

Dr. Duke's Phytochemical and Ethnobotanical Databases

Chemicals found in Hibiscus sabdariffa

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	WATER	Flower		890000.0	0.5075484737057864	--
0	WATER	Leaf		856000.0	0.2412787411612874	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
0	CARBOHYDRATES	Leaf	92000.0	765000.0	1.217945652424372	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
3	MUCILAGE	Calyx	15000.0	650000.0		--
0	CARBOHYDRATES	Seed		557000.0	0.13352409975853574	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	FRUIT-ACIDS	Calyx	150000.0	350000.0		--
0	ACIDS	Flower	150000.0	300000.0		Bisset, N.G., ed. 1994. Herbal Drugs and Phytopharmaceuticals. CRC Press. Boca Raton, FL. 566 pp.
0	HIBISCIC-ACID	Flower	27500.0	250000.0		--
0	HIBISCIC-ACID	Flower	153000.0	230000.0		--
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	ALLOHYDROXYCITRIC-ACID	Flower		230000.0		--
0	FAT	Seed	168000.0	223000.0	-0.2232706050728116	--
23	CITRIC-ACID	Fruit	37400.0	170000.0	2.131164153919124	--
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.
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.

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	FIBER(DIETARY)	Flower		140000.0	-1.7977084105707757	--
0	WATER	Seed	76000.0	129000.0	-0.3783965720128981	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
0	ASH	Leaf	10000.0	111000.0	-0.1383371792482167	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.
0	SUGARS	Flower	12100.0	110000.0	0.0	--
0	PROTEIN	Flower	6600.0	60000.0	-0.960645369865758	--
23	CITRIC-ACID	Flower	6233.0	56667.0		--
6	TARTARIC-ACID	Flower	6233.0	56667.0		--
15	MALIC-ACID	Flower	6233.0	56667.0	1.0	--
0	FAT	Leaf	3000.0	33000.0	-0.4675244951730983	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
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.
24	PECTIN	Calyx		31900.0		--
0	FIBER(CRUDE)	Flower		30000.0	-1.7666052469086984	--
30	ANTHOCYANINS	Calyx	10000.0	20000.0		--
0	ASH	Flower	2200.0	20000.0	-1.1066700142226569	--
28	CALCIUM	Leaf	2130.0	14792.0	-0.24906661049521867	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
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.

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
24	PECTIN	Fruit		10200.0	-0.5091471100383528	--
0	FAT	Flower	1100.0	10000.0	-0.7523791209673999	--
14	POTASSIUM	Flower	1034.0	9400.0	-1.0124925447320965	--
4	PHOSPHORUS	Leaf	480.0	6458.0	0.2735050043469738	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
4	PHOSPHORUS	Seed		6000.0	0.17088218232138022	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.
28	CALCIUM	Seed	3200.0	6000.0	0.3404249554690761	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
14	SULFUR	Seed		4000.0	0.8287417461896122	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
112	ASCORBIC-ACID	Fruit	540.0	3750.0	-0.05132528273853201	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
28	CALCIUM	Flower	374.0	3400.0	-0.6558141831778627	--
14	SUCROSE	Calyx		2400.0		ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	TOCOPHEROLS	Seed		2000.0	0.8822917687956566	--
14	GAMMA-TOCOPHEROL	Seed		1490.0	0.4109961537087907	--
4	PHOSPHORUS	Flower	110.0	1000.0	-1.1392165553859557	--
53	BETA-CAROTENE	Leaf	41.0	555.0	1.2790561648525607	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
32	ALPHA-TOCOPHEROL	Seed		500.0	0.8571112050632521	--
65	MAGNESIUM	Flower	44.0	400.0	-1.7433560491071525	--
1	SODIUM	Flower	42.0	382.0	-0.3952249147727747	--
6	IRON	Leaf	15.0	333.0	-0.07651054521577247	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
112	ASCORBIC-ACID	Flower	22.0	200.0	-0.7732197962345587	--
39	NIACIN	Leaf	12.0	132.0	0.4196344734008024	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
5	ALUMINUM	Flower	14.0	125.0	0.46945991962978617	--
15	RIBOFLAVIN	Leaf	1.0	31.0	-0.0325494690927309	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
14	MANGANESE	Flower	2.0	15.1	-0.3393278990760618	--
60	SELENIUM	Flower	1.6	14.3	1.7265796092320822	--
31	THIAMIN	Leaf	0.0	12.0	0.7701228842235702	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
39	NIACIN	Flower	1.3	12.0	-0.8122224292191794	--
4	TIN	Flower	1.0	10.0	-0.8082238591204874	--
4	DELTA-TOCOPHEROL	Seed		10.0	-1.0	--
4	SILICON	Flower	1.0	9.1	-0.45868138661471586	--
53	BETA-CAROTENE	Flower	1.0	9.0	-0.4832859262086817	--
12	COPPER	Flower	5.6	6.2	-1.2821653170679421	--
6	IRON	Flower	0.7	6.0	-1.063209446177288	--
24	CHROMIUM	Flower	0.6	5.4	1.1789575691255427	--
2	COBALT	Flower	0.6	5.0	-0.2767916858148855	--
31	THIAMIN	Flower	0.0	3.0	-0.6757315085489463	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
15	RIBOFLAVIN	Flower	0.1	0.5	-1.3399966931295562	--
0	THIAMINE	Flower	0.1	0.5	-1.3840402025670708	--
0	CYANIDIN-3-SAMBUBIOSIDE	Calyx				--
2	METHANOL	Fruit				Chemical Constituents of Oriental Herbs (3 diff. books)
0	2-HEXENOL	Calyx				--
16	ACETIC-ACID	Calyx				--
6	PROPIONIC-ACID	Fruit				Chemical Constituents of Oriental Herbs (3 diff. books)

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
5	CAPRYLIC-ACID	Fruit				Chemical Constituents of Oriental Herbs (3 diff. books)
3	ISOAMYL-ALCOHOL	Seed				Chemical Constituents of Oriental Herbs (3 diff. books)
0	EXO-2-HYDROXYCINEOLE	Calyx				--
0	3-METHYL-1-BUTANOL	Fruit				Chemical Constituents of Oriental Herbs (3 diff. books)
0	CYANIDIN-3-XYLOGUCOSIDE	Flower				--
13	PALMITIC-ACID	Seed				CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
21	METHYL-SALICYLATE	Calyx				--
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
0	(Z)-3-HEXENOL	Calyx				--
7	ANISALDEHYDE	Leaf				Chemical Constituents of Oriental Herbs (3 diff. books)
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	ALPHA-TERPINYL-ACETATE	Calyx				--
2	CAMPESTEROL	Seed				--
76	EUGENOL	Calyx				--
0	HIBISCETIN	Flower				--
9	OXALIC-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	4-METHYL-1-(1-METHYLETHYL)-3-CYCLOHEXEN-1-OL-ACETATE	Calyx				--
0	SAPONIN	Root				CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
0	MALVALIC-ACID	Seed				CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
2	(E)-2-HEXENAL	Calyx				--
7	ANISALDEHYDE	Fruit				Chemical Constituents of Oriental Herbs (3 diff. books)
3	XYLOSE	Calyx				Bisset, N.G., ed. 1994. Herbal Drugs and Phytopharmaceuticals. CRC Press. Boca Raton, FL. 566 pp.
4	CALCIUM-OXALATE	Fruit				CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
0	2-ETHYL-FURAN	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.
23	ALPHA-TERPINEOL	Calyx				--
24	ETHANOL	Seed				Chemical Constituents of Oriental Herbs (3 diff. books)
18	OLEIC-ACID	Seed				CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
0	1-METHYL-4-(1-METHYLETHYL)-3-CYCLOHEXENOL	Calyx				--
9	BENZYL-ALCOHOL	Leaf				Chemical Constituents of Oriental Herbs (3 diff. books)
0	CLEOMISCOSIN-D	Root Bark				--
0	SABDARITRIN	Flower				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
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
0	1-HEXANOL	Calyx				--
0	RHAMNOGALACTURANS	Flower				--
0	2-ETHENYL-TETRAHYDRO-2,6,6-TRIMETHYL-2H-PYRAN	Calyx				--
0	GOSSIPETIN	Flower				--
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
24	ETHANOL	Leaf				Chemical Constituents of Oriental Herbs (3 diff. books)
0	2-METHYL-6-METHYLENE-7-OCTEN-2-OL	Calyx				--
9	BENZYL-ALCOHOL	Fruit				Chemical Constituents of Oriental Herbs (3 diff. books)
0	CLEROSTEROL	Seed				--
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.
3	ISOAMYL-ALCOHOL	Leaf				Chemical Constituents of Oriental Herbs (3 diff. books)
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.
5	HEXANAL	Calyx				--
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
2	PHYTOSTEROLS	Calyx				--
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	GLYCOLIC-ACID	Flower				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
44	SCOPOLETIN	Root Bark				--
24	ETHANOL	Fruit				Chemical Constituents of Oriental Herbs (3 diff. books)
0	5-METHYL-2-FURALDEHYDE	Calyx				--
24	BENZALDEHYDE	Fruit				Chemical Constituents of Oriental Herbs (3 diff. books)
2	CLEOMISCOSIN-C	Root Bark				--
0	ARABINO GALACTANS	Flower				--
3	ISOAMYL-ALCOHOL	Fruit				Chemical Constituents of Oriental Herbs (3 diff. books)
1	CHOLESTEROL	Seed				--
0	(E)-2-HEPTENAL	Calyx				--
0	ALPHA-TERPINYL-ACETATE	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.
0	2,6-DIMETHYL-5,7-OCTADIEN-2-OL	Calyx				--
7	GOSSYPETIN	Flower				--
13	FORMIC-ACID	Seed				Chemical Constituents of Oriental Herbs (3 diff. books)
0	SAMBUBIOSIDE	Flower				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
5	ERGOSTEROL	Seed				--
0	LINALOOL-OXIDE	Calyx				--
3	ASPARTIC-ACID	Plant				CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
4	CLEOMISCOSIN-A	Root Bark				--
0	ARABINANS	Flower				--
93	TOCOPHEROL	Seed				--
0	HEPTANAL	Calyx				--
0	ALPHA-TERPINYL-ACETATE	Fruit				Chemical Constituents of Oriental Herbs (3 diff. books)
0	MALEIC-ACID	Flower				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	2,2-DIMETHYL-HEXANAL	Calyx				--
77	ZINC	Flower				--
13	FORMIC-ACID	Fruit				Chemical Constituents of Oriental Herbs (3 diff. books)
0	PELARGONIC-ACID	Seed				Chemical Constituents of Oriental Herbs (3 diff. books)
0	RHAMNOSE	Flower				--
6	BUTYRIC-ACID	Fruit				Chemical Constituents of Oriental Herbs (3 diff. books)
4	STERCULIC-ACID	Seed				CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
0	DELPHININ	Flower				Chemical Constituents of Oriental Herbs (3 diff. books)
6	MYRISTIC-ACID	Seed				CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
53	LINALOOL	Calyx				--
67	1,8-CINEOLE	Calyx				--
0	RESIN	Calyx				Leung, A.Y., Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics, John Wiley & Sons, New York, 1980.

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	6,10,14-TRIMETHYL-2-PENTADECANONE	Calyx				--
27	LINOLEIC-ACID	Seed				CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
0	GALACTURONIC-ACID	Flower				--
16	ACETIC-ACID	Seed				Chemical Constituents of Oriental Herbs (3 diff. books)
0	PELARGONIC-ACID	Fruit				Chemical Constituents of Oriental Herbs (3 diff. books)
34	PROANTHOCYANIDINS	Flower				--
0	BETA-SITOSTERYL-BENZOATE	Leaf				Chemical Constituents of Oriental Herbs (3 diff. books)
0	ALPHA-4-DIMETHYL-3-CYCLOHEXYL-1-ACETALDEHYDE	Calyx				--
8	STEARIC-ACID	Seed				CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
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.
60	LIMONENE	Calyx				--
0	1,4-CINEOLE	Calyx				--
0	HIBISCRETIN	Flower				CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
43	PROTocatechuic-ACID	Flower				--
2	ISOPROPYL-ALCOHOL	Seed				Chemical Constituents of Oriental Herbs (3 diff. books)
1	GALACTOSE	Flower				--
16	ACETIC-ACID	Fruit				Chemical Constituents of Oriental Herbs (3 diff. books)
0	HIBISCITRIN	Flower				--
0	2-PENTYL-FURAN	Calyx				--
0	BETA-SITOSTEROL-BETA-D-GALACTOSIDE	Leaf				Chemical Constituents of Oriental Herbs (3 diff. books)
0	2,3-DIMETHYLBUTANE	Calyx				--
1	DELPHINIDIN-3-GLUCOSIDE	Calyx				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Refernce Citation
2	METHANOL	Seed				Chemical Constituents of Oriental Herbs (3 diff. books)
0	HYDROXYCINNAMIC-ACIDS	Flower				--
31	CARYOPHYLENE	Calyx				--
2	HIBISCIN-CHLORIDE	Plant				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
2	ISOPROPYL-ALCOHOL	Leaf				Chemical Constituents of Oriental Herbs (3 diff. books)
6	FURFURAL	Calyx				--
0	3-METHYL-1-BUTANOL	Seed				Chemical Constituents of Oriental Herbs (3 diff. books)
0	OCTANAL	Calyx				--
0	BETA-SITOSTEROL-BETA-D-GALACTOPYRANOSIDE	Plant				J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.
0	CYANIDIN-3-SAMBUBIOSIDE	Flower				--
9	DELPHINIDIN	Calyx				--
2	METHANOL	Leaf				Chemical Constituents of Oriental Herbs (3 diff. books)
0	HYDROXYBENZOIC-ACIDS	Flower				--
1	DELTA-5-AVENASTEROL	Seed				--
0	HIBISCIN	Flower				--
6	PROPIONIC-ACID	Seed				Chemical Constituents of Oriental Herbs (3 diff. books)
5	CAPRYLIC-ACID	Seed				Chemical Constituents of Oriental Herbs (3 diff. books)
2	ISOPROPYL-ALCOHOL	Fruit				Chemical Constituents of Oriental Herbs (3 diff. books)
0	ALPHA-FARNESENE	Calyx				--
0	3-METHYL-1-BUTANOL	Leaf				Chemical Constituents of Oriental Herbs (3 diff. books)
0	DELPHINIDIN-3-XYLOGUCOSIDE	Flower				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	UTALONIC-ACID	Flower				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
2	PALMITOLEIC-ACID	Seed				CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
0	NONANAL	Calyx				--
47	BETA-SITOSTEROL	Seed				--
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