and Fragrance Journal, 6: 80.
47	BETA-SITOSTEROL	Leaf				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
35	BORNEOL	Leaf	40.0	75.0	-0.3826736983701255	Flavour and Fragrance Journal, 6: 80.
35	BORNEOL	Flower		7.0		Flavour and Fragrance Journal, 6: 80.
12	BORNYL-ACETATE	Plant	15.0	775.0	0.026566692243152782	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
12	BORNYL-ACETATE	Leaf	380.0	740.0	-0.005245315753730697	--
12	BORNYL-ACETATE	Flower		55.0	-0.16222142113076302	Flavour and Fragrance Journal, 6: 80.

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
9	CAMPHENE	Plant	25.0	320.0	-0.05843863375945202	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
9	CAMPHENE	Leaf	90.0	170.0	-0.12843512103305268	--
9	CAMPHENE	Flower		10.0	-0.6881569624054215	Flavour and Fragrance Journal, 6: 80.
37	CARVACROL	Plant				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
8	DELTA-3-CARENE	Leaf				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	DIDYMIN	Plant	300.0	3000.0		--
1	DIHYDROCARVYL-ACETATE	Plant	5.0	45.0	-0.623146364914203	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
0	EO	Shoot	1000.0	10000.0	-0.027439288511147023	--
0	EO	Leaf	7000.0	13000.0	0.12885840515037347	--
0	EO	Flower		3700.0	-0.3001412591419022	Flavour and Fragrance Journal, 6: 80.
11	GAMMA-TERPINENE	Plant	20.0	1250.0	-0.025599439862913652	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
11	GAMMA-TERPINENE	Leaf	60.0	115.0	-0.15018994823601897	--
11	GAMMA-TERPINENE	Flower		195.0	-0.38395915301878303	Flavour and Fragrance Journal, 6: 80.
3	GENKWANIN	Plant				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
35	GERANIOL	Flower		4.0	-0.5148556941565537	Flavour and Fragrance Journal, 6: 80.
35	GERANIOL	Leaf	14.0	25.0	-0.21886385378025552	--
5	GERANYL-ACETATE	Leaf	7.0	13.0	-1.0015481756750388	--
5	GERANYL-ACETATE	Flower		4.0	-1.0	Flavour and Fragrance Journal, 6: 80.

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
2	GERMACRENE-D	Plant	20.0	330.0	-0.14345684237501086	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
2	GERMACRENE-D	Leaf	370.0	690.0	0.03343711695300454	--
2	GERMACRENE-D	Flower		115.0	-0.2915926657253819	Flavour and Fragrance Journal, 6: 80.
0	GLUCOGENKWANIN	Plant				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
3	ISOMENTHONE	Leaf	15.0	25.0	-0.6713665389168254	--
3	ISOMENTHONE	Flower				Flavour and Fragrance Journal, 6: 80.
0	ISOSAKURANETIN	Plant				Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
0	ISOSAKURANETIN-7-RUTINOSIDE	Plant				Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
0	ISOSAKURANETIN-GLYCOSIDE	Plant				Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
0	ISOSAKURANIN	Plant				Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
60	LIMONENE	Plant	2.0	1300.0	0.3131591824150948	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
60	LIMONENE	Leaf	25.0	40.0	-0.40570419186405104	--
60	LIMONENE	Flower		10.0	-0.6767651247109525	Flavour and Fragrance Journal, 6: 80.
0	LINALOL	Leaf	5195.0	9645.0	5.270310025436921	--
0	LINALOL	Flower		2385.0	0.07319469612266988	Flavour and Fragrance Journal, 6: 80.
0	LINALOL	Plant	5.0	5900.0	0.901609281291647	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
7	LINALYL-ACETATE	Plant	50.0	505.0	-0.33522212092081605	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
7	LINALYL-ACETATE	Leaf				Flavour and Fragrance Journal, 6: 80.
7	LINALYL-ACETATE	Flower		4.0	-0.5307262088164137	Flavour and Fragrance Journal, 6: 80.
1	LINARIN	Plant				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	MONARDEIN	Flower				--
22	MYRCENE	Plant	10.0	485.0	0.05674559250193856	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
22	MYRCENE	Leaf	25.0	40.0	-0.15824144322226433	--
22	MYRCENE	Flower		30.0	-0.48499255419406617	Flavour and Fragrance Journal, 6: 80.
56	NARINGENIN	Plant				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
1	NARIRUTIN	Plant				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	NONANAL	Plant	5.0	50.0	1.7315695012698875	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
2	OCIMENE	Leaf				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	OCT-1-ENE-3-OL	Leaf	200.0	360.0		--
0	OCT-1-ENE-3-OL	Flower		10.0		Flavour and Fragrance Journal, 6: 80.
0	OCTAN-3-OL	Leaf				Flavour and Fragrance Journal, 6: 80.
0	OCTAN-3-OL	Flower				Flavour and Fragrance Journal, 6: 80.

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
16	P-CYMENE	Plant	120.0	1850.0	0.061323450943005245	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
16	P-CYMENE	Leaf	140.0	270.0	-0.17579834905797595	--
16	P-CYMENE	Flower		405.0	0.9531089965802728	Flavour and Fragrance Journal, 6: 80.
1	PELARGONIN	Flower				Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
0	PHAEOPHYTIN	Leaf				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
5	PRUNIN	Plant				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
28	PULEGONE	Plant	10.0	120.0	-0.6259250228343867	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
57	ROSMARINIC-ACID	Flower		18000.0	-1.0	Jim Duke's personal files.
5	SABINENE	Plant	35.0	1230.0	0.43966058546243075	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
5	SABINENE	Leaf	100.0	180.0	-0.1465237367314848	--
5	SABINENE	Flower		18.0	-0.7425901351518777	Flavour and Fragrance Journal, 6: 80.
0	T-SABINENE-HYDRATE	Leaf				Flavour and Fragrance Journal, 6: 80.
0	T-SABINENE-HYDRATE	Flower		4.0		Flavour and Fragrance Journal, 6: 80.
9	TERPINOLENE	Plant	15.0	160.0	0.6743750787932923	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
9	TERPINOLENE	Leaf	10.0	15.0	-0.21298647476915944	--
9	TERPINOLENE	Flower		4.0	-1.0	Flavour and Fragrance Journal, 6: 80.

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
71	THYMOL	Plant	5.0	50.0	-0.5692399713110052	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
0	THYMOL-METHYL-ETHER	Plant	50.0	520.0	-0.347025711974809	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
89	URSOLIC-ACID	Leaf				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.