

Dr. Duke's Phytochemical and Ethnobotanical Databases

Chemicals found in *Pimpinella anisum*

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
36	ANETHOLE	Seed Essent. Oil	800000.0	900000.0	1.0	--
8	TRANS-ANETHOLE	Shoot Essent. Oil		875000.0	1.0	--
8	TRANS-ANETHOLE	Leaf Essent. Oil		825000.0	0.6789462696628319	--
12	ESTRAGOLE	Essential Oil		815000.0	0.5522423148479244	--
8	TRANS-ANETHOLE	Seed Essent. Oil		752000.0	-1.0	--
15	FIBER	Seed	120000.0	250000.0	0.9098060948305273	--
18	OLEIC-ACID	Seed	44800.0	217000.0	0.8047671994532317	--
15	FIBER	Fruit		161000.0	0.1823469556561799	--
8	TRANS-ANETHOLE	Seed	14000.0	126000.0	1.1233240836084317	--
8	TRANS-ANETHOLE	Essential Oil		98000.0	-0.9178041314476871	--
8	TRANS-ANETHOLE	Plant	14000.0	54000.0	2.4367165173216563	--
27	LINOLEIC-ACID	Seed	13700.0	52000.0	-0.47229245316140794	--
5	STARCH	Seed		50000.0	-1.0534998914823648	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
12	ESTRAGOLE	Seed Essent. Oil		40000.0	-1.2234041605170691	--
6	FURFURAL	Fruit		30000.0	1.4142119041181418	--
6	FURFURAL	Seed		30000.0	1.0	--
44	SCOPOLETIN	Tissue Culture		25000.0		--
14	POTASSIUM	Seed	14410.0	15923.0	0.2948697302111889	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
14	POTASSIUM	Fruit		15923.0	-0.1763728036379452	--
13	PALMITIC-ACID	Seed	2560.0	9730.0	-0.4988395784388936	--
28	CALCIUM	Fruit	7138.0	7843.0	0.9199755165775227	--
28	CALCIUM	Seed	6460.0	7843.0	0.6789065535817028	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
26	BERGAPTEN	Tissue Culture		5000.0		--
22	UMBELLIFERONE	Tissue Culture		5000.0		--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
4	PHOSPHORUS	Seed	4400.0	4862.0	-0.12984457940531013	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
4	PHOSPHORUS	Fruit		4862.0	0.4999573159709243	--
20	CHOLINE	Seed		3950.0	2.1437280155533487	--
102	CAFFEIC-ACID	Seed		2060.0	1.1988438057610096	--
7	ANISALDEHYDE	Seed	140.0	1960.0	1.383989134171019	--
65	MAGNESIUM	Fruit		1878.0	-0.11656878374939247	--
65	MAGNESIUM	Seed		1878.0	-0.42200084611180505	--
2	ANISYL-ALCOHOL	Fruit	100.0	1750.0	1.0	--
2	ANISYL-ALCOHOL	Seed	100.0	1750.0		--
3	CYNAROSIDE	Seed		1280.0	1.0	--
78	LUTEOLIN	Seed		1250.0		--
6	METHYL-CHAVICOL	Seed	100.0	1200.0	-0.32819721111182903	--
6	METHYL-CHAVICOL	Fruit		1050.0	-0.5040863930849152	--
77	CHLOROGENIC-ACID	Seed		1000.0	-0.58319807588173	--
25	P-COUMARIC-ACID	Seed		737.0	1.636780984285061	--
60	LIMONENE	Fruit	25.0	459.0	-0.6843754806519635	--
60	LIMONENE	Seed	25.0	459.0	-0.7313417774490227	Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. Herbal Medicine - A Guide for Health-care Professionals. The Pharmaceutical Press, London. 296pp.
6	IRON	Seed	348.0	409.0	1.1997083472388452	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
6	IRON	Fruit	391.0	409.0	1.0949045836323292	--
4	PELLANDRENE	Seed		408.0		--
4	PELLANDRENE	Fruit		408.0		--
28	ALPHA-PINENE	Seed	1.0	306.0	-0.47075335776323696	--
28	ALPHA-PINENE	Fruit	1.0	306.0	-0.6388928640672148	--
7	ANISALDEHYDE	Fruit		300.0	-1.3470948397420839	--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
7	SALICYLATES	Seed	30.0	230.0	0.8938405258857307	--
1	CIS-ANETHOLE	Fruit		200.0	-0.20203050891044272	--
3	AR-CURCUMENE	Fruit		200.0		--
1	CIS-ANETHOLE	Seed		200.0	-1.0	--
3	AR-CURCUMENE	Seed		200.0		Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. Herbal Medicine - A Guide for Health-care Professionals. The Pharmaceutical Press, London. 296pp.
1	SODIUM	Fruit		177.0	-0.16716607524173246	--
1	SODIUM	Seed	160.0	177.0	-0.43474340055439425	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
9	CAMPHENE	Seed		119.0	-1.1787017615236954	--
9	CAMPHENE	Fruit		119.0	-0.30245730401923043	--
19	ACETYL-CHOLINE	Seed		64.0	-0.30258926220331656	--
77	ZINC	Seed		59.0	0.39371381474900113	--
77	ZINC	Fruit		59.0	0.8634181201998136	--
53	LINALOOL	Seed		50.0	-0.5278640443024313	--
3	CIS-OCIMENE	Fruit		25.0	-1.0	--
3	CIS-OCIMENE	Seed		25.0	-1.0	--
14	MANGANESE	Fruit		23.0	-0.25187849029896653	--
14	MANGANESE	Seed		23.0	-0.38019666348740133	USDA's Ag Handbook 8 and sequelae)
4	BORON	Fruit		20.0	-0.4012297753721551	--
4	BORON	Seed		20.0	-0.19502544137632458	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).
112	ASCORBIC-ACID	Fruit	8.0	9.0	-0.2839294125391348	--
112	ASCORBIC-ACID	Seed	8.0	9.0	-0.33305350561319974	--
12	COPPER	Seed		9.0	-0.5274011339177476	USDA's Ag Handbook 8 and sequelae)

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
13	BETA-PINENE	Seed		1.0	-0.6922432681985977	--
23	ALPHA-TERPINEOL	Seed		1.0	-0.5030431687010171	--
5	SABINENE	Fruit		1.0	-0.5352886500488243	--
23	ALPHA-TERPINEOL	Fruit		1.0	-0.40768751823050187	--
13	BETA-PINENE	Fruit		1.0	-0.2978113268433539	--
5	SABINENE	Seed		1.0	-0.44137425565894484	--
10	SQUALENE	Plant				--
76	EUGENOL	Seed				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
101	APIGENIN	Seed				Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. Herbal Medicine - A Guide for Health-care Professionals. The Pharmaceutical Press, London. 296pp.
47	BETA-SITOSTEROL	Tissue Culture				--
1	P-METHOXYPHENYLACETONE	Plant				--
6	FENCHONE	Seed Essent. Oil				--
6	BETA-BISABOLENE	Essential Oil				--
6	ACETALDEHYDE	Seed				Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. Herbal Medicine - A Guide for Health-care Professionals. The Pharmaceutical Press, London. 296pp.
25	IMPERATORIN	Leaf				--
41	CAMPHOR	Seed Essent. Oil				--
7	ANISALDEHYDE	Essential Oil				--
6	BUTYRIC-ACID	Seed				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
6	ANISIC-ACID	Seed				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.
4	ISOORIENTIN	Seed				--
36	ANETHOLE	Shoot				--
8	P-CRESOL	Plant				--
76	EUGENOL	Essential Oil				--
22	UMBELLIFERONE	Seed				--
32	HYDROQUINONE	Plant				Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
9	CAMPHENE	Essential Oil				--
3	SESELIN	Leaf				--
20	CHOLINE	Plant				--
10	AZULENE	Seed				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
36	ANETHOLE	Plant				Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
22	ISOQUERCITRIN	Leaf				--
36	ANETHOLE	Seed				--
31	MYRISTICIN	Plant				--
6	ANISIC-ACID	Essential Oil				--
44	SCOPOLETIN	Leaf				--
77	CHLOROGENIC-ACID	Plant				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
12	STIGMASTEROL	Seed				--
71	THYMOL	Essential Oil				--
2	QUERCETIN-3-O-BETA-D-GLUCURONIDE	Seed				--
36	ANETHOLE	Essential Oil				--
6	ANISIC-ACID	Fruit				--
5	BETA-ELEMENE	Seed Essent. Oil				--
43	XANTHOTOXIN	Seed				--
44	SCOPOLETIN	Fruit				--
29	SAFROLE	Essential Oil				--
10	5-METHOXY-PSORALEN	Seed				--
9	BETA-AMYRIN	Seed				Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. Herbal Medicine - A Guide for Health-care Professionals. The Pharmaceutical Press, London. 296pp.
18	MANNITOL	Root				--
76	EUGENOL	Plant				--
102	CAFFEIC-ACID	Plant				--
176	QUERCETIN	Seed				Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. Herbal Medicine - A Guide for Health-care Professionals. The Pharmaceutical Press, London. 296pp.
22	SCOPARONE	Leaf				--
26	BERGAPTEN	Seed				--
28	ALPHA-PINENE	Essential Oil				--
1	DIANETHOLE	Seed				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.

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
1	P-METHOXYPHENYLACETONE	Seed				Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. Herbal Medicine - A Guide for Health-care Professionals. The Pharmaceutical Press, London. 296pp.
1	ALPHA-ZINGIBERENE	Plant				--
6	CINNAMYL-ALCOHOL	Seed Essent. Oil				--
12	STIGMASTEROL	Tissue Culture				--
12	ESTRAGOLE	Fruit				--
6	PROPIONIC-ACID	Seed				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
32	ALPHA-TOCOPHEROL	Leaf				--
53	LINALOOL	Seed Essent. Oil				--
4	PHELLANDRENE	Seed Essent. Oil				--
60	CINNAMALDEHYDE	Seed Essent. Oil				--
1	DIHYDROCARVYL-ACETATE	Plant				--
11	P-ANISALDEHYDE	Seed				Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
32	ALPHA-TOCOPHEROL	Root				--
1	CIS-ANETHOLE	Essential Oil				--
87	RUTIN	Fruit				--
60	LIMONENE	Essential Oil				--
76	EUGENOL	Seed Essent. Oil				--
4	ISOVITEXIN	Fruit				--
22	UMBELLIFERONE	Fruit				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
44	SCOPOLETIN	Seed				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.
1	DIANETHOLE	Fruit				--
6	MYRISTIC-ACID	Seed				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
6	BETA-BISABOLENE	Plant				--
15	ISOPIMPINELLIN	Root				Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
32	ALPHA-TOCOPHEROL	Tissue Culture				--
1	CIS-ANETHOLE	Seed Essent. Oil				--
60	LIMONENE	Seed Essent. Oil				--
31	MYRISTICIN	Seed				--
4	ISOORIENTIN	Plant				--
6	ACETALDEHYDE	Fruit				--
10	CHAMAZULENE	Essential Oil				--
7	D-CARVONE	Plant				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.
2	LUTEOLIN-7-O-GLUCOSIDE	Seed				--

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12	ESTRAGOLE	Seed				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.
18	TERPINEOL	Essential Oil				--
36	ANETHOLE	Tissue Culture				--
4	ISOVITEXIN	Seed				--
9	BETA-AMYRIN	Plant				--
31	MYRISTICIN	Tissue Culture				--
2	APIGENIN-7-O-GLUCOSIDE	Seed				--
1	ISOCARYOPHYLLENE	Plant				--
6	BETA-BISABOLENE	Tissue Culture				--
12	STIGMASTEROL	Plant				--
87	RUTIN	Seed				--
5	CRESOL	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.
13	ALPHA-TERPINENE	Essential Oil				--
36	ANETHOLE	Root				--
26	BERGAPTEN	Fruit				--
19	CARVONE	Seed Essent. Oil				--