

Dr. Duke's Phytochemical and Ethnobotanical Databases

Chemicals found in *Silybum marianum*

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	(+)-TAXIFOLIN	Fruit				--
0	(-)-SILANDRIN	Fruit				--
0	1-2-EPOXY-TRIDEC-3-ENE-5-7-9-11-TETRAYNE	Root		0.2		--
0	2,3-DEHYDROSILYCHRISTIN	Seed				--
0	2,3-DEHYDROSILYCHRISTIN	Plant				J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.
0	2,3-DEHYDROSILYMARIN	Plant				J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.
0	2,3-DEHYDROSILYMARIN	Seed				--
1	3-DEOXSILYCHRISTIN	Plant				--
1	3-DEOXSILYCHRISTIN	Fruit				--
1	3-DEOXSILYCHRISTIN	Seed				--
0	3-DEOXSILYDIANIN	Seed				Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
0	4'-5-7-TRIHYDROXY-3'-5'-DIMETHOXY-FLAVANONE	Seed				--
0	4'-5-7-TRIHYDROXY-3'-5'-DIMETHOXY-FLAVANONE	Fruit				--
4	5,7-DIHYDROXYCHROMONE	Plant				Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
5	ALUMINUM	Leaf	59.0	267.0	-0.4940281275234017	--
5	ALUMINUM	Plant		267.0	-0.22604240214685184	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
101	APIGENIN	Fruit				--
101	APIGENIN	Seed				--
0	APIGENIN-7-O-BETA-D-(2''-O-ALPHA-L-RHAMNOSYL)-GALACTURONIDE	Flower				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	APIGENIN-7-O-BETA-D-GLUCURONIDE-6"-ETHYL-ESTER	Flower				--
0	APIGENIN-7-O-BETA-GALACTOSIDE	Flower				--
2	APIGENIN-7-O-GLUCOSIDE	Shoot				--
0	APIGENIN-7-O-GLUCURONIDE	Shoot				--
0	ARACHIDIC-ACID	Seed Oil				--
0	ARACHIDIC-ACID	Plant				J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.
3	AROMADENDRIN	Fruit		150.0		--
112	ASCORBIC-ACID	Leaf	26.0	120.0	-0.4327856260895301	--
0	ASH	Plant		63000.0	-1.0480542816940817	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
0	ASH	Leaf	13860.0	63000.0	-0.9840382515392189	--
1	BEHENIC-ACID	Seed Oil				--
1	BEHENIC-ACID	Plant				J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.
53	BETA-CAROTENE	Plant		31.0	-0.559286634553038	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
53	BETA-CAROTENE	Leaf	7.0	31.0	-1.0029358063311073	--
47	BETA-SITOSTEROL	Seed		100.0	-0.5925998810406223	--
14	BETAINE	Seed		80.0	-1.0	--
28	CALCIUM	Plant		6460.0	-0.7626070393542436	--
28	CALCIUM	Leaf	1421.0	6460.0	-0.8183725518621756	--
24	CHROMIUM	Plant		2.2	-0.6579984982719123	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
24	CHROMIUM	Leaf	0.5	2.2	-0.45874958693227463	--
7	CHRYSOERIOL	Fruit				--
7	CHRYSOERIOL	Seed				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
10	CNICIN	Plant				--
2	COBALT	Plant		4.1	-0.3434745750598291	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
2	COBALT	Leaf	1.0	4.1	-0.2745161397480997	--
4	COSMOSIIN	Flower				--
13	CYSTEINE	Seed				--
0	DEHYDROCONIFERYL-ALCOHOL	Seed				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	DEHYDRODICONIFERYL-ALCOHOL	Seed		800.0		--
0	DEHYDROSILYBIN	Fruit		100.0		--
0	DEHYDROSILYBIN	Seed		0.55		--
0	DIHYDROSILYBIN	Plant				--
0	DIHYDROSILYBIN	Seed				--
0	DODECA-1-11-DIENE-3-5-7-9-TETRAYNE	Essential Oil		10000.0		--
0	EO	Seed		1000.0	-0.5378582926316133	List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
10	ERIODICTYOL	Seed				--
10	ERIODICTYOL	Fruit				--
1	ETHYLENE	Leaf		800.0		--
0	FAT	Leaf	12760.0	58000.0	0.03064519993255828	--
0	FAT	Seed	160000.0	450000.0	0.9724195926436688	--
0	FAT	Plant		58000.0	0.09126770395666363	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
0	FIBER(CRUDE)	Leaf		120000.0	-0.19278905816637712	--
0	FIBER(DIETARY)	Leaf		390000.0	0.1864056874270924	--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	FIXED-OIL	Seed				--
0	FLAVONES	Seed Coat		36600.0		--
8	FRUCTOSE	Seed				--
7	FUMARIC-ACID	Leaf				--
22	GAMMA-AMINOBUTYRIC-ACID	Seed				--
7	GLUCOSE	Seed				--
8	GLUTAMIC-ACID	Seed				--
12	GLYCINE	Seed				--
0	HEPTADECA-1-8-15-TRIENE-11-13-DIYN-10-OL	Root		800.0		--
0	HEPTADECA-1-8-15-TRIENE-11-13-DIYNE	Root		1400.0		--
0	HEPTADECA-1-CIS-8-CIS-15-TRIENE-11-13-DIYN-10-OL	Root		5.0		--
0	HEPTADECA-CIS-2-CIS-9-16-TRIENE-4-6-DIYNE	Root		5.0		--
0	HEPTADECATRIEN-(1,8,15)-DIIN-(11,13)	Root		1.4		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	HEPTADECATRIEN-(1,8,15)-DIIN-(11,13)-OL-(10)	Root		0.8		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
18	HISTAMINE	Seed				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
6	IRON	Leaf	23.0	106.0	-0.6518959631738295	--
6	IRON	Plant		106.0	-0.6134734489343068	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
0	ISOSILYBIN	Fruit		4000.0		--
0	ISOSILYBIN	Plant				--
0	ISOSILYBIN-A	Fruit		42800.0		--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	ISOSILYBIN-B	Fruit		42800.0		--
0	ISOSILYCHRISTIN	Fruit		100.0		--
75	KAEMPFEROL	Seed				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
75	KAEMPFEROL	Flower				--
0	KAEMPFEROL-3-O-ALPHA-L-RHAMNOSIDE-7-O-BETA-D-GALACTURONIDE	Flower				--
0	KAEMPFEROL-3-O-ALPHA-RHAMNOSIDE	Flower				--
0	KARDOLLIN-22	Plant				--
0	KARDOLLIN-35	Plant				--
0	KARDOLLIN-75	Plant				--
0	KARDOLLIN-95	Plant				--
2	LEUCINE	Seed				--
27	LINOLEIC-ACID	Seed				--
27	LINOLEIC-ACID	Seed Oil	600000.0	700000.0	1.2147101073063415	--
27	LINOLEIC-ACID	Plant				--
0	LINOLENIC-ACID	Seed				--
0	LINOLENIC-ACID	Plant				--
0	LINOLENIC-ACID	Seed Oil				--
78	LUTEOLIN	Shoot				--
7	LUTEOLIN-7-GLUCOSIDE	Shoot				--
65	MAGNESIUM	Leaf	887.0	4030.0	-0.03696986382958952	--
65	MAGNESIUM	Plant		4030.0	-0.01126661444674794	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
14	MANGANESE	Plant		14.7	-0.5895473005505297	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
14	MANGANESE	Leaf	3.2	14.7	-0.4354477450457226	--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
3	MUCILAGE	Seed				--
6	MYRISTIC-ACID	Seed				--
56	NARINGENIN	Seed				--
56	NARINGENIN	Fruit				--
0	NEOSILYHERMIN	Seed				--
0	NEOSILYHERMIN	Plant				--
39	NIACIN	Plant		10.0	-0.9349493330182638	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
39	NIACIN	Leaf	2.2	10.0	-1.0643234182214696	--
0	NITRATES	Shoot				--
0	OCTADECADIENOIC-ACID	Seed				--
0	OCTADECATRIENOIC-ACID	Seed				--
0	OCTADECENOIC-ACID	Seed				--
18	OLEIC-ACID	Seed				--
18	OLEIC-ACID	Seed Oil	180000.0	250000.0	-0.371964655772655	--
13	PALMITIC-ACID	Seed				--
13	PALMITIC-ACID	Plant				--
13	PALMITIC-ACID	Seed Oil				--
0	PEROXIDASE-ISOENZYMES	Leaf				--
0	PEROXIDASE-ISOENZYMES	Stem				--
0	PEROXIDASE-ISOENZYMES	Fruit				--
0	PEROXIDASE-ISOENZYMES	Root				--
4	PHOSPHORUS	Plant		7060.0	1.6681091875100573	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
4	PHOSPHORUS	Leaf	1553.0	7060.0	0.3842651644977603	--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
14	POTASSIUM	Plant		8330.0	-0.9391928107427459	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
14	POTASSIUM	Leaf	1833.0	8330.0	-0.972092421008281	--
0	PROLINE	Tissue Culture				--
0	PROTEIN	Seed	186000.0	280000.0	0.41100790737499276	--
0	PROTEIN	Plant		143000.0	-0.24966084001300515	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
0	PROTEIN	Leaf	31460.0	143000.0	-0.6867958874463024	--
176	QUERCETIN	Fruit				--
176	QUERCETIN	Seed				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
15	RIBOFLAVIN	Leaf	0.4	2.0	-0.16848655199175794	--
60	SELENIUM	Leaf	2.0	7.1	0.16297846860359344	--
60	SELENIUM	Plant		7.1	-0.11066482158328053	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
1	SILANDRIN	Fruit				--
1	SILANDRIN	Plant				--
1	SILANDRIN	Seed				--
0	SILANDRIN-3-DESOXY-ISOSILYBIN	Shoot				--
4	SILICON	Leaf				--
4	SILICON	Plant				Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
4	SILYBIN	Plant				--
4	SILYBIN	Seed	5000.0	17600.0		--
4	SILYBIN	Fruit	500.0	30000.0		--
0	SILYBIN-A	Fruit		86400.0		--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	SILYBIN-B	Fruit		86400.0		--
0	SILYBININ	Fruit				--
0	SILYBINOME	Seed				Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
0	SILYBONOL	Seed		10200.0		--
0	SILYBUM-MARIANUM-POLYACETYLENE-IX	Shoot				--
0	SILYBUM-MARIANUM-POLYACETYLENE-IX	Root		100.0		--
0	SILYBUM-MARIANUM-POLYACETYLENE-VII	Root		15.0		--
0	SILYBUM-MARIANUM-POLYACETYLENE-VIII	Shoot				--
0	SILYBUM-MARIANUM-POLYACETYLENE-X	Root		10.0		--
0	SILYBUM-MARIANUM-POLYACETYLENE-XI	Root		10.0		--
0	SILYBUM-MARIANUM-POLYACETYLENE-XII	Root		10.0		--
0	SILYBUM-MARIANUM-POLYACETYLENE-XIII	Root		12.0		--
1	SILYCHRISTIN	Plant				--
1	SILYCHRISTIN	Fruit	7000.0	147500.0		--
1	SILYCHRISTIN	Seed		1000.0		--
1	SILYDIANIN	Plant				--
1	SILYDIANIN	Fruit	100.0	21300.0		--
1	SILYDIANIN	Seed				--
0	SILYHERMIN	Seed				--
0	SILYHERMIN	Plant				--
16	SILYMARIN	Seed	7000.0	60000.0		--
16	SILYMARIN	Fruit	7000.0	45000.0		--
1	SILYMONIN	Plant				--
1	SILYMONIN	Fruit				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Refernce Citation
1	SODIUM	Plant				Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
1	SODIUM	Leaf				--
8	STEARIC-ACID	Seed				--
8	STEARIC-ACID	Seed Oil		178000.0	0.5174126838484817	--
8	STEARIC-ACID	Plant				--
17	TAXIFOLIN	Fruit	100.0	8000.0		--
17	TAXIFOLIN	Seed				--
0	THIAMINE	Leaf	0.7	3.0	-0.5362345834773347	--
4	TIN	Leaf	9.0	42.0	3.1610294153214182	--
4	TIN	Plant		42.0	1.435416982671091	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
0	TRIAMINE	Seed				Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
0	TRIDEC-1-ENE-3-5-7-9-11-PENTAYNE	Shoot				--
0	TRIDEC-1-ENE-3-5-7-9-11-PENTAYNE	Root	1.0	1000.0	-0.8753561652673607	--
0	TRIDEC-12-ENE-4-6-8-10-TETRAYN-1-AL	Root		400.0		--
0	TRIDECA-1-11-DIENE-3-5-7-9-TETRAYNE	Shoot				--
0	TRIDECA-1-11-DIENE-3-5-7-9-TETRAYNE	Root	3.0	3000.0	1.731191830260345	--
0	TRIDECA-1-3-11-TRIENE-5-7-9-TRIYNE	Shoot				--
0	TRIDECA-1-3-11-TRIENE-5-7-9-TRIYNE	Root		15.0		--
0	TRIDECA-3,5-DIENE-7,9,11-TRIYN-1-OL-ACETATE	Root		100.0		--
0	TRIDECADIEN-(1,11)-TETRAIN-(3,5,7,9)	Root		3.0		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	TRIDECADIEN-(3,5)-TRIIN-(7,9,11)-OL-(1)-ACETATE	Root		0.1		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	TRIDECATRIEN-(1,3,11)-TRIIN-(5,7,9)	Root		0.015		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	TRIDECEN-(1)-PENTAIN(3,5,7,9,11)	Root		1.0		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	TRIDECEN-(12)-TETRAIN-(4,6,8,10)-AL-(1)	Root		0.4		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
11	TYRAMINE	Seed				--
11	TYRAMINE	Plant				--
0	WATER	Plant		882000.0	0.4754927312521872	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
0	WATER	Leaf		780000.0	-0.13788388644338306	--
77	ZINC	Plant		3.3	-0.4817422443034423	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
77	ZINC	Leaf	0.7	3.3	-0.506515934210742	--