

Dr. Duke's Phytochemical and Ethnobotanical Databases

Chemicals found in *Inula helenium*

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	(-)-INOSITOL	Leaf				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	1-(1-ISO-BUTYROXY-METHYL-1-2-OXIDO-ETHYL)-2-ISO-BUTYROXY-4-METHYL-BENZENE	Root		5.0		--
0	1-BETA-HYDROXYISOALANTOLACTONE	Shoot		3.3		--
0	1-DEOXY-8-EPIIVANGUSTIN	Plant				J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.
0	1-DEOXY-8-EPIIVANGUSTIN	Root		180.0		--
0	11(13)-DEHYDRO-ERIOLIN	Shoot		37.5		--
0	1BETA,10ALPHA-EPOXY-1,10-H-CIS-INUNOLIDE	Shoot		16.7		--
0	1BETA,10ALPHA-EPOXY-1,10-H-CIS-INUNOLIDE	Plant				J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.
0	1BETA-HYDROXYALANTOLACTONE	Plant				J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.
1	2-ALPHA-HYDROXYALANTOLACTONE	Shoot		56.0		--
0	2-OXOALANTOLACTONE	Shoot		5.0		--
0	2-OXOALANTOLACTONE	Root				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
4	3-METHYLQUERCETIN	Inflorescence				--
0	4,5-DIHYDRO-5,6-DEHYDROALANTOLACTONE	Root				Bisset, N.G., ed. 1994. Herbal Drugs and Phytopharmaceuticals. CRC Press. Boca Raton, FL. 566 pp.
0	4-ALPHA-5-ALPHA-EPOXY-10-14(H)-INUVISCOLIDE	Shoot		27.0		--
0	4-ALPHA-5-ALPHA-EPOXY-10-ALPHA-4(H)-INUVISCOLIDE	Shoot		700.0		--
0	4-EPIISOINUVISCOLIDE	Shoot		6.6		--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	4-EPIISOINUVISCOLIDE	Plant				J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.
0	4ALPHA-H-CONFERTIN	Shoot		1.3		--
0	4ALPHA-H-CONFERTIN	Plant				J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.
0	4BETA,5ALPHA-EPOXY-4,5-CIS-INUNOLIDE	Shoot		33.0		--
0	4BETA,5ALPHA-EPOXY-4,5-CIS-INUNOLIDE	Plant				J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.
0	4H-TOMENTOSIN	Plant				J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.
0	8,9-EPOXY-10-ISOBUTYRYLOXYTHYMOL-ISOBUTYRATE	Root				Bisset, N.G., ed. 1994. Herbal Drugs and Phytopharmaceuticals. CRC Press. Boca Raton, FL. 566 pp.
0	8-EPI-ISOVANGUSTIN	Shoot		40.0		--
0	8-EPIVANGUSTIN	Plant				J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.
0	8-EPITOMENTOSIN	Plant				J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.
0	8-EPITOMENTOSIN	Shoot		16.7		--
0	9-BETA-(2-METHYL-BUTYROYL-OXY)-COSTUNOLIDE	Shoot		20.0		--
0	9-BETA-HYDROXYCOSTUNOLIDE	Shoot		20.0		--
0	9-BETA-ISO-BUTYROYL-OXY-COSTUNOLIDE	Shoot		4.0		--
0	9-BETA-ISO-VALEROYL-OXY-COSTUNOLIDE	Shoot		20.0		--
0	9-ISOBUTYRYLOXY-COSTUNOLIDE	Plant				J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.
0	9-ISOVALERYLOXY-COSTUNOLIDE	Plant				J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.
0	9BETA-(2-METHYLBUTYRYLOXY)-COSTUNOLIDE	Plant				J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	9BETA-HYDROXYCOSTULONIDE	Plant				J.S. Glasby Dict.Plis Containing 2ndary Metabolite. 1991.
0	ALANTIC-ACID	Root				Leung, A.Y., Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics, John Wiley & Sons, New York, 1980.
0	ALANTOL	Root				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
36	ALANTOLACTONE	Root Essent. Oil				--
36	ALANTOLACTONE	Rhizome	5000.0	15100.0		--
36	ALANTOLACTONE	Root	435.0	1740.0		--
36	ALANTOLACTONE	Plant				--
0	ALANTOLIC-ACID	Root				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	ALANTOPICRIN	Leaf				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
5	ALUMINUM	Plant				--
112	ASCORBIC-ACID	Leaf				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
112	ASCORBIC-ACID	Root	4.4	20.0	-0.6345406922681753	--
0	ASH	Root	15840.0	72000.0	0.12682088947059497	--
10	AZULENE	Root				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
53	BETA-CAROTENE	Root				--
0	BETA-HUMULENE	Root		66.0		--
47	BETA-SITOSTEROL	Root				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	BETA-SITOSTEROL-GLUCOSIDE	Root				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
28	CALCIUM	Root	2200.0	10000.0	0.28443978784453666	--
2	CAMPESTEROL	Root				--
1	CARABRONE	Plant				--
1	CARABRONE	Shoot	34.0	40.0		--
24	CHROMIUM	Root	0.2	1.0	-0.3606264349739525	--
2	COBALT	Root	0.4	1.8	-0.5061395402470722	--
12	COPPER	Plant				--
9	COSTUNOLIDE	Shoot		20.0	1.0	--
0	DAMARADIENOL	Root				--
0	DAMMADIEN-3-BETA-OL	Root		60.0		--
3	DAMMARADIENOL	Root				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	DAMMARADIENOL-ACETATE	Root		20000.0		--
0	DAMMARADIENYL-ACETATE	Root				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	DIHYDROALANTOLACTONE	Root				--
0	DIHYDROALANTOLACTONE	Rhizome				--
2	DIHYDROISOALANTOLACTONE	Plant				--
2	DIHYDROISOALANTOLACTONE	Fruit				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
2	DIHYDROISOALANTOLACTONE	Rhizome				--
2	DIHYDROISOALANTOLACTONE	Root				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	EO	Plant	5700.0	54000.0	3.3637756573619817	--
0	EO	Fruit	10000.0	40000.0	-0.042481439666032995	--
0	EUDESMA-4(15)-7(11)-DIEN-8-BETA-12-OLIDE	Root				--
0	EUDESMA-5-7(11)-DIEN-13-OL-8-BETA-12-OLIDE	Root				--
0	EUDESMA-5-7(11)-DIEN-8-BETA-12-OLIDE	Root				--
0	EUDESMADIEN-4-(15),7(11)-OLID-(8BETA,12)	Root				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	EUDESMADIEN-5,7(11)-OLID-(8BETA,12)	Root				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	EUDESMAMOLIDES	Root				Bisset, N.G., ed. 1994. Herbal Drugs and Phytopharmaceuticals. CRC Press. Boca Raton, FL. 566 pp.
0	FAT	Root	4180.0	19000.0	-0.12938651050011435	--
0	FIBER(CRUDE)	Root		140000.0	0.8495825650975791	--
0	FIBER(DIETARY)	Root		380000.0	-0.20125931618604387	--
2	FRIEDELIN	Root Essent. Oil				--
2	FRIEDELIN	Root				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	GAMMA-SITOSTEROL	Root				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
2	GERMACRENE-D	Root				Abstract (See species file)
0	GERMACRENE-D-LACTONE	Root		30.0		--
0	GERMACRENE-D-LACTONE	Plant				Bisset, N.G., ed. 1994. Herbal Drugs and Phytopharmaceuticals. CRC Press. Boca Raton, FL. 566 pp.

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0	GERMACRENE-D-LACTOSE	Plant				--
34	HELENALIN	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.
5	HELENIN	Plant				--
5	HELENIN	Root		15600.0		--
0	HELENINE	Root Essent. Oil				--
0	HELIANTHENIN	Root				--
8	INOSITOL	Leaf				--
0	INULENIN	Root				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
19	INULIN	Root	99000.0	450000.0	0.7427321953048467	--
0	INULINASE	Root				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
6	IRON	Plant				--
6	IRON	Root	0.9	4.0	-0.43584204309243646	--
13	ISOALANTOLACTONE	Root Essent. Oil				--
13	ISOALANTOLACTONE	Rhizome	9900.0	19400.0		--
13	ISOALANTOLACTONE	Essential Oil				--
13	ISOALANTOLACTONE	Root	1305.0	5215.0		--
13	ISOALANTOLACTONE	Plant				--
13	ISOALANTOLACTONE	Shoot		13.0		--
65	MAGNESIUM	Root	1650.0	7500.0	2.627774557100011	--
14	MANGANESE	Root	0.2	0.8	-0.5363206240063116	--
14	MANGANESE	Plant				--

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2	MOLYBDENUM	Plant				--
3	MUCILAGE	Plant				Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. Herbal Medicine - A Guide for Health-care Professionals. The Pharmaceutical Press, London. 296pp.
39	NIACIN	Root	15.0	70.0	0.5727223514607939	--
3	NICKEL	Plant				--
0	NONACOSAN	Root				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	PECTINS	Root				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
4	PHOSPHORUS	Root	330.0	1500.0	-0.3545362125680356	--
4	PHOSPHORUS	Plant				--
0	PHYTOMELANE	Root				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
14	POTASSIUM	Root	2222.0	10100.0	-0.41581998331162273	--
0	PROTEIN	Root	39600.0	180000.0	0.6915898871115741	--
0	PSEUDOINULIN	Root				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
176	QUERCETIN	Inflorescence				--
0	QUERCETIN-7-O-BETA-TRIGLUCOSIDE	Inflorescence				--
0	RESIN	Root				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
15	RIBOFLAVIN	Root	0.7	3.2	-0.19138745982624014	--

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44	SCOPOLETIN	Plant				J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.
44	SCOPOLETIN	Shoot				--
60	SELENIUM	Root				--
4	SILICON	Root				--
1	SODIUM	Root	128.0	580.0	-0.24271578706308006	--
12	STIGMASTEROL	Root				--
0	STRONTIUM	Plant				--
0	SYNANTHRIN	Root				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	TETRAHYDRO-ALANTOLACTONE	Rhizome				--
0	THIAMINE	Root	2.4	11.0	1.3683576310645862	--
0	TOMENTOSIN	Plant				J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.
0	TOMENTOSIN	Shoot		26.7		--
0	TRIDECA-12-ENE-2-4-6-8-10-PENTAYNE	Root		6.6		--
22	UMBELLIFERONE	Plant				J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.
22	UMBELLIFERONE	Shoot				--
0	WATER	Root		780000.0	0.07039472351276986	--
77	ZINC	Root	1.0	3.9	-0.888135144785512	--
77	ZINC	Plant				--