

Dr. Duke's Phytochemical and Ethnobotanical Databases

Chemicals found in Hibiscus sabdariffa

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
77	ZINC	Flower				--
3	XYLOSE	Calyx				Bisset, N.G., ed. 1994. Herbal Drugs and Phytopharmaceuticals. CRC Press. Boca Raton, FL. 566 pp.
0	WATER	Seed	76000.0	129000.0	-0.3783965720128981	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
0	WATER	Leaf		856000.0	0.2412787411612874	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
0	WATER	Flower		890000.0	0.5075484737057864	--
0	UTALONIC-ACID	Flower				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	TOCOPHEROLS	Seed		2000.0	0.8822917687956566	--
93	TOCOPHEROL	Seed				--
4	TIN	Flower	1.0	10.0	-0.8082238591204874	--
0	THIAMINE	Flower	0.1	0.5	-1.3840402025670708	--
31	THIAMIN	Flower	0.0	3.0	-0.6757315085489463	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
31	THIAMIN	Leaf	0.0	12.0	0.7701228842235702	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
0	TETRAHYDRO-2,2-DIMETHYL-5-(1-METHYLPROPYL)-FURAN	Calyx				--
6	TARTARIC-ACID	Root				CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
6	TARTARIC-ACID	Flower	6233.0	56667.0		--
14	SULFUR	Seed		4000.0	0.8287417461896122	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
0	SUGARS	Flower	12100.0	110000.0	0.0	--
14	SUCROSE	Calyx		2400.0		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
4	STERCULIC-ACID	Seed				CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
8	STEARIC-ACID	Seed				CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
5	STARCH	Seed		111000.0	-0.8064850823445846	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
1	SODIUM	Flower	42.0	382.0	-0.3952249147727747	--
4	SILICON	Flower	1.0	9.1	-0.45868138661471586	--
60	SELENIUM	Flower	1.6	14.3	1.7265796092320822	--
44	SCOPOLETIN	Root Bark				--
0	SAPONIN	Root				CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
0	SAMBUBIOSIDE	Flower				--
0	SABDARITRIN	Flower				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	SABDARETIN	Flower				Rizk, A.F.M. and Al-Nowaihi, A.S., The Phytochemistry of the Horticultural Plants of Qatar, Scientific and Applied Research Centre, University of Qatar.
15	RIBOFLAVIN	Leaf	1.0	31.0	-0.0325494690927309	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
15	RIBOFLAVIN	Flower	0.1	0.5	-1.3399966931295562	--
0	RHAMNOSE	Flower				--
0	RHAMNOGALACTURANS	Flower				--
0	RESIN	Calyx				Leung, A.Y., Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics, John Wiley & Sons, New York, 1980.
43	PROTOCATECHUIC-ACID	Flower				--
0	PROTEIN	Flower	6600.0	60000.0	-0.960645369865758	--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
6	PROPIONIC-ACID	Seed				Chemical Constituents of Oriental Herbs (3 diff. books)
6	PROPIONIC-ACID	Fruit				Chemical Constituents of Oriental Herbs (3 diff. books)
34	PROANTHOCYANIDINS	Flower				--
14	POTASSIUM	Flower	1034.0	9400.0	-1.0124925447320965	--
2	PHYTOSTEROLS	Calyx				--
4	PHOSPHORUS	Seed		6000.0	0.17088218232138022	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
4	PHOSPHORUS	Leaf	480.0	6458.0	0.2735050043469738	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
4	PHOSPHORUS	Flower	110.0	1000.0	-1.1392165553859557	--
0	PENTOSANS	Seed		158000.0	1.6551977117399692	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	PELARGONIC-ACID	Seed				Chemical Constituents of Oriental Herbs (3 diff. books)
0	PELARGONIC-ACID	Fruit				Chemical Constituents of Oriental Herbs (3 diff. books)
24	PECTIN	Fruit		10200.0	-0.5091471100383528	--
24	PECTIN	Calyx		31900.0		--
2	PALMITOLEIC-ACID	Seed				CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
13	PALMITIC-ACID	Seed				CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
9	OXALIC-ACID	Flower				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
18	OLEIC-ACID	Seed				CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
0	OCTANAL	Calyx				--
0	NONANAL	Calyx				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	NITROGEN	Seed		32900.0	0.7317342785449883	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
39	NIACIN	Leaf	12.0	132.0	0.4196344734008024	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
39	NIACIN	Flower	1.3	12.0	-0.8122224292191794	--
6	MYRISTIC-ACID	Seed				CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
3	MUCILAGE	Calyx	15000.0	650000.0		--
21	METHYL-SALICYLATE	Calyx				--
2	METHANOL	Fruit				Chemical Constituents of Oriental Herbs (3 diff. books)
2	METHANOL	Seed				Chemical Constituents of Oriental Herbs (3 diff. books)
2	METHANOL	Leaf				Chemical Constituents of Oriental Herbs (3 diff. books)
3	MANNOSE	Calyx				Bisset, N.G., ed. 1994. Herbal Drugs and Phytopharmaceuticals. CRC Press. Boca Raton, FL. 566 pp.
14	MANGANESE	Flower	2.0	15.1	-0.3393278990760618	--
0	MALVALIC-ACID	Seed				CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
15	MALIC-ACID	Stem		6000.0		ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
15	MALIC-ACID	Leaf		12500.0	0.2822875522116279	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
15	MALIC-ACID	Flower	6233.0	56667.0	1.0	--
0	MALEIC-ACID	Flower				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
65	MAGNESIUM	Flower	44.0	400.0	-1.7433560491071525	--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
27	LINOLEIC-ACID	Seed				CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
0	LINALOOL-OXIDE	Calyx				--
53	LINALOOL	Calyx				--
60	LIMONENE	Calyx				--
2	ISOPROPYL-ALCOHOL	Seed				Chemical Constituents of Oriental Herbs (3 diff. books)
2	ISOPROPYL-ALCOHOL	Leaf				Chemical Constituents of Oriental Herbs (3 diff. books)
2	ISOPROPYL-ALCOHOL	Fruit				Chemical Constituents of Oriental Herbs (3 diff. books)
3	ISOAMYL-ALCOHOL	Seed				Chemical Constituents of Oriental Herbs (3 diff. books)
3	ISOAMYL-ALCOHOL	Leaf				Chemical Constituents of Oriental Herbs (3 diff. books)
3	ISOAMYL-ALCOHOL	Fruit				Chemical Constituents of Oriental Herbs (3 diff. books)
6	IRON	Leaf	15.0	333.0	-0.07651054521577247	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
6	IRON	Flower	0.7	6.0	-1.063209446177288	--
0	IBISCIC-ACID	Flower	27500.0	250000.0		--
0	HYDROXYCINNAMIC-ACIDS	Flower				--
0	HYDROXYBENZOIC-ACIDS	Flower				--
1	HIBISCUS-ACID	Flower		230000.0		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	HIBISCRETIN	Flower				CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
0	HIBISCITRIN	Flower				--
2	HIBISCIN-CHLORIDE	Plant				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	HIBISCIN	Flower				--
0	HIBISCIC-ACID	Flower	153000.0	230000.0		--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	HIBISCETIN	Flower				--
5	HEXANAL	Calyx				--
0	HEPTANAL	Calyx				--
0	GOSSYPETIN-3-GLUCOSIDE	Flower				Rizk, A.F.M. and Al-Nowaihi, A.S., The Phytochemistry of the Horticultural Plants of Qatar, Scientific and Applied Research Centre, University of Qatar.
7	GOSSYPETIN	Flower				--
0	GOSSIPETIN	Flower				--
4	GLYCOLIC-ACID	Flower				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
14	GAMMA-TOCOPHEROL	Seed		1490.0	0.4109961537087907	--
0	GALACTURONIC-ACID	Flower				--
1	GALACTOSE	Flower				--
6	FURFURAL	Calyx				--
0	FRUIT-ACIDS	Calyx	150000.0	350000.0		--
13	FORMIC-ACID	Seed				Chemical Constituents of Oriental Herbs (3 diff. books)
13	FORMIC-ACID	Fruit				Chemical Constituents of Oriental Herbs (3 diff. books)
0	FIBER(DIETARY)	Flower		140000.0	-1.7977084105707757	--
0	FIBER(CRUDE)	Flower		30000.0	-1.7666052469086984	--
15	FIBER	Seed		120000.0	-0.11669610810150641	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
15	FIBER	Leaf	13000.0	114000.0	-0.5878237990866672	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
15	FIBER	Flower	10000.0	374600.0	2.971685757852178	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
0	FAT	Seed	168000.0	223000.0	-0.2232706050728116	--
0	FAT	Leaf	3000.0	33000.0	-0.4675244951730983	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	FAT	Flower	1100.0	10000.0	-0.7523791209673999	--
0	EXO-2-HYDROXYCINEOLE	Calyx				--
76	EUGENOL	Calyx				--
24	ETHANOL	Seed				Chemical Constituents of Oriental Herbs (3 diff. books)
24	ETHANOL	Leaf				Chemical Constituents of Oriental Herbs (3 diff. books)
24	ETHANOL	Fruit				Chemical Constituents of Oriental Herbs (3 diff. books)
5	ERGOSTEROL	Seed				--
0	EPOXYOLEIC-ACID	Seed				=ICMR(Indian Council of Medical Research).1976.Medicinal Plants of India.Vol.1.Indian Council of Med. Res.Cambridge Printing Works, New Delhi.487 pp;ICMR.1987.Medicinal Plants of India.Vol.2.Indian Council of Med. Res.Cambr. Printing Works,New Delhi.600pp
4	DELTA-TOCOPHEROL	Seed		10.0	-1.0	--
1	DELTA-5-AVENASTEROL	Seed				--
0	DELPHININ	Flower				Chemical Constituents of Oriental Herbs (3 diff. books)
0	DELPHINIDIN-3-XYLOGLucoside	Flower				--
0	DELPHINIDIN-3-SAMBUBIOSIDE	Calyx				Leung, A.Y., Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics, John Wiley & Sons, New York, 1980.
1	DELPHINIDIN-3-GLUCOSIDE	Calyx				--
9	DELPHINIDIN	Calyx				--
0	CYANIDIN-3-XYLOGLucoside	Flower				--
0	CYANIDIN-3-SAMBUBIOSIDE	Calyx				--
0	CYANIDIN-3-SAMBUBIOSIDE	Flower				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	CYANIDIN-3-GLUCOSIDE	Calyx				Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
0	CYANIDIN-3-D(2-GLUCOSYL)-RUTINOSIDE	Flower				=ICMR(Indian Council of Medical Research).1976.Medicinal Plants of India.Vol.1.Indian Council of Med. Res.Cambridge Printing Works, New Delhi.487 pp;ICMR.1987.Medicinal Plants of India.Vol.2.Indian Council of Med. Res.Cambr. Printing Works,New Delhi.600pp
0	CYANIDIN-3,5-DIGLUCOSIDE	Flower				=ICMR(Indian Council of Medical Research).1976.Medicinal Plants of India.Vol.1.Indian Council of Med. Res.Cambridge Printing Works, New Delhi.487 pp;ICMR.1987.Medicinal Plants of India.Vol.2.Indian Council of Med. Res.Cambr. Printing Works,New Delhi.600pp
12	COPPER	Flower	5.6	6.2	-1.2821653170679421	--
2	COBALT	Flower	0.6	5.0	-0.2767916858148855	--
0	CLEROSTEROL	Seed				--
0	CLEOMISCOSIN-D	Root Bark				--
2	CLEOMISCOSIN-C	Root Bark				--
4	CLEOMISCOSIN-A	Root Bark				--
23	CITRIC-ACID	Flower	6233.0	56667.0		--
23	CITRIC-ACID	Fruit	37400.0	170000.0	2.131164153919124	--



Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	CIS-12,13-EPOXY-CIS-9-OCTADECENOIC-ACID	Seed				=ICMR(Indian Council of Medical Research).1976.Medicinal Plants of India.Vol.1.Indian Council of Med. Res.Cambridge Printing Works, New Delhi.487 pp;ICMR.1987.Medicinal Plants of India.Vol.2.Indian Council of Med. Res.Cambr. Printing Works,New Delhi.600pp
24	CHROMIUM	Flower	0.6	5.4	1.1789575691255427	--
1	CHOLESTEROL	Seed				--
1	CELLULOSE	Seed		168000.0	0.5783739206201094	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
31	CARYOPHYLLENE	Calyx				--
0	CARBOHYDRATES	Seed		557000.0	0.13352409975853574	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
0	CARBOHYDRATES	Leaf	92000.0	765000.0	1.217945652424372	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
0	CARBOHYDRATES	Flower	76000.0	804000.0	0.7751516195620832	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
5	CAPRYLIC-ACID	Fruit				Chemical Constituents of Oriental Herbs (3 diff. books)
5	CAPRYLIC-ACID	Seed				Chemical Constituents of Oriental Herbs (3 diff. books)
2	CAMPESTEROL	Seed				--
4	CALCIUM-OXALATE	Fruit				CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
28	CALCIUM	Seed	3200.0	6000.0	0.3404249554690761	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
28	CALCIUM	Leaf	2130.0	14792.0	-0.24906661049521867	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
28	CALCIUM	Flower	374.0	3400.0	-0.6558141831778627	--
6	BUTYRIC-ACID	Fruit				Chemical Constituents of Oriental Herbs (3 diff. books)

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	BETA-SITOSTERYL-BENZOATE	Leaf				Chemical Constituents of Oriental Herbs (3 diff. books)
0	BETA-SITOSTEROL-BETA-D-GALACTOSIDE	Leaf				Chemical Constituents of Oriental Herbs (3 diff. books)
0	BETA-SITOSTEROL-BETA-D-GALACTOPYRANOSIDE	Plant				J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.
47	BETA-SITOSTEROL	Seed				--
53	BETA-CAROTENE	Leaf	41.0	555.0	1.2790561648525607	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
53	BETA-CAROTENE	Flower	1.0	9.0	-0.4832859262086817	--
9	BENZYL-ALCOHOL	Leaf				Chemical Constituents of Oriental Herbs (3 diff. books)
9	BENZYL-ALCOHOL	Fruit				Chemical Constituents of Oriental Herbs (3 diff. books)
24	BENZALDEHYDE	Fruit				Chemical Constituents of Oriental Herbs (3 diff. books)
3	ASPARTIC-ACID	Plant				CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
0	ASH	Leaf	10000.0	111000.0	-0.1383371792482167	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
0	ASH	Flower	2200.0	20000.0	-1.1066700142226569	--
112	ASCORBIC-ACID	Fruit	540.0	3750.0	-0.05132528273853201	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
112	ASCORBIC-ACID	Flower	22.0	200.0	-0.7732197962345587	--
0	ARABINOGALACTANS	Flower				--
0	ARABINANS	Flower				--
30	ANTHOCYANINS	Calyx	10000.0	20000.0		--
7	ANISALDEHYDE	Leaf				Chemical Constituents of Oriental Herbs (3 diff. books)
7	ANISALDEHYDE	Fruit				Chemical Constituents of Oriental Herbs (3 diff. books)
5	ALUMINUM	Flower	14.0	125.0	0.46945991962978617	--
32	ALPHA-TOCOPHEROL	Seed		500.0	0.8571112050632521	--
0	ALPHA-TERPINYL-ACETATE	Seed				Chemical Constituents of Oriental Herbs (3 diff. books)

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	ALPHA-TERPINYL-ACETATE	Leaf				Chemical Constituents of Oriental Herbs (3 diff. books)
0	ALPHA-TERPINYL-ACETATE	Fruit				Chemical Constituents of Oriental Herbs (3 diff. books)
0	ALPHA-TERPINYL-ACETATE	Calyx				--
23	ALPHA-TERPINEOL	Calyx				--
0	ALPHA-FARNESENE	Calyx				--
0	ALPHA-4-DIMETHYL-3-CYCLOHEXYL-1-ACETALDEHYDE	Calyx				--
0	ALLOHYDROXYCITRIC-ACID	Flower		230000.0		--
0	ACIDS	Flower	150000.0	300000.0		Bisset, N.G., ed. 1994. Herbal Drugs and Phytopharmaceuticals. CRC Press. Boca Raton, FL. 566 pp.
16	ACETIC-ACID	Seed				Chemical Constituents of Oriental Herbs (3 diff. books)
16	ACETIC-ACID	Fruit				Chemical Constituents of Oriental Herbs (3 diff. books)
16	ACETIC-ACID	Calyx				--
0	6,10,14-TRIMETHYL-2-PENTADECANONE	Calyx				--
0	5-METHYL-2-FURALDEHYDE	Calyx				--
0	4-METHYL-1-(1-METHYLETHYL)-3-CYCLOHEXEN-1-OL-ACETATE	Calyx				--
0	3-METHYL-1-BUTANOL	Fruit				Chemical Constituents of Oriental Herbs (3 diff. books)
0	3-METHYL-1-BUTANOL	Seed				Chemical Constituents of Oriental Herbs (3 diff. books)
0	3-METHYL-1-BUTANOL	Leaf				Chemical Constituents of Oriental Herbs (3 diff. books)
0	2-PENTYL-FURAN	Calyx				--
0	2-METHYL-6-METHYLENE-7-OCTEN-2-OL	Calyx				--
0	2-HEXENOL	Calyx				--
0	2-ETHYL-FURAN	Calyx				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	2-ETHENYL-TETRAHYDRO-2,6,6-TRIMETHYL-2H-PYRAN	Calyx				--
0	2,6-DIMETHYL-5,7-OCTADIEN-2-OL	Calyx				--
0	2,3-DIMETHYLBUTANE	Calyx				--
0	2,2-DIMETHYL-HEXANAL	Calyx				--
0	1-METHYL-4-(1-METHYLETHYL)-3-CYCLOHEXENOL	Calyx				--
0	1-HEXANOL	Calyx				--
67	1,8-CINEOLE	Calyx				--
0	1,4-CINEOLE	Calyx				--
0	(Z)-3-HEXENOL	Calyx				--
2	(E)-2-HEXENAL	Calyx				--
0	(E)-2-HEPTENAL	Calyx				--
0	(+)-ALLOOXYCITRONIC-ACID-LACTONE	Flower				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.