

Dr. Duke's Phytochemical and Ethnobotanical Databases

Chemicals found in *Cichorium intybus*

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Refernce Citation
0	(11S)-11,13-DIHYDROLACTUCIN	Root				--
0	(11S)-11,13-DIHYDROLACTUCOPICRIN	Root				--
1	11(S),13-DIHYDRO-8-DEOXYLACTUCIN	Root				--
1	11(S),13-DIHYDROLACTUCIN	Root				--
1	11(S),13-DIHYDROLACTUCOPICRIN	Root				--
0	3-GLUCURONIDE-ISORHAMNETIN	Plant				--
0	3-GLUCURONIDE-ISORHAMNETIN	Leaf				--
0	3-O-FERULOYL-QUINIC-ACID	Shoot				--
0	3-O-P-COUMAROYL-QUINIC-ACID	Shoot				--
5	8-DEOXYLACTUCIN	Plant				--
5	8-DEOXYLACTUCIN	Root		17.0		--
6	ACETOPHENONE	Root				Williamson, E. M. and Evans, F. J., Potter's New Cyclopaedia of Botanical Drugs and Preparations, Revised Ed., Saffron Walden, the C. W. Daniel Co., Ltd., Essex UK, 362 pp, 1988, reprint 1989.
32	AESCULETIN	Plant				--
32	AESCULETIN	Leaf				--
33	AESCULIN	Leaf				--
33	AESCULIN	Plant				--
10	ALPHA-AMYRIN	Seed				--
0	ALPHA-LACTUCEROL	Plant				--
15	ALPHA-LINOLENIC-ACID	Root	130.0	650.0	-0.32107850770475904	USDA's Ag Handbook 8 and sequelae)
15	ALPHA-LINOLENIC-ACID	Leaf	60.0	1224.0	-1.0636070799711819	USDA's Ag Handbook 8 and sequelae)
5	ALUMINUM	Root				--
101	APIGENIN	Shoot				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	APIGENIN-7-O-ALPHA-L-ARABINOSIDE	Shoot				--
14	ARGININE	Leaf	660.0	14892.0	-0.29705091845608234	USDA's Ag Handbook 8 and sequelae)
112	ASCORBIC-ACID	Leaf	100.0	2040.0	-0.254634091901897	--
112	ASCORBIC-ACID	Root	50.0	250.0	-0.5030624603012167	--
0	ASH	Root	8900.0	44500.0	-0.6584550332799385	--
0	ASH	Leaf	6000.0	180000.0	1.0773581121700988	USDA's Ag Handbook 8 and sequelae)
7	ASTRAGALIN	Plant				--
7	ASTRAGALIN	Leaf				--
9	BETA-AMYRIN	Seed				--
53	BETA-CAROTENE	Leaf	0.0	228.0	-0.14501134388228565	USDA's Ag Handbook 8 and sequelae)
0	BETA-LACTUCEROL	Plant				--
14	BETAINE	Root				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
4	BORON	Root		20.0	-0.14974023395860875	Betting on Boron, Unpublished draft by J. A. Duke on file at USDA, draft and papers relating to boron percentages. Includes Internat. Z. Vit. Ern. Forschung 43:1973 (boron).
102	CAFFEIC-ACID	Shoot				--
102	CAFFEIC-ACID	Leaf		767.0	-0.6095210261436637	--
28	CALCIUM	Root	410.0	2050.0	-0.5862286623630208	--
28	CALCIUM	Leaf	790.0	19900.0	0.09995100214309341	--
0	CARBOHYDRATES	Root	175100.0	875500.0	0.5834772969600167	USDA's Ag Handbook 8 and sequelae)
0	CARBOHYDRATES	Leaf	32000.0	654000.0	0.33520537705808534	--
22	CATECHOL	Root				--
0	CATECHOL-TANNINS	Root				--
1	CELLULOSE	Root		50000.0	-1.0	--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	CERYL-ALCOHOL	Plant				--
10	CHICORIC-ACID	Plant				--
10	CHICORIC-ACID	Leaf		1100.0		--
77	CHLOROGENIC-ACID	Leaf				--
77	CHLOROGENIC-ACID	Shoot				--
77	CHLOROGENIC-ACID	Plant				--
77	CHLOROGENIC-ACID	Root				--
20	CHOLINE	Root				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	CHRYSANTHEMIN	Leaf				--
0	CICHORALEXIN	Leaf		146.5		--
14	CICHORIC-ACID	Leaf				--
3	CICHORIIN	Leaf				--
3	CICHORIIN	Root				--
3	CICHORIIN	Plant				--
3	CICHORIIN	Flower	1000.0	2000.0		--
0	CICHORIOLIDE-A	Root		2.0		--
0	CICHORIOSIDE-B	Plant				--
0	CICHORIOSIDE-B	Root		6.0		--
0	CICHORIOSIDE-C	Root		8.0		--
23	CITRIC-ACID	Plant				--
12	COPPER	Root				--
57	COUMARIN	Plant				--
0	CREPIDIASIDE-B	Root		100.0		--
0	CREPIDIASIDE-B	Plant				--
0	CYANAROSIDE	Shoot				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	DELPHINIDIN-3-(6"-MALONYLGLUCOSIDE)-5-MALONYLGLUCOSIDE	Inflorescence				--
0	DICAFFEOYL-TARTARIC-ACID	Shoot				--
0	DICAFFEOYL-TARTARIC-ACID	Plant				Gruenwald, J. et al. 1998. PDR for Herbal Medicine. 1st ed. Medical Economics Co., Montvale, NJ. 1244 pp. (abbreviated as PHR or Physicians Herbal Reference in my mind)
30	ESCULETIN	Flower				Rizk, A.F.M., The Phytochemistry of the Flora of Qatar. Scientific and Applied Research Centre, University of Qatar, Kingprint, Richmond, UK, 1986.
29	ESCULIN	Flower				Rizk, A.F.M., The Phytochemistry of the Flora of Qatar. Scientific and Applied Research Centre, University of Qatar, Kingprint, Richmond, UK, 1986.
0	FAT	Root	2000.0	16000.0	-0.2294322736898297	--
0	FAT	Leaf	1000.0	29000.0	-0.5472316463900033	USDA's Ag Handbook 8 and sequelae)
61	FERULIC-ACID	Plant				--
61	FERULIC-ACID	Leaf		0.5	-1.0842680798316504	--
15	FIBER	Plant	9000.0	153000.0	-0.5161042249299459	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
15	FIBER	Root	19500.0	97500.0	0.20849392887813434	--
8	FRUCTOSE	Root	45000.0	220000.0	1.999334825861607	--
7	GLUCOSE	Root		11000.0	-0.4327088902399002	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
7	HARMAN	Root				--
7	HISTIDINE	Leaf	150.0	3468.0	-0.9576955368033032	USDA's Ag Handbook 8 and sequelae)
30	HYPEROSIDE	Leaf				--
30	HYPEROSIDE	Plant				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
30	HYPEROSIDE	Shoot				--
8	INOSITOL	Root				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
19	INULIN	Root	80000.0	850000.0	2.568442619517879	--
19	INULIN	Leaf				--
6	IRON	Root	8.0	40.0	-0.38354158556693424	--
6	IRON	Leaf	5.0	246.0	-0.29703270980762686	USDA's Ag Handbook 8 and sequelae)
4	ISOCHLOROGENIC-ACID	Plant				Gruenwald, J. et al. 1998. PDR for Herbal Medicine. 1st ed. Medical Economics Co., Montvale, NJ. 1244 pp. (abbreviated as PHR or Physicians Herbal Reference in my mind)
4	ISOCHLOROGENIC-ACID	Root				--
3	ISOLEUCINE	Leaf	540.0	12240.0	0.045339706929741146	USDA's Ag Handbook 8 and sequelae)
0	JACQUINELIN	Root				--
75	KAEMPFEROL	Plant				--
75	KAEMPFEROL	Seed		20.0		--
0	KAEMPFEROL-3-O-BETA-D-GLUCURONIDE	Plant				--
0	KAEMPFEROL-3-O-BETA-D-GLUCURONIDE	Leaf				--
6	LACTUCIN	Root				--
6	LACTUCIN	Plant				--
6	LACTUCIN	Fruit Juice				--
6	LACTUCIN	Latex Exudate				--
0	LACTUCIN-P-OXYPHENYLACETICACID-ESTER	Root				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
4	LACTUCOPICRIN	Latex Exudate				--
4	LACTUCOPICRIN	Fruit Juice				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
4	LACTUCOPICRIN	Root				--
2	LACTUPICRIN	Plant				--
0	LACTUPICRIN-METHYL-ESTER	Plant				--
2	LEUCINE	Leaf	390.0	8976.0	-1.160783880324028	USDA's Ag Handbook 8 and sequelae)
1	LEVULOSE	Fruit Juice				--
27	LINOLEIC-ACID	Root	750.0	3750.0	0.23419013142339878	--
27	LINOLEIC-ACID	Leaf	370.0	7548.0	-0.10687088053184475	USDA's Ag Handbook 8 and sequelae)
27	LINOLEIC-ACID	Seed				--
0	LUTEOLIN-7-O-BETA-D-GLUCURONIDE	Plant				--
0	LUTEOLIN-7-O-BETA-D-GLUCURONIDE	Leaf				--
4	LYSINE	Leaf	350.0	7956.0	-1.1182801972380008	USDA's Ag Handbook 8 and sequelae)
65	MAGNESIUM	Root	220.0	1100.0	-0.7776954016677178	--
65	MAGNESIUM	Leaf	130.0	2652.0	-0.5690626388509602	USDA's Ag Handbook 8 and sequelae)
15	MALIC-ACID	Plant				--
0	MANNAN	Root				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
18	MANNITOL	Plant				--
3	MANNOSE	Root				Leung, A.Y., Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics, John Wiley & Sons, New York, 1980.
15	METHIONINE	Leaf	50.0	1224.0	-1.5483275310004487	USDA's Ag Handbook 8 and sequelae)
0	MONOCAFFEYOYL TARTARIC ACID	Leaf		1800.0		--
13	MUFA	Root	40.0	200.0	-0.8770490931439714	USDA's Ag Handbook 8 and sequelae)
13	MUFA	Leaf	20.0	365.0	-0.692331152044028	USDA's Ag Handbook 8 and sequelae)
6	MYRISTIC-ACID	Root	30.0	150.0	-0.5390201665235613	USDA's Ag Handbook 8 and sequelae)

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
6	MYRISTIC-ACID	Leaf	10.0	204.0	-0.6023075913949533	USDA's Ag Handbook 8 and sequelae)
2	NEO-CHLOROGENIC-ACID	Shoot				--
2	NEO-CHLOROGENIC-ACID	Root				--
39	NIACIN	Root	4.0	20.0	-0.8763923978074498	USDA's Ag Handbook 8 and sequelae)
39	NIACIN	Leaf	5.0	102.0	0.05472679513303063	USDA's Ag Handbook 8 and sequelae)
2	NORHARMAN	Root				--
18	OLEIC-ACID	Seed				--
18	OLEIC-ACID	Root	40.0	200.0	-0.6297846550737646	USDA's Ag Handbook 8 and sequelae)
18	OLEIC-ACID	Leaf	20.0	408.0	-0.6177088987554278	USDA's Ag Handbook 8 and sequelae)
13	P-HYDROXY-BENZOIC-ACID	Leaf		11.0	-0.7729405090241419	--
13	PALMITIC-ACID	Root	410.0	2050.0	-0.30431334760427364	USDA's Ag Handbook 8 and sequelae)
13	PALMITIC-ACID	Seed				--
13	PALMITIC-ACID	Leaf	210.0	4284.0	-0.3076698789052898	USDA's Ag Handbook 8 and sequelae)
2	PALMITOLEIC-ACID	Root	750.0	3750.0	1.9212861697652845	USDA's Ag Handbook 8 and sequelae)
24	PECTIN	Root				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	PENTOSANE	Root	47000.0	65000.0	1.0	List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
7	PHENYLALANINE	Leaf	220.0	4896.0	-1.3885269608474589	USDA's Ag Handbook 8 and sequelae)
4	PHOSPHORUS	Root	610.0	3050.0	-0.0821867763972658	--
4	PHOSPHORUS	Leaf	210.0	4284.0	-0.12648268363942136	--
3	PONTICAEPOXIDE	Root				--
14	POTASSIUM	Root	2900.0	14500.0	-0.09363688811813217	--
14	POTASSIUM	Leaf	1820.0	37128.0	0.2995628765550062	USDA's Ag Handbook 8 and sequelae)

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	PROTEIN	Root	14000.0	86000.0	-0.3639841360982529	--
0	PROTEIN	Leaf	10000.0	246000.0	0.34072863379732415	--
2	PROTocatechuic-ALDEHYDE	Seed				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
4	PUFA	Leaf	440.0	8030.0	-1.576432461803007	USDA's Ag Handbook 8 and sequelae)
4	PUFA	Root	870.0	4350.0	-0.318698697794576	USDA's Ag Handbook 8 and sequelae)
176	QUERCETIN	Seed		1.0		--
176	QUERCETIN	Plant				--
2	QUERCETIN-3-O-BETA-D-GLUCURONIDE	Plant				--
2	QUERCETIN-3-O-BETA-D-GLUCURONIDE	Leaf				--
44	QUERCITRIN	Shoot				--
15	RIBOFLAVIN	Root	0.0	2.0	-0.45399811156287	USDA's Ag Handbook 8 and sequelae)
15	RIBOFLAVIN	Leaf	1.0	29.0	-0.04192444032714655	USDA's Ag Handbook 8 and sequelae)
0	RUBBER	Root		420.0	-0.4734657197361741	--
87	RUTIN	Leaf		14000.0	-0.1353936273578098	--
87	RUTIN	Seed		6400.0	0.07536225897017279	--
7	SALICYLATES	Leaf	10.0	100.0	-0.3593779047496331	--
44	SCOPOLETIN	Plant				--
44	SCOPOLETIN	Flower				Rizk, A.F.M., The Phytochemistry of the Flora of Qatar, Scientific and Applied Research Centre, University of Qatar, Kingprint, Richmond, UK, 1986.
0	SFA	Root	480.0	2400.0	-0.20544019680514997	USDA's Ag Handbook 8 and sequelae)
0	SFA	Leaf	240.0	4380.0	-0.45748721001349424	USDA's Ag Handbook 8 and sequelae)
0	SILICA	Leaf		27800.0	0.9413150747474829	--
4	SILICON	Root				--



Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
3	SILVER	Root				--
9	SINAPIC-ACID	Plant		0.5	-1.0	--
1	SODIUM	Root	500.0	2500.0	0.6512650124326103	--
1	SODIUM	Leaf	70.0	1428.0	-0.3936622771435691	USDA's Ag Handbook 8 and sequelae)
0	SONCHUSIDE-A	Root		7.0		--
0	SONCHUSIDE-C	Root		2.0		--
8	STEARIC-ACID	Root	20.0	100.0	-0.6446087280612671	USDA's Ag Handbook 8 and sequelae)
8	STEARIC-ACID	Leaf	10.0	204.0	-0.48893321127321177	USDA's Ag Handbook 8 and sequelae)
8	STEARIC-ACID	Plant				--
8	STEARIC-ACID	Seed				--
14	SUCROSE	Root		140000.0	0.1611945921135931	--
0	SUGARS	Root		585000.0	4.656820199809224	--
35	TANNIN	Plant				--
2	TARAXASTEROL	Root				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
6	TARTARIC-ACID	Plant				--
6	TARTARIC-ACID	Shoot				--
31	THIAMIN	Root	0.0	2.0	-0.41582954985618054	USDA's Ag Handbook 8 and sequelae)
31	THIAMIN	Leaf	1.0	14.0	1.1869303740705777	USDA's Ag Handbook 8 and sequelae)
4	THREONINE	Leaf	250.0	5712.0	-1.367011082098785	USDA's Ag Handbook 8 and sequelae)
0	TITANIUM	Root				--
0	TRANS-ZEATIN	Root				--
0	TRIDECA-1,5-DIEN-7,9,11-TRIYNE-3,4-DIOL	Root				--
29	TRYPTOPHAN	Leaf	160.0	3672.0	0.6804048665688907	USDA's Ag Handbook 8 and sequelae)
22	UMBELLIFERONE	Plant				--

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22	UMBELLIFERONE	Flower				Rizk, A.F.M., The Phytochemistry of the Flora of Qatar. Scientific and Applied Research Centre, University of Qatar, Kingprint, Richmond, UK, 1986.
0	URIDINE-5'-DIPHOSPHOGLUCOSE	Root				--
3	VALINE	Leaf	410.0	9180.0	-0.9848461873827702	USDA's Ag Handbook 8 and sequelae)
24	VANILLIC-ACID	Leaf		0.5	-1.181981260366695	--
0	VITAMIN-A	Leaf				--
24	VITAMIN-B-1	Root		0.05		--
0	VITAMIN-B-2	Root		0.7		--
0	WATER	Root	240000.0	800000.0	0.2012998824504101	--
0	WATER	Leaf	931000.0	951000.0	0.7152320256671255	USDA's Ag Handbook 8 and sequelae)
77	ZINC	Root				--