

Dr. Duke's Phytochemical and Ethnobotanical Databases

Chemicals found in *Linum usitatissimum*

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
16	ACETIC-ACID	Seed	3105.0	3853.0	-0.45177356521117334	List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
3	ALANINE	Seed		0.254	-2.158955919799553	--
15	ALPHA-LINOLENIC-ACID	Sprout Seedling				--
15	ALPHA-LINOLENIC-ACID	Seed	108000.0	254600.0	4.689859301771256	--
15	ALPHA-LINOLENIC-ACID	Flower				--
32	ALPHA-TOCOPHEROL	Seed Oil				--
32	ALPHA-TOCOPHEROL	Oil		5.0	-0.6929583568728471	--
101	APIGENIN	Plant				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
14	ARGININE	Seed		0.554	-1.0433413024542735	--
2	ARSENIC	Seed				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
3	ASPARTIC-ACID	Seed		0.557	-2.0052985487141943	--
53	BETA-CAROTENE	Seed	0.0	0.321	-0.4092431063494038	--
47	BETA-SITOSTEROL	Seed		19.0	-0.6236819715213897	--
3	CADMIUM	Seed	0.075	2.8	1.0827489707798146	Cunane, S. and Thompson, L. U., eds. 1995. Flaxseed in Human Nutrition. AOCS Press, Champaign IL. 384 pp.
28	CALCIUM	Seed	1820.0	7400.0	0.5975460826300514	--
28	CALCIUM	Hay		7200.0		CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
2	CAMPESTEROL	Seed				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
1	CELLULOSE	Seed	93000.0	147000.0	0.3583523215580603	--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
7	CHLORINE	Seed	42.0	78.0	-0.5791204881302392	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
77	CHLOROGENIC-ACID	Plant				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
77	CHLOROGENIC-ACID	Seed				--
1	CHOLESTEROL	Seed				Bisset, N.G., ed. 1994. Herbal Drugs and Phytopharmaceuticals. CRC Press. Boca Raton, FL. 566 pp.
20	CHOLINE	Seed	910.0	1180.0	-0.46342254709086045	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
24	CHROMIUM	Seed				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
2	COBALT	Seed				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
5	CONIFERYL-ALDEHYDE	Plant				Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
12	COPPER	Seed	17.0	23.0	0.7424671767599702	Cunane, S. and Thompson, L. U., eds. 1995. Flaxseed in Human Nutrition. AOCS Press, Champaign IL. 384 pp.
7	CYANIDIN	Flower				Abstract (See species file)
7	CYCLOARTENOL	Seed				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
13	CYSTEINE	Seed		0.09	-1.10002836803819	--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
5	DAUCOSTEROL	Seed		3.0	-0.8762395152008512	--
9	DELPHINIDIN	Flower				Abstract (See species file)
1	DELPHINIDIN-3-O-BETA-D-GLUCOSIDE	Flower				--
1	DELTA-5-AVENASTEROL	Seed				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
4	DELTA-TOCOPHEROL	Seed Oil				--
1	EICOSANOL	Seed				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
2	ERUCIC-ACID	Seed				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
61	FERULIC-ACID	Seed				--
15	FIBER	Seed	48000.0	126000.0	-0.06931908335079716	--
15	FIBER	Hay	365000.0	462000.0	1.0	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
20	GAMMA-LINOLENIC-ACID	Seed				Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
14	GAMMA-TOCOPHEROL	Oil		573.0	0.7575983644124141	--
14	GAMMA-TOCOPHEROL	Seed Oil				--
11	GERANYL-GERANIOL	Seed				--
7	GLUCOSE	Seed	111000.0	146000.0	3.201211441889907	--
4	GLUCURONIC-ACID	Seed				Bisset, N.G., ed. 1994. Herbal Drugs and Phytopharmaceuticals. CRC Press. Boca Raton, FL. 566 pp.
8	GLUTAMIC-ACID	Seed		1.153	-1.7598687378912001	--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
12	GLYCINE	Seed		0.352	-1.5834447610833413	--
9	HCN	Shoot		1280.0		ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
9	HCN	Seed	0.08	600.0	-0.3812623601747087	--
9	HCN	Root		670.0		ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
9	HCN	Hull Husk		460.0		ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
9	HCN	Flower		6920.0		ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
7	HISTIDINE	Seed		0.108	-1.6280448288553528	--
6	IRON	Seed	29.0	549.0	1.8501912385034966	--
3	ISOLEUCINE	Seed		4.0	-1.3382280003117872	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
3	ISOLEUCINE	Plant		0.237	-1.4141272939903209	--
4	ISOORIENTIN	Leaf				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
4	ISOVITEXIN	Leaf				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
20	LECITHIN	Seed		8800.0	-0.4991948044159543	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
2	LEUCINE	Seed		0.316	-1.6349859893322434	--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
10	LIGNANS	Plant				--
10	LIGNANS	Seed	525.0	675.0	-1.0	Cunane, S. and Thompson, L. U., eds. 1995. Flaxseed in Human Nutrition. AOCS Press, Champaign IL. 384 pp.
13	LIGNIN	Seed	52000.0	72000.0	0.4935473881578569	Cunane, S. and Thompson, L. U., eds. 1995. Flaxseed in Human Nutrition. AOCS Press, Champaign IL. 384 pp.
2	LINAMARIN	Seed	0.0	320.0		--
27	LINOLEIC-ACID	Flower				--
27	LINOLEIC-ACID	Seed	30000.0	100000.0	-0.06102368779923489	--
27	LINOLEIC-ACID	Sprout Seedling				--
27	LINOLEIC-ACID	Seed Oil		182000.0	-0.8223368361797175	--
1	LINUSTATIN	Seed	4.8	5380.0		--
11	LITHIUM	Seed				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
2	LOTAUSTRALIN	Seed				--
78	LUTEOLIN	Plant				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
4	LYSINE	Plant		0.209	-1.2551253944019245	--
4	LYSINE	Seed		2.5	-1.63848275248756	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
65	MAGNESIUM	Seed	3715.0	7002.0	1.6024579573476614	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
65	MAGNESIUM	Hay		3100.0	-1.0	--
15	MALIC-ACID	Seed				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
14	MANGANESE	Seed	50.0	70.0	0.2052706550190378	--
14	MANGANESE	Hay		8.1	-1.0000000000000002	--
15	METHIONINE	Seed		0.09	-1.1141398667164637	--
2	MOLYBDENUM	Seed				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
3	MUCILAGE	Seed	20000.0	84000.0	-0.7141062298500116	--
6	MYRISTIC-ACID	Seed				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
1	NEOLINUSTATIN	Seed	19.0	4540.0		--
39	NIACIN	Seed		15.0	-0.8347441211060711	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
3	NICKEL	Seed				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
2	NICOTINAMIDE	Seed		38.0	1.0	--
33	NORDIHYDROGUAIARETIC-ACID	Seed				--
1	O-GLYCOFLAVONE-C-GLYCOSIDE	Seed				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
18	OLEIC-ACID	Seed Oil		283000.0	-0.1995525939212177	--
18	OLEIC-ACID	Seed	16.0	120000.0	0.007370246204918166	--
18	OLEIC-ACID	Flower				--
4	ORIENTIN	Leaf				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
25	P-COUMARIC-ACID	Seed		60.0	-0.364755663014079	--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
13	P-HYDROXY-BENZOIC-ACID	Sprout Seedling				Hegnauer, R. 1962-1997. Chemotaxonomie der Pflanzen, Bde 1-11. Birkhauser Verlag Basel, Boston, Berlin.
13	PALMITIC-ACID	Seed	19005.0	22515.0	-0.23504354469855987	Cunane, S. and Thompson, L. U., eds. 1995. Flaxseed in Human Nutrition. AOCS Press, Champaign IL. 384 pp.
13	PALMITIC-ACID	Seed Oil		90000.0	-0.6107337786717688	--
11	PANTOTHENIC-ACID	Seed				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
24	PECTIN	Seed	53900.0	100000.0	2.5314122594852875	--
7	PHENYLALANINE	Seed		0.239	-1.3781037282174438	--
2	PHOSPHATIDYL-CHOLINE	Seed	160.0	2025.0	1.0	Cunane, S. and Thompson, L. U., eds. 1995. Flaxseed in Human Nutrition. AOCS Press, Champaign IL. 384 pp.
4	PHOSPHORUS	Seed	3961.0	20335.0	3.9590351958118073	--
4	PHOSPHORUS	Hay		1110.0		CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
9	PHYTIC-ACID	Seed	18000.0	33000.0	1.1694904127352321	--
1	PHYTOL	Seed				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
14	POTASSIUM	Seed	7964.0	15009.0	0.21448936936526888	--
14	POTASSIUM	Hay		17400.0		CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
1	RAFFINOSE	Seed				--
15	RIBOFLAVIN	Seed		1.7	-0.6991387592002618	List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
3	SECOISOLARICRESINOL	Plant				Stitt, Paul. Why George should eat broccoli.
3	SECOISOLARICRESINOL	Seed				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
1	SERINE	Seed		0.248	-2.0265239206958663	--
3	SILVER	Seed				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
9	SINAPIC-ACID	Seed				--
1	SODIUM	Seed	400.0	1014.0	0.8939255700301022	--
10	SQUALENE	Seed				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
10	SQUALENE	Seed Oil				--
5	STARCH	Seed	2000.0	39000.0	-1.0980435455891777	Cunane, S. and Thompson, L. U., eds. 1995. Flaxseed in Human Nutrition. AOCS Press, Champaign IL. 384 pp.
8	STEARIC-ACID	Seed Oil		81000.0	-0.2772564234419937	--
8	STEARIC-ACID	Seed	13595.0	16545.0	-0.20641972214709475	Cunane, S. and Thompson, L. U., eds. 1995. Flaxseed in Human Nutrition. AOCS Press, Champaign IL. 384 pp.
12	STIGMASTEROL	Seed				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
14	SUCROSE	Seed		388.0	-0.6923667566162774	--
14	SULFUR	Seed	608.0	4200.0	0.9418680963960322	--
31	THIAMIN	Seed		1.8	-1.141416879500738	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
4	THREONINE	Seed		0.195	-1.8202596354546852	--
4	TIN	Seed				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
93	TOCOPHEROL	Seed		47.0	-0.4002735595606585	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.



Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
2	TRANS-FERULIC-ACID	Seed		375.0	-0.47614826602151417	--
29	TRYPTOPHAN	Seed		0.089	-1.1339383282290112	--
8	TYROSINE	Seed		0.133	-1.7932335597859743	--
3	VALINE	Seed		0.284	-1.4793036444616081	--
16	VANADIUM	Seed				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
12	VICENIN-2	Leaf				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
18	VITEXIN	Leaf				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
77	ZINC	Seed	85.0	155.0	3.1191728559254055	Cunane, S. and Thompson, L. U., eds. 1995. Flaxseed in Human Nutrition. AOCS Press, Champaign IL. 384 pp.