

Dr. Duke's Phytochemical and Ethnobotanical Databases

Chemicals found in Hibiscus sabdariffa

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Refernce Citation
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.
0	(E)-2-HEPTENAL	Calyx				--
2	(E)-2-HEXENAL	Calyx				--
0	(Z)-3-HEXENOL	Calyx				--
0	1,4-CINEOLE	Calyx				--
67	1,8-CINEOLE	Calyx				--
0	1-HEXANOL	Calyx				--
0	1-METHYL-4-(1-METHYLETHYL)-3-CYCLOHEXENOL	Calyx				--
0	2,2-DIMETHYL-HEXANAL	Calyx				--
0	2,3-DIMETHYLBUTANE	Calyx				--
0	2,6-DIMETHYL-5,7-OCTADIEN-2-OL	Calyx				--
0	2-ETHENYLTETRAHYDRO-2,6,6-TRIMETHYL-2H-PYRAN	Calyx				--
0	2-ETHYL-FURAN	Calyx				--
0	2-HEXENOL	Calyx				--
0	2-METHYL-6-METHYLENE-7-OCTEN-2-OL	Calyx				--
0	2-PENTYL-FURAN	Calyx				--
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	3-METHYL-1-BUTANOL	Fruit				Chemical Constituents of Oriental Herbs (3 diff. books)
0	4-METHYL-1-(1-METHYLETHYL)-3-CYCLOHEXEN-1-OL-ACETATE	Calyx				--
0	5-METHYL-2-FURALDEHYDE	Calyx				--
0	6,10,14-TRIMETHYL-2-PENTADECANONE	Calyx				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
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	ACIDS	Flower	150000.0	300000.0		Bisset, N.G., ed. 1994. Herbal Drugs and Phytopharmaceuticals. CRC Press. Boca Raton, FL. 566 pp.
0	ALLOHYDROXYCITRIC-ACID	Flower		230000.0		--
0	ALPHA-4-DIMETHYL-3-CYCLOHEXYL-1-ACETALDEHYDE	Calyx				--
0	ALPHA-FARNESENE	Calyx				--
23	ALPHA-TERPINEOL	Calyx				--
0	ALPHA-TERPINYL-ACETATE	Seed				Chemical Constituents of Oriental Herbs (3 diff. books)
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				--
32	ALPHA-TOCOPHEROL	Seed		500.0	0.8571112050632521	--
5	ALUMINUM	Flower	14.0	125.0	0.46945991962978617	--
7	ANISALDEHYDE	Leaf				Chemical Constituents of Oriental Herbs (3 diff. books)
7	ANISALDEHYDE	Fruit				Chemical Constituents of Oriental Herbs (3 diff. books)
30	ANTHOCYANINS	Calyx	10000.0	20000.0		--
0	ARABINANS	Flower				--
0	ARABINOGLACTANS	Flower				--
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	ASH	Leaf	10000.0	111000.0	-0.1383371792482167	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	ASH	Flower	2200.0	20000.0	-1.1066700142226569	--
3	ASPARTIC-ACID	Plant				CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
24	BENZALDEHYDE	Fruit				Chemical Constituents of Oriental Herbs (3 diff. books)
9	BENZYL-ALCOHOL	Leaf				Chemical Constituents of Oriental Herbs (3 diff. books)
9	BENZYL-ALCOHOL	Fruit				Chemical Constituents of Oriental Herbs (3 diff. books)
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	--
47	BETA-SITOSTEROL	Seed				--
0	BETA-SITOSTEROL-BETA-D-GALACTOPYRANOSIDE	Plant				J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.
0	BETA-SITOSTEROL-BETA-D-GALACTOSIDE	Leaf				Chemical Constituents of Oriental Herbs (3 diff. books)
0	BETA-SITOSTERYL-BENZOATE	Leaf				Chemical Constituents of Oriental Herbs (3 diff. books)
6	BUTYRIC-ACID	Fruit				Chemical Constituents of Oriental Herbs (3 diff. books)
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	--
4	CALCIUM-OXALATE	Fruit				CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
2	CAMPESTEROL	Seed				--
5	CAPRYLIC-ACID	Seed				Chemical Constituents of Oriental Herbs (3 diff. books)
5	CAPRYLIC-ACID	Fruit				Chemical Constituents of Oriental Herbs (3 diff. books)
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

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	CARBOHYDRATES	Flower	76000.0	804000.0	0.7751516195620832	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
31	CARYOPHYLLENE	Calyx				--
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.
1	CHOLESTEROL	Seed				--
24	CHROMIUM	Flower	0.6	5.4	1.1789575691255427	--
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
23	CITRIC-ACID	Flower	6233.0	56667.0		--
23	CITRIC-ACID	Fruit	37400.0	170000.0	2.131164153919124	--
4	CLEOMISCOSIN-A	Root Bark				--
2	CLEOMISCOSIN-C	Root Bark				--
0	CLEOMISCOSIN-D	Root Bark				--
0	CLEROSTEROL	Seed				--
2	COBALT	Flower	0.6	5.0	-0.2767916858148855	--
12	COPPER	Flower	5.6	6.2	-1.2821653170679421	--
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

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
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-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-SAMBUBIOSIDE	Flower				--
0	CYANIDIN-3-SAMBUBIOSIDE	Calyx				--
0	CYANIDIN-3-XYLOGLUCOSIDE	Flower				--
9	DELPHINIDIN	Calyx				--
1	DELPHINIDIN-3-GLUCOSIDE	Calyx				--
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.
0	DELPHINIDIN-3-XYLOGLUCOSIDE	Flower				--
0	DELPHININ	Flower				Chemical Constituents of Oriental Herbs (3 diff. books)
1	DELTA-5-AVENASTEROL	Seed				--
4	DELTA-TOCOPHEROL	Seed		10.0	-1.0	--
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

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
5	ERGOSTEROL	Seed				--
24	ETHANOL	Leaf				Chemical Constituents of Oriental Herbs (3 diff. books)
24	ETHANOL	Seed				Chemical Constituents of Oriental Herbs (3 diff. books)
24	ETHANOL	Fruit				Chemical Constituents of Oriental Herbs (3 diff. books)
76	EUGENOL	Calyx				--
0	EXO-2-HYDROXYCINEOLE	Calyx				--
0	FAT	Flower	1100.0	10000.0	-0.7523791209673999	--
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
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	FIBER(CRUDE)	Flower		30000.0	-1.7666052469086984	--
0	FIBER(DIETARY)	Flower		140000.0	-1.7977084105707757	--
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	FRUIT-ACIDS	Calyx	150000.0	350000.0		--
6	FURFURAL	Calyx				--
1	GALACTOSE	Flower				--
0	GALACTURONIC-ACID	Flower				--
14	GAMMA-TOCOPHEROL	Seed		1490.0	0.4109961537087907	--
4	GLYCOLIC-ACID	Flower				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	GOSSIPETIN	Flower				--
7	GOSSYPETIN	Flower				--
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.
0	HEPTANAL	Calyx				--
5	HEXANAL	Calyx				--
0	HIBISCETIN	Flower				--
0	HIBISCIC-ACID	Flower	153000.0	230000.0		--
0	HIBISCIN	Flower				--
2	HIBISCIN-CHLORIDE	Plant				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	HIBISCITRIN	Flower				--
0	HIBISCRETIN	Flower				CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
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	HYDROXYBENZOIC-ACIDS	Flower				--
0	HYDROXYCINNAMIC-ACIDS	Flower				--
0	IBISCIC-ACID	Flower	27500.0	250000.0		--
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	--
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)

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
2	ISOPROPYL-ALCOHOL	Fruit				Chemical Constituents of Oriental Herbs (3 diff. books)
2	ISOPROPYL-ALCOHOL	Seed				Chemical Constituents of Oriental Herbs (3 diff. books)
2	ISOPROPYL-ALCOHOL	Leaf				Chemical Constituents of Oriental Herbs (3 diff. books)
60	LIMONENE	Calyx				--
53	LINALOOL	Calyx				--
0	LINALOOL-OXIDE	Calyx				--
27	LINOLEIC-ACID	Seed				CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
65	MAGNESIUM	Flower	44.0	400.0	-1.7433560491071525	--
0	MALEIC-ACID	Flower				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
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	MALVALIC-ACID	Seed				CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
14	MANGANESE	Flower	2.0	15.1	-0.3393278990760618	--
3	MANNONE	Calyx				Bisset, N.G., ed. 1994. Herbal Drugs and Phytopharmaceuticals. CRC Press. Boca Raton, FL. 566 pp.
2	METHANOL	Leaf				Chemical Constituents of Oriental Herbs (3 diff. books)
2	METHANOL	Fruit				Chemical Constituents of Oriental Herbs (3 diff. books)
2	METHANOL	Seed				Chemical Constituents of Oriental Herbs (3 diff. books)



Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
21	METHYL-SALICYLATE	Calyx				--
3	MUCILAGE	Calyx	15000.0	650000.0		--
6	MYRISTIC-ACID	Seed				CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
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	--
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.
0	NONANAL	Calyx				--
0	OCTANAL	Calyx				--
18	OLEIC-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.
13	PALMITIC-ACID	Seed				CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
2	PALMITOLEIC-ACID	Seed				CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
24	PECTIN	Fruit		10200.0	-0.5091471100383528	--
24	PECTIN	Calyx		31900.0		--
0	PELARGONIC-ACID	Seed				Chemical Constituents of Oriental Herbs (3 diff. books)
0	PELARGONIC-ACID	Fruit				Chemical Constituents of Oriental Herbs (3 diff. books)
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.
4	PHOSPHORUS	Leaf	480.0	6458.0	0.2735050043469738	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
4	PHOSPHORUS	Seed		6000.0	0.17088218232138022	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
4	PHOSPHORUS	Flower	110.0	1000.0	-1.1392165553859557	--
2	PHYTOSTEROLS	Calyx				--
14	POTASSIUM	Flower	1034.0	9400.0	-1.0124925447320965	--
34	PROANTHOCYANIDINS	Flower				--
6	PROPIONIC-ACID	Seed				Chemical Constituents of Oriental Herbs (3 diff. books)
6	PROPIONIC-ACID	Fruit				Chemical Constituents of Oriental Herbs (3 diff. books)
0	PROTEIN	Flower	6600.0	60000.0	-0.960645369865758	--
43	PROTocatechuic-ACID	Flower				--
0	RESIN	Calyx				Leung, A.Y., Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics, John Wiley & Sons, New York, 1980.
0	RHAMNOGALACTURANS	Flower				--
0	RHAMNOSE	Flower				--
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	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.
0	SABDARITRIN	Flower				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	SAMBUBIOSIDE	Flower				--
0	SAPONIN	Root				CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
44	SCOPOLETIN	Root Bark				--
60	SELENIUM	Flower	1.6	14.3	1.7265796092320822	--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
4	SILICON	Flower	1.0	9.1	-0.45868138661471586	--
1	SODIUM	Flower	42.0	382.0	-0.3952249147727747	--
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.
8	STEARIC-ACID	Seed				CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
4	STERCULIC-ACID	Seed				CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
14	SUCROSE	Calyx		2400.0		ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	SUGARS	Flower	12100.0	110000.0	0.0	--
14	SULFUR	Seed		4000.0	0.8287417461896122	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
6	TARTARIC-ACID	Root				CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
6	TARTARIC-ACID	Flower	6233.0	56667.0		--
0	TETRAHYDRO-2,2-DIMETHYL-5-(1-METHYLPROPYL)-FURAN	Calyx				--
31	THIAMIN	Leaf	0.0	12.0	0.7701228842235702	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
31	THIAMIN	Flower	0.0	3.0	-0.6757315085489463	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
0	THIAMINE	Flower	0.1	0.5	-1.3840402025670708	--
4	TIN	Flower	1.0	10.0	-0.8082238591204874	--
93	TOCOPHEROL	Seed				--
0	TOCOPHEROLS	Seed		2000.0	0.8822917687956566	--
0	UTALONIC-ACID	Flower				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	WATER	Flower		890000.0	0.5075484737057864	--
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
3	XYLOSE	Calyx				Bisset, N.G., ed. 1994. Herbal Drugs and Phytopharmaceuticals. CRC Press. Boca Raton, FL. 566 pp.
77	ZINC	Flower				--