

Dr. Duke's Phytochemical and Ethnobotanical Database

Chemicals Found in *Opuntia ficus-indica*

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	5-DEHYDRO-AVENASTEROL	Seed Oil	--	30000		
0	7-DEHYDRO-AVENASTEROL	Seed Oil	--	26000		
3	ALANINE	Seed	8480	8480	-0.35633155145991213	Laferriere, J.E., 1988, Nutricomp Program, Nutricomp Database; reviewed in J. Ethnobiology 9(1):27-29.
3	ALANINE	Bud	7180	7180		Laferriere, J.E., 1988, Nutricomp Program, Nutricomp Database; reviewed in J. Ethnobiology 9(1):27-29.
0	ARABINOSE	Gum	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	ARABINOSE	Fruit	--	--		
14	ARGININE	Bud	4955	4955		Laferriere, J.E., 1988, Nutricomp Program, Nutricomp Database; reviewed in J. Ethnobiology 9(1):27-29.
14	ARGININE	Seed	27100	27100	0.10414881640060081	Laferriere, J.E., 1988, Nutricomp Program, Nutricomp Database; reviewed in J. Ethnobiology 9(1):27-29.
112	ASCORBIC-ACID	Flower	--	940	-0.5453992673923802	
112	ASCORBIC-ACID	Fruit	65	1690	-0.17940988776105046	
0	ASH	Seed	31700	241000	5.808588480786801	
0	ASH	Bud	235000	235000	1	Laferriere, J.E., 1988, Nutricomp Program, Nutricomp Database; reviewed in J. Ethnobiology 9(1):27-29.
0	ASH	Fruit	3000	27000	-0.7681533764487589	

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
3	ASPARTIC-ACID	Bud	8315	8315		Laferriere, J.E., 1988, Nutricomp Program, Nutricomp Database; reviewed in J. Ethnobiology 9(1):27-29.
3	ASPARTIC-ACID	Seed	15900	15900	-0.5938172126155349	Laferriere, J.E., 1988, Nutricomp Program, Nutricomp Database; reviewed in J. Ethnobiology 9(1):27-29.
53	BETA-CAROTENE	Bud	0.3	0.3	-1	Laferriere, J.E., 1988, Nutricomp Program, Nutricomp Database; reviewed in J. Ethnobiology 9(1):27-29.
53	BETA-CAROTENE	Fruit	0.08	0.09	-0.150626660752188	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.
47	BETA-SITOSTEROL	Stem	--	--		
47	BETA-SITOSTEROL	Seed Oil	--	680000	-1	
47	BETA-SITOSTEROL	Flower	--	400	-0.980631141191375	
5	BETANIN	Fruit	--	7.9		
28	CALCIUM	Be	--	560		
28	CALCIUM	Bud	560	560	-1	Laferriere, J.E., 1988, Nutricomp Program, Nutricomp Database; reviewed in J. Ethnobiology 9(1):27-29.
28	CALCIUM	Fruit	180	3065	-0.18259754680257	
4	CALCIUM-OXALATE	Leaf	--	--		
4	CALCIUM-OXALATE	Fruit	--	--		Abstract (See species file)
2	CAMPESTEROL	Seed Oil	--	140000		
0	CARBOHYDRATES	Bud	118600	118600	-1	Laferriere, J.E., 1988, Nutricomp Program, Nutricomp Database; reviewed in J. Ethnobiology 9(1):27-29.

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	CARBOHYDRATES	Fruit	56000	892000	0.5835117454451012	
0	CARBOHYDRATES	Seed	482000	558000	0.13749830178383302	
1	CELLULOSE	Fruit	13000	13000	-0.5275153196014987	List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
1	CHOLESTEROL	Seed Oil	--	15000		
23	CITRIC-ACID	Leaf	--	310	-0.6262670151342493	
23	CITRIC-ACID	Fruit	475	4560	-0.5770200207177607	
12	COPPER	Seed	3.4	3.4	-1.0353484581888348	Laferriere, J.E., 1988, Nutricomp Program, Nutricomp Database; reviewed in J. Ethnobiology 9(1):27-29.
13	CYSTEINE	Seed	5740	5740	0.19737371409175955	Laferriere, J.E., 1988, Nutricomp Program, Nutricomp Database; reviewed in J. Ethnobiology 9(1):27-29.
0	DEHYDROASCORBIC-ACID	Fruit Juice	30	30		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	FAT	Fruit	4000	29400	-0.4166972546466015	
0	FAT	Bud	24800	24800	1	Laferriere, J.E., 1988, Nutricomp Program, Nutricomp Database; reviewed in J. Ethnobiology 9(1):27-29.
0	FAT	Seed	54000	182000	-0.4392322707396648	
15	FIBER	Bud	89400	89400	-1	Laferriere, J.E., 1988, Nutricomp Program, Nutricomp Database; reviewed in J. Ethnobiology 9(1):27-29.
15	FIBER	Fruit	11000	59000	-0.7801740754366187	
15	FIBER	Seed	111000	524000	3.0733568917795826	

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
8	FRUCTOSE	Fruit	4500	44100	-0.22371990810302178	
1	GALACTOSE	Fruit	--	--		
1	GALACTOSE	Gum	--	--		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	GALACTURONIC-ACID	Stem	--	--		
7	GLUCOSE	Stem	--	--		
7	GLUCOSE	Fruit	50	480	-0.8900165864849618	
8	GLUTAMIC-ACID	Seed	37500	37500	-0.17775919429183049	Laferriere, J.E., 1988, Nutricomp Program, Nutricomp Database; reviewed in J. Ethnobiology 9(1):27-29.
8	GLUTAMIC-ACID	Bud	16000	16000		Laferriere, J.E., 1988, Nutricomp Program, Nutricomp Database; reviewed in J. Ethnobiology 9(1):27-29.
12	GLYCINE	Seed	14200	14200	0.4695769747206912	Laferriere, J.E., 1988, Nutricomp Program, Nutricomp Database; reviewed in J. Ethnobiology 9(1):27-29.
12	GLYCINE	Bud	4745	4745		Laferriere, J.E., 1988, Nutricomp Program, Nutricomp Database; reviewed in J. Ethnobiology 9(1):27-29.
18	HISTAMINE	Bud	2555	2555		Laferriere, J.E., 1988, Nutricomp Program, Nutricomp Database; reviewed in J. Ethnobiology 9(1):27-29.
18	HISTAMINE	Seed	4550	4550	1	Laferriere, J.E., 1988, Nutricomp Program, Nutricomp Database; reviewed in J. Ethnobiology 9(1):27-29.
1	INDICAXANTHIN	Fruit	--	22		
6	IRON	Fruit	12	65	-0.2696507015577661	

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
6	IRON	Seed	100	100	-0.2360003199095645	Laferriere, J.E., 1988, Nutricomp Program, Nutricomp Database; reviewed in J. Ethnobiology 9(1):27-29.
1	ISOBETANIN	Fruit	--	--		
3	ISOLEUCINE	Bud	4140	4140		Laferriere, J.E., 1988, Nutricomp Program, Nutricomp Database; reviewed in J. Ethnobiology 9(1):27-29.
3	ISOLEUCINE	Seed	6775	6775	-0.474238068486464	Laferriere, J.E., 1988, Nutricomp Program, Nutricomp Database; reviewed in J. Ethnobiology 9(1):27-29.
0	ISOMALTOSE	Fruit	--	--		
11	ISORHAMNETIN	Flower	--	2500		
0	ISORHAMNETIN-GLUCOSIDE	Flower	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
75	KAEMPFEROL	Pt	--	--		
75	KAEMPFEROL	Flower	--	--		
0	KILOCALORIES	Bud	1140	1140	-1	Laferriere, J.E., 1988, Nutricomp Program, Nutricomp Database; reviewed in J. Ethnobiology 9(1):27-29.
0	KILOCALORIES	Fruit	670	3600	-0.09196802900131361	
7	LAURIC-ACID	Flower	--	--		
2	LEUCINE	Bud	7040	7040		Laferriere, J.E., 1988, Nutricomp Program, Nutricomp Database; reviewed in J. Ethnobiology 9(1):27-29.
2	LEUCINE	Seed	12800	12800	-0.4098153600457443	Laferriere, J.E., 1988, Nutricomp Program, Nutricomp Database; reviewed in J. Ethnobiology 9(1):27-29.
27	LINOLEIC-ACID	Seed Oil	--	734000	1.3484158912417201	

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
27	LINOLEIC-ACID	Seed	39640	133590	0.22677876696150248	
0	LINOLEOYLIDIOLEIN	Seed	--	--		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.
78	LUTEOLIN	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.
78	LUTEOLIN	Pt	--	--		
4	LYSINE	Bud	6005	6005		Laferriere, J.E., 1988, Nutricomp Program, Nutricomp Database; reviewed in J. Ethnobiology 9(1):27-29.
4	LYSINE	Seed	6275	6275	-0.7888391793942429	Laferriere, J.E., 1988, Nutricomp Program, Nutricomp Database; reviewed in J. Ethnobiology 9(1):27-29.
65	MAGNESIUM	Bud	1420	1420	-1	Laferriere, J.E., 1988, Nutricomp Program, Nutricomp Database; reviewed in J. Ethnobiology 9(1):27-29.
65	MAGNESIUM	Seed	790	790	-0.8518625124201381	Laferriere, J.E., 1988, Nutricomp Program, Nutricomp Database; reviewed in J. Ethnobiology 9(1):27-29.
15	MALIC-ACID	Fruit	180	1700	-0.8411105275537513	
15	MALIC-ACID	Plant	--	--		
15	MALIC-ACID	Leaf	--	950	-1.176047821354511	
1	MALONIC-ACID	Fruit	--	--		
1	MALONIC-ACID	Leaf	--	--		
10	MESCALINE	Shoot	--	--		

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
15	METHIONINE	Bud	1890	1890		Laferriere, J.E., 1988, Nutricomp Program, Nutricomp Database; reviewed in J. Ethnobiology 9(1):27-29.
15	METHIONINE	Seed	4830	4830	0.13303493967693916	Laferriere, J.E., 1988, Nutricomp Program, Nutricomp Database; reviewed in J. Ethnobiology 9(1):27-29.
3	MUCILAGE	Stem	--	--		
6	MYRISTIC-ACID	Flower	--	--		
1	N-METHYL-TYRAMINE	Shoot	--	--		
0	NEOBETANIN	Fruit	--	--		
0	NEOBETANIN	Flower	--	--		
0	NEOBETANIN	Plant	--	--		J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.
39	NIACIN	Bud	4.6	4.6	-0.9999999999999999	Laferriere, J.E., 1988, Nutricomp Program, Nutricomp Database; reviewed in J. Ethnobiology 9(1):27-29.
39	NIACIN	Fruit	3	27	-0.45048529250390834	
18	OLEIC-ACID	Seed	4750	16015	-0.8474475082644206	
18	OLEIC-ACID	Seed Oil	--	88000	-1.2183511412251653	
18	OLEIC-ACID	Flower	--	--		
0	OPUNTIA XANTHIN	Fruit	--	--		
9	OXALIC-ACID	Fruit	--	--		
13	PALMITIC-ACID	Seed Oil	--	120000	-0.4112562243968307	
13	PALMITIC-ACID	Seed	6480	21840	-0.24897098488430294	
13	PALMITIC-ACID	Flower	--	--		

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	PALMITOYLDILINOLEIN	Seed	--	--		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.
24	PECTIN	Stem	--	--		
24	PECTIN	Fruit	--	--		ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
4	PENDULETIN	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.
4	PENDULETIN	Pt	--	--		
7	PHENYLALANINE	Bud	4250	4250		Laferriere, J.E., 1988, Nutricomp Program, Nutricomp Database; reviewed in J. Ethnobiology 9(1):27-29.
7	PHENYLALANINE	Seed	8255	8255	-0.3923386950214408	Laferriere, J.E., 1988, Nutricomp Program, Nutricomp Database; reviewed in J. Ethnobiology 9(1):27-29.
0	PHORBIC-ACID	Fruit	--	--		
0	PHORBIC-ACID	Stem	--	--		
4	PHOSPHORUS	Seed	1605	1605	-0.9905361988638606	Laferriere, J.E., 1988, Nutricomp Program, Nutricomp Database; reviewed in J. Ethnobiology 9(1):27-29.
4	PHOSPHORUS	Bud	243	243	-1	Laferriere, J.E., 1988, Nutricomp Program, Nutricomp Database; reviewed in J. Ethnobiology 9(1):27-29.
4	PHOSPHORUS	Fruit	320	1985	-0.3739020552341689	
0	PISCIDIC-ACID	Plant	--	--		J.S. Glasby Dict.PIs Containing 2ndary Metabolite. 1991.
0	PISCIDIC-ACID	Fruit	--	--		

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	PISCIDIC-ACID-DIETHYL-ESTER	Plant	--	--		
0	PISCIDIC-ACID-DIETHYLEETHER	Flower	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	PISCIDIC-ACID-METHYL-ESTER	Flower	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	PISCIDIC-ACID-MONOETHYL-ESTER	Plant	--	--		
0	PISCIDIC-ACID-MONOETHYLEETHER	Flower	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
14	POTASSIUM	Fruit	700	6615	-0.999885306286469	Laferriere, J.E., 1988, Nutricomp Program, Nutricomp Database; reviewed in J. Ethnobiology 9(1):27-29.
14	POTASSIUM	Seed	1720	1720	-0.9541918289732769	Laferriere, J.E., 1988, Nutricomp Program, Nutricomp Database; reviewed in J. Ethnobiology 9(1):27-29.
14	POTASSIUM	Bud	2600	2600	-1	Laferriere, J.E., 1988, Nutricomp Program, Nutricomp Database; reviewed in J. Ethnobiology 9(1):27-29.
0	PROLINE	Bud	3995	3995		Laferriere, J.E., 1988, Nutricomp Program, Nutricomp Database; reviewed in J. Ethnobiology 9(1):27-29.
0	PROLINE	Seed	10500	10500	-0.16421252006446033	Laferriere, J.E., 1988, Nutricomp Program, Nutricomp Database; reviewed in J. Ethnobiology 9(1):27-29.
0	PROTEIN	Fruit	11000	73500	-0.4825760823596808	
0	PROTEIN	Seed	121000	175300	-0.5203528144558208	
0	PROTEIN	Bud	110300	110300	-1	Laferriere, J.E., 1988, Nutricomp Program, Nutricomp Database; reviewed in J. Ethnobiology 9(1):27-29.

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
44	QUERCITRIN	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.
44	QUERCITRIN	Pt	--	--		
1	QUINIC-ACID	Fruit	150	1400	-1.2698481607343142	Laferriere, J.E., 1988, Nutricomp Program, Nutricomp Database; reviewed in J. Ethnobiology 9(1):27-29.
0	RHAMNOSE	Fruit	--	--		
0	RHAMNOSE	Gum	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
15	RIBOFLAVIN	Fruit	0.2	2.2	-0.6016582159846274	
15	RIBOFLAVIN	Bud	0.6	0.6	-1.0000000000000002	Laferriere, J.E., 1988, Nutricomp Program, Nutricomp Database; reviewed in J. Ethnobiology 9(1):27-29.
87	RUTIN	Pt	--	--		
87	RUTIN	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.
1	SERINE	Bud	3830	3830		Laferriere, J.E., 1988, Nutricomp Program, Nutricomp Database; reviewed in J. Ethnobiology 9(1):27-29.
1	SERINE	Seed	7665	7665	-0.5575702858818078	Laferriere, J.E., 1988, Nutricomp Program, Nutricomp Database; reviewed in J. Ethnobiology 9(1):27-29.
14	SHIKIMIC-ACID	Fruit	25	220	-1	Laferriere, J.E., 1988, Nutricomp Program, Nutricomp Database; reviewed in J. Ethnobiology 9(1):27-29.
1	SODIUM	Bud	90	90	-1	Laferriere, J.E., 1988, Nutricomp Program, Nutricomp Database; reviewed in J. Ethnobiology 9(1):27-29.

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
1	SODIUM	Seed	714	714	0.4177001325446195	Laferriere, J.E., 1988, Nutricomp Program, Nutricomp Database; reviewed in J. Ethnobiology 9(1):27-29.
8	STEARIC-ACID	Seed Oil	--	58000	-0.46568311898509607	
8	STEARIC-ACID	Seed	3130	10555	-0.3363823818967071	
8	STEARIC-ACID	Flower	--	--		
0	STIGMAST-7-EN-3-BETA-OL	Seed Oil	--	70000		
12	STIGMASTEROL	Seed Oil	--	65000		
7	SUCCINIC-ACID	Fruit	--	--		
14	SUCROSE	Fruit	--	--		
0	SUGARS	Fruit	56000	560000	1.4273313943014194	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
6	TARTARIC-ACID	Fruit	--	--		
31	THIAMIN	Bud	0.1	0.1	-0.9999999999999998	Laferriere, J.E., 1988, Nutricomp Program, Nutricomp Database; reviewed in J. Ethnobiology 9(1):27-29.
31	THIAMIN	Fruit	0.1	1.3	-0.5162081782930655	
4	THREONINE	Bud	3845	3845		Laferriere, J.E., 1988, Nutricomp Program, Nutricomp Database; reviewed in J. Ethnobiology 9(1):27-29.
4	THREONINE	Seed	7330	7330	-0.1806224771123855	Laferriere, J.E., 1988, Nutricomp Program, Nutricomp Database; reviewed in J. Ethnobiology 9(1):27-29.
93	TOCOPHEROL	Bud	2.5	2.5		Laferriere, J.E., 1988, Nutricomp Program, Nutricomp Database; reviewed in J. Ethnobiology 9(1):27-29.

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
29	TRYPTOPHAN	Seed	1665	1665	-0.5661475332704833	Laferriere, J.E., 1988, Nutricomp Program, Nutricomp Database; reviewed in J. Ethnobiology 9(1):27-29.
11	TYRAMINE	Shoot	--	--		
8	TYROSINE	Bud	3220	3220		Laferriere, J.E., 1988, Nutricomp Program, Nutricomp Database; reviewed in J. Ethnobiology 9(1):27-29.
8	TYROSINE	Seed	6590	6590	-0.26667553919347564	Laferriere, J.E., 1988, Nutricomp Program, Nutricomp Database; reviewed in J. Ethnobiology 9(1):27-29.
0	URONIC-ACID	Gum	--	--		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.
3	VALINE	Bud	5485	5485		Laferriere, J.E., 1988, Nutricomp Program, Nutricomp Database; reviewed in J. Ethnobiology 9(1):27-29.
3	VALINE	Seed	10500	10500	-0.1861604693189085	Laferriere, J.E., 1988, Nutricomp Program, Nutricomp Database; reviewed in J. Ethnobiology 9(1):27-29.
0	VIT-D	Bud	--	0.07		Laferriere, J.E., 1988, Nutricomp Program, Nutricomp Database; reviewed in J. Ethnobiology 9(1):27-29.
0	VIT-D0.07	Bud	--	--		
0	WATER	Bud	952600	952600	1	Laferriere, J.E., 1988, Nutricomp Program, Nutricomp Database; reviewed in J. Ethnobiology 9(1):27-29.
0	WATER	Fruit	814000	86400	0.40621744229328755	
0	WATER	Seed	53000	136000	-0.3515346520842564	
3	XYLOSE	Fruit	--	--		

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
3	XYLOSE	Gum	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
77	ZINC	Seed	15	15	-0.8554549124568511	Laferriere, J.E., 1988, Nutricomp Program, Nutricomp Database; reviewed in J. Ethnobiology 9(1):27-29.