

**Dr. Duke's Phytochemical and Ethnobotanical Databases**

**Chemicals found in Crocus sativus**

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
5	ZEAXANTHIN	Silk Stigma Style				--
3	XANTHOPHYLL	Silk Stigma Style				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	WATER	Silk Stigma Style	85000.0	156000.0	-1.0	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	VITAMIN-B-2	Silk Stigma Style	56.4	136.0		--
24	VITAMIN-B-1	Silk Stigma Style	0.53	4.0		--
3	VALINE	Bulb				--
8	TYROSINE	Bulb				--
0	TRICYCLEN	Silk Stigma Style				--
0	TRANS-ZEAXANTHIN	Silk Stigma Style				--
0	TRANS-DIMETHYLCROCETIN	Silk Stigma Style				Leung, A.Y., Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics, John Wiley & Sons, New York, 1980.
0	TRANS-CROCIN	Silk Stigma Style				--
4	THREONINE	Bulb				--
31	THIAMIN	Silk Stigma Style	0.7	4.0	1.0000000000000009	--
0	TETRAHYDROLYCOPENE	Silk Stigma Style				--
9	TERPINOLENE	Silk Stigma Style				--
23	TERPINEN-4-OL	Silk Stigma Style		265000.0		--
8	STEARIC-ACID	Silk Stigma Style				--
5	STARCH	Silk Stigma Style	119900.0	130300.0		Leung, A.Y., Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics, John Wiley & Sons, New York, 1980.
1	SERINE	Bulb				--
0	SATIVOL	Essential Oil				--
7	SALICYLATES	Silk Stigma Style		0.0		--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	SAFRANAL	Silk Stigma Style		405000.0		--
5	SABINENE	Silk Stigma Style				--
15	RIBOFLAVIN	Silk Stigma Style	56.0	138.0	1.0	--
176	QUERCETIN	Flower				Abstract (See species file)
0	PROTOCROCIN	Silk Stigma Style				--
0	PROTEIN	Silk Stigma Style	125700.0	135800.0	1.0	Bisset, N.G., ed. 1994. Herbal Drugs and Phytopharmaceuticals. CRC Press. Boca Raton, FL. 566 pp.
0	PROLINE	Bulb				--
12	PINENE	Silk Stigma Style				Leung, A.Y., Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics, John Wiley & Sons, New York, 1980.
0	PICROCROCIN	Silk Stigma Style	20000.0	36000.0		--
0	PICROCROCIN	Essential Oil				--
0	PICROCROCIN	Tissue Culture				--
0	PICROCROCIN	Flower				--
0	PHYTOFLUENE	Silk Stigma Style				--
0	PHYTOENE	Silk Stigma Style				--
7	PHENYLALANINE	Bulb				--
3	PETUNIDIN	Flower				Abstract (See species file)
13	PALMITIC-ACID	Silk Stigma Style				--
16	P-CYMENE	Silk Stigma Style				--
0	OXYSAFRANAL	Silk Stigma Style				Leung, A.Y., Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics, John Wiley & Sons, New York, 1980.
18	OLEIC-ACID	Silk Stigma Style				--
0	OLEANOLIC-ACID-GLYCOSIDE	Bulb				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
64	OLEANOLIC-ACID	Silk Stigma Style				Bisset, N.G., ed. 1994. Herbal Drugs and Phytopharmaceuticals. CRC Press. Boca Raton, FL. 566 pp.
0	NONAN-1-OL	Silk Stigma Style				--
0	NITROGEN	Silk Stigma Style	22200.0	24300.0		ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
1	NAPHTHALENE	Silk Stigma Style				--
34	MYRICETIN	Flower				Abstract (See species file)
0	METHYLCROCETIN	Silk Stigma Style				Leung, A.Y., Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics, John Wiley & Sons, New York, 1980.
3	METHYL-NONYL-KETONE	Silk Stigma Style				--
15	METHIONINE	Bulb				--
0	MANGICROCIN	Silk Stigma Style		10800.0		--
14	MANGANESE	Silk Stigma Style		284.0	1.0	USDA's Ag Handbook 8 and sequelae)
6	MALVIDIN	Flower				--
4	LYSINE	Bulb				--
16	LYCOPENE	Silk Stigma Style				--
0	LINOLENIC-ACID	Silk Stigma Style				--
27	LINOLEIC-ACID	Silk Stigma Style				--
0	LINALOOL-ACETATE	Silk Stigma Style				--
53	LINALOOL	Silk Stigma Style				--
60	LIMONENE	Silk Stigma Style				--
2	LEUCINE	Bulb				--
7	LAURIC-ACID	Silk Stigma Style				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	KAEMPFEROL-3-O-BETA-D-SOPHOROSIDE	Petiole				--
0	KAEMPFEROL-3-O-BETA-D-GLUCOPYRANOSYL-(1,2)-BETA-D-GLUCOPYRANOSIDE	Flower				--
0	KAEMPFEROL-3-O-BETA-D-GLUCOPYRANOSYL-(1,2)-BETA-D-6-ACETYL-GLUCOPYRANOSIDE	Flower				--
75	KAEMPFEROL	Flower				--
0	ISOPHORONE	Silk Stigma Style				--
7	HISTIDINE	Bulb				--
0	HENTRIACONTANE	Silk Stigma Style				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	HELICHRYSOSIDE	Flower				--
12	GLYCINE	Bulb				--
8	GLUTAMIC-ACID	Bulb				--
7	GLUCOSE	Bulb				--
35	GERANIOL	Silk Stigma Style				--
0	GENTIOBIOSE	Silk Stigma Style				--
11	GAMMA-TERPINENE	Silk Stigma Style				--
0	GAMMA-CROCETIN	Silk Stigma Style				--
2	GAMMA-CAROTENE	Silk Stigma Style				--
8	FRUCTOSE	Silk Stigma Style				--
15	FIBER	Silk Stigma Style	43800.0	48800.0	-1.0	--
6	FENCHONE	Silk Stigma Style				--
0	FAT	Silk Stigma Style	56300.0	134000.0	1.0	--
0	EO	Silk Stigma Style	3700.0	13700.0	1.0	--
0	DIMETHYL-CROCETIN	Silk Stigma Style				--
9	DELPHINIDIN	Flower				Abstract (See species file)

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
2	CYSTINE	Bulb				--
7	CYANIDIN	Flower				--
0	CROCUS-SATIVUS-STERIOD-SAPONIN	Bulb				--
0	CROCUS-SATIVUS-OLEANOLIC-ACID-SAPONIN	Bulb				--
0	CROCUS-SATIVUS-LECTIN-IV	Bulb				--
0	CROCUS-SATIVUS-LECTIN-III	Bulb				--
0	CROCUS-SATIVUS-LECTIN-II	Bulb				--
0	CROCUS-SATIVUS-LECTIN-I	Bulb				--
0	CROCUS-SATIVUS-GLUCOSIDE	Pollen Or Spore				--
0	CROCOSE	Silk Stigma Style				Watt, J.M. and Breyer-Brandwijk, M.G. 1962. The Medicinal and Poisonous Plants of Southern and Eastern Africa. E. & S. Livingstone, Ltd. Edinburg & London. 1457 pp.
0	CROCIN-4	Silk Stigma Style				--
0	CROCIN-3	Silk Stigma Style				--
0	CROCIN-2	Silk Stigma Style				--
0	CROCIN-1	Silk Stigma Style		20000.0		--
4	CROCIN	Tissue Culture				--
4	CROCIN	Flower				--
4	CROCIN	Plant				--
4	CROCIN	Silk Stigma Style	6500.0	145000.0		--
0	CROCETIN-MONO-(BETA-D-GLUCOSYL)-ESTER	Silk Stigma Style				--
0	CROCETIN-MONO-(BETA-D-GENTIOBIOSYL)-ESTER	Silk Stigma Style				--
0	CROCETIN-DI-BETA-GLUCOSIDE	Plant				J.S. Glasby Dict.Plis Containing 2ndary Metabolite. 1991.
0	CROCETIN-DI-(BETA-D-GLUCOSYL)-ESTER	Silk Stigma Style		8000.0		--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	CROCETIN-DI-(2,3,4,8,9,10,12-HEPTA-O-ACETYL-BETA-D-GENTIOBIOSYL)-ESTER	Silk Stigma Style				--
0	CROCETIN-DI-(2,3,4,6-TETRA-O-ACETYL-BETA-D-GLUCOSYL)-ESTER	Silk Stigma Style				--
0	CROCETIN-BETA-D-GLUCOSIDE-D-GENTIOBIOSIDE	Plant				J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.
0	CROCETIN-BETA-D-GLUCOSIDE	Plant				J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.
0	CROCETIN-BETA-D-GENTIOBIOSIDE	Plant				J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.
0	CROCETIN-(BETA-D-GENTIOBIOSYL)-(BETA-D-GLUCOSYL)-ESTER	Silk Stigma Style		61000.0		--
0	CROCETIN-(2,3,4,8,9,10,12-HEPTA-O-ACETYL-BETA-D-GENTIOBIOSYL)-(2,3,4,6-TETRA-O-ACETYL-BETA-D-GLUCOSYL)-ESTER	Silk Stigma Style				--
10	CROCETIN	Silk Stigma Style				--
12	COPPER	Silk Stigma Style		3.0		USDA's Ag Handbook 8 and sequelae)
0	CIS-ZEAXANTHIN	Silk Stigma Style				--
0	CIS-DIMETHYLCROCETIN	Silk Stigma Style				Leung, A.Y., Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics, John Wiley & Sons, New York, 1980.
0	CIS-CROCIN	Silk Stigma Style				--
0	CINEOLE	Silk Stigma Style				Leung, A.Y., Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics, John Wiley & Sons, New York, 1980.
0	CARBOHYDRATES	Silk Stigma Style	436400.0	573000.0	-1.0	--
0	CAR-3-ENE	Silk Stigma Style				--
41	CAMPHOR	Silk Stigma Style				--
0	BUT-2-ENOIC-ACID-LACTONE	Silk Stigma Style				--
0	BORNEOL-ACETATE	Silk Stigma Style				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
35	BORNEOL	Silk Stigma Style				--
13	BETA-PINENE	Silk Stigma Style				--
5	BETA-PHENYLETHANOL	Silk Stigma Style				--
2	BETA-MYRCENE	Silk Stigma Style				--
0	BETA-CROCETIN	Silk Stigma Style		300.0		--
0	BETA-CITRONELLOL	Silk Stigma Style				--
53	BETA-CAROTENE	Silk Stigma Style				--
7	ASTRAGALIN	Flower				--
3	ASPARTIC-ACID	Bulb				--
0	ASH	Silk Stigma Style	42700.0	133000.0	1.0	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
14	ARGININE	Bulb				--
0	ALPHA-THUJENE	Silk Stigma Style				--
13	ALPHA-TERPINENE	Silk Stigma Style				--
28	ALPHA-PINENE	Silk Stigma Style				--
0	ALPHA-CROCIN	Silk Stigma Style				--
0	ALPHA-CROCETIN	Flower				--
0	ALPHA-CROCETIN	Silk Stigma Style		17500.0		--
3	ALANINE	Bulb				--
0	6-HYDROXY-3-FORMYL-2,4,4-TRIMETHYLCYCLOHEXA-2,5-DIEN-1-ONE	Silk Stigma Style				--
0	4-HYDROXY-3,5,5-TRIMETHYLCYCLOHEXAN-1-ON-2-ENE	Silk Stigma Style				--
0	4-HYDROXY-2,6,6-TRIMETHYL-CYCLOHEX-1-ENE-CARBOXALDEHYDE	Silk Stigma Style				--
0	3,8-DIHYDROXY-1-METHYLANTHRAQUINONE-2-CARBOXYLIC-ACID	Tissue Culture		40.0		--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	3,5,5-TRIMETHYLCYCLOHEXA-1,4-DIONE	Silk Stigma Style				--
0	3,5,5-TRIMETHYLCYCLOHEXA-1,4-DION-2-ENE	Silk Stigma Style				--
0	3,5,5-TRIMETHYL-4-HYDROXY-1-CYCLOHEXANONE-2-ENE	Silk Stigma Style				Leung, A.Y., Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics, John Wiley & Sons, New York, 1980.
0	2-PHENYLETHANOL	Silk Stigma Style				Leung, A.Y., Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics, John Wiley & Sons, New York, 1980.
0	2-PHENETHANOL	Silk Stigma Style				--
0	2-HYDROXY-3,5,5-TRIMETHYLCYCLOHEXA-1,4-DION-2-ENE	Silk Stigma Style				--
0	2-BUTENOIC-ACID-LACTONE	Silk Stigma Style				Leung, A.Y., Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics, John Wiley & Sons, New York, 1980.
0	13-CIS-CROCIN	Silk Stigma Style		400.0		--
67	1,8-CINEOLE	Silk Stigma Style				--