

Dr. Duke's Phytochemical and Ethnobotanical Databases

Chemicals found in *Allium cepa*

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Refernce Citation
77	ZINC	Bulb	2.0	53.0	1.4104984605249231	--
1	SODIUM	Bulb	8.0	2052.0	1.4085638338778703	--
14	MANGANESE	Bulb	1.0	38.0	1.4045726642160135	--
2	MOLYBDENUM	Bulb	0.1	2.3	1.0000000000000002	--
12	GLYCINE	Bulb	490.0	5341.0	1.0	--
24	VANILLIC-ACID	Bulb		258.0	1.0	--
3	ALANINE	Bulb	330.0	8597.0	1.0	USDA's Ag Handbook 8 and sequelae)
15	RIBOFLAVIN	Bulb	0.4	15.0	1.0	--
7	SALICYLATES	Bulb	1.0	20.0	1.0	--
14	POTASSIUM	Bulb	1514.0	22164.0	1.0	--
29	TRYPTOPHAN	Bulb	170.0	1853.0	1.0	USDA's Ag Handbook 8 and sequelae)
4	BORON	Bulb	1.0	45.0	1.0	--
2	PHYTOSTEROLS	Bulb	150.0	1455.0	1.0	--
18	OLEIC-ACID	Bulb	230.0	2230.0	1.0	--
2	CYSTINE	Bulb	210.0	2289.0	1.0	USDA's Ag Handbook 8 and sequelae)
24	CHROMIUM	Bulb	0.057	4.0	1.0	--
5	ALUMINUM	Bulb	0.3	385.0	1.0	--
13	P-HYDROXY-BENZOIC-ACID	Bulb		107.0	1.0	--
15	FIBER	Bulb	4400.0	126000.0	1.0	--
32	ALPHA-TOCOPHEROL	Bulb	0.4	30.0	1.0	--
176	QUERCETIN	Bulb	0.0	48100.0	1.0	--
39	NIACIN	Bulb	1.0	75.0	1.0	--
11	PANTOTHENIC-ACID	Bulb	1.0	16.0	1.0	USDA's Ag Handbook 8 and sequelae)
53	BETA-CAROTENE	Bulb	0.0	52.0	0.9999999999999998	--
3	NICKEL	Bulb	0.05	2.5	0.9999999999999996	--
27	LINOLEIC-ACID	Seed Oil	575000.0	590600.0	0.7844920848789769	--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
6	IRON	Bulb	2.0	135.0	0.7831452902858658	--
65	MAGNESIUM	Bulb	76.0	1230.0	0.7319115529256467	--
6	IRON	Seed		235.0	0.3912510395242066	--
12	COPPER	Seed		18.2	0.3070837559561808	--
6	IRON	Leaf	34.0	436.0	0.18456741976079077	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
28	CALCIUM	Bulb	200.0	3008.0	0.11970003608893207	--
12	COPPER	Bulb	0.3	11.0	0.10619884881071792	--
4	PHOSPHORUS	Leaf	310.0	5513.0	0.09963731108701822	--
112	ASCORBIC-ACID	Leaf	390.0	5000.0	0.020016189970703997	--
24	CHROMIUM	Seed		4.8	0.016797185555398934	--
27	LINOLEIC-ACID	Seed	103500.0	106200.0	-0.00790147227328753	Wealth of India.
39	NIACIN	Leaf	7.0	90.0	-0.09123627617407809	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
2	COBALT	Seed		2.5	-0.0975154003240051	--
3	NICKEL	Seed	0.03	4.0	-0.14389814511946067	--
18	OLEIC-ACID	Seed Oil	260000.0	292900.0	-0.1478289753657865	--
53	BETA-CAROTENE	Flower		28.0	-0.18921282459251038	--
15	FIBER	Leaf	11000.0	141000.0	-0.2539378373860592	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
77	ZINC	Seed		34.0	-0.31604114389068755	--
31	THIAMIN	Leaf	0.5	6.4	-0.39693808734805064	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
14	MANGANESE	Seed		19.4	-0.425040968734703	--
13	PALMITIC-ACID	Seed		13140.0	-0.4284802139449916	Wealth of India.
8	STEARIC-ACID	Seed		6300.0	-0.4287014331879593	Wealth of India.
53	BETA-CAROTENE	Leaf	12.0	158.0	-0.4498575995747604	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
15	TRIGONELLINE	Seed		13.0	-0.46591212987573255	Evans, L. S., Tramontano, W. A. 1984. Trigonelline and Promotion of Cell Arrest in G2 of Various Legumes. <i>Phytochemistry</i> , 23(9): 1837-1840.
18	OLEIC-ACID	Seed		46800.0	-0.5943767329474172	Wealth of India.
8	STEARIC-ACID	Seed Oil		35000.0	-0.6541098145281985	--
13	PALMITIC-ACID	Seed Oil		73000.0	-0.723771059427567	--
28	CALCIUM	Leaf	420.0	5385.0	-0.8918247706535197	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
13	PALMITIC-ACID	Bulb	240.0	2325.0	-1.0	--
6	MYRISTIC-ACID	Bulb	10.0	100.0	-1.0	USDA's Ag Handbook 8 and sequelae)
3	VALINE	Bulb	270.0	2943.0	-1.0	--
8	TYROSINE	Bulb	290.0	3161.0	-1.0	USDA's Ag Handbook 8 and sequelae)
3	ENDOLYSIN	Leaf		0.3	-1.0	LAWSON in Koch, H. P. and Lawson, L. D., eds. 1996. <i>Garlic- The Science and therapeutic application of Allium sativum L. and related species.</i> Williams & Wilkins, Baltimore. 329 pp.
2	LEUCINE	Bulb	410.0	4469.0	-1.0	USDA's Ag Handbook 8 and sequelae)
3	ENDOLYSIN	Bulb		0.033	-1.0	LAWSON in Koch, H. P. and Lawson, L. D., eds. 1996. <i>Garlic- The Science and therapeutic application of Allium sativum L. and related species.</i> Williams & Wilkins, Baltimore. 329 pp.
15	METHIONINE	Bulb	100.0	1090.0	-1.0	--
14	ARGININE	Bulb	1580.0	17222.0	-1.0	USDA's Ag Handbook 8 and sequelae)
3	ISOLEUCINE	Bulb	420.0	4578.0	-1.0	USDA's Ag Handbook 8 and sequelae)
47	BETA-SITOSTEROL	Bulb	120.0	510.0	-1.0	--
1	MERCURY	Bulb		0.001	-1.0	--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
4	THREONINE	Bulb	280.0	3052.0	-1.0	USDA's Ag Handbook 8 and sequelae)
4	PHOSPHORUS	Bulb	275.0	4038.0	-1.0	--
61	FERULIC-ACID	Bulb		0.5	-1.0	--
31	THIAMIN	Bulb	0.3	6.0	-1.0	--
7	PHENYLALANINE	Bulb	300.0	3270.0	-1.0	USDA's Ag Handbook 8 and sequelae)
7	HISTIDINE	Bulb	190.0	2071.0	-1.0	USDA's Ag Handbook 8 and sequelae)
2	CAMPESTEROL	Bulb	10.0	50.0	-1.0	--
3	MURAMIDASE	Bulb		0.033	-1.0	LAWSON in Koch, H. P. and Lawson, L. D., eds. 1996. Garlic- The Science and therapeutic application of Allium sativum L. and related species. Williams & Wilkins, Baltimore. 329 pp.
1	SERINE	Bulb	350.0	3815.0	-1.0	USDA's Ag Handbook 8 and sequelae)
14	SULFUR	Bulb	80.0	4075.0	-1.0	--
3	ASPARTIC-ACID	Bulb	640.0	6967.0	-1.0	USDA's Ag Handbook 8 and sequelae)
4	LYSINE	Bulb	560.0	6104.0	-1.0	USDA's Ag Handbook 8 and sequelae)
2	COBALT	Bulb	0.001	0.2	-1.0000000000000002	--
60	SELENIUM	Bulb	0.001	0.003	-1.0000000000000002	--
4	TRANS-METHYLSULPHINOTHIOIC-ACID-S-1-PROPENYLESTER	Bulb				--
43	PROTocatechuic-ACID	Bulb	4500.0	17540.0		--
32	ALPHA-TOCOPHEROL	Seed Oil				Grujic-Injac, B., Basarevic-Dinic, L., Lajsic, S., Stefanovic, D. 1985. Chemical Analysis of Seed Oil of the Onion (Allium cepa). Hrana Ishrana, 25: 167-169 (Inst Ishr Vet Fak Belgrade, Yugoslavia)
102	CAFFEIC-ACID	Leaf				Das, V. S. R., Rao, J. V. S. 1964. Phenolic Acids of Onion Plant. Curr. Sci., 33(15): 471-472.

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
2	DIMETHYL-DISULFIDE	Bulb				--
14	SUCROSE	Bulb				Osman, S. A. 1980. Chemical and Biological Studies of Onion and Garlic in an Attempt to Isolate a Hypoclycaemic Extract. Abstr. 4th Asian Symp. Med. Plants Spices Bangkok, Thailand, September 15-19: 117.
1	ISORHAMNETIN-3-GLUCOSIDE	Bulb				--
2	ASPARAGINE	Bulb				--
2	METHANOL	Leaf				Burtsev, A. F., Pashchenko, T. W., Rik, G. R. 1974. Mass-Spectrometric Analysis of Volatile Phytonocide Substances of Cucumber and Common Onion Leaves. Fiziol Biokhim Kul't Rast, 6: 516-.
11	LITHIUM	Bulb	0.152	0.324		--
2	S-METHYL-CYSTEINE-SULFOXIDE	Bulb				Kumari, K., Augusti, K. T. 1995. Antidiabetic Effects of S-Methylcysteine Sulphoxide on Alloxan Diabetes. Planta Medica, 61(1): 72-74.
14	SUCROSE	Leaf				Osman, S. A. 1980. Chemical and Biological Studies of Onion and Garlic in an Attempt to Isolate a Hypoclycaemic Extract. Abstr. 4th Asian Symp. Med. Plants Spices Bangkok, Thailand, September 15-19: 117.
8	FRUCTOSE	Leaf				Osman, S. A. 1980. Chemical and Biological Studies of Onion and Garlic in an Attempt to Isolate a Hypoclycaemic Extract. Abstr. 4th Asian Symp. Med. Plants Spices Bangkok, Thailand, September 15-19: 117.
5	GLUTAMINE	Bulb				--
4	TRANS-5-ETHYL-4,6,7-TRITHIA-2-DECENE-4-S-OXIDE	Bulb				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
2	PROSTAGLANDIN-A-1	Bulb		1.0		--
1	RAFFINOSE	Leaf				Osman, S. A. 1980. Chemical and Biological Studies of Onion and Garlic in an Attempt to Isolate a Hypoclycaemic Extract. Abstr. 4th Asian Symp. Med. Plants Spices Bangkok, Thailand, September 15-19: 117.
3	ALLYL-PROPYL-DISULFIDE	Essential Oil				Wilcox, B. F., Joseph, P. K., Augusti, K. T. 1984. Effects of Allylpropyl Disulphide Isolated from Allium cepa Linn. on High-Fat Fed Rats. Indian J. Biochem. Biophys., 21(3): 214-216.
28	DIALLYL-TRISULFIDE	Essential Oil				Schultz, O. E., Mohrmann, H. L. 1965. Analysis of Constituents of Garlic Allium sativum. II. Gas Chromatography of Garlic Oil. Pharmazie, 20(7): 441-447.
7	SUCCINIC-ACID	Bulb				Soldatenkov, S. V., Mazurova, T. A., Ranteleev, A. N. 1960. Organic Acids of Onion and Spinach. Trudy Petergof Biol. Inst., Leningrad Gosudarst Univ Im AA Zhdanova, 18: 55-61.
1	ETHYLENE	Bulb				LAWSON in Koch, H. P. and Lawson, L. D., eds. 1996. Garlic- The Science and therapeutic application of Allium sativum L. and related species. Williams & Wilkins, Baltimore. 329 pp.
25	P-COUMARIC-ACID	Bulb				--
23	MELATONIN	Bulb				Hattori, A., et. al. 1995. Identification of Melatonin in Plants and its Effects on Plasma Melatonin Levels and Binding to Melatonin Receptors in Vertebrates. Biochem. Mol. Biol. Int., 35(3): 627-634.
87	RUTIN	Bulb		14000.0		--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
7	SUCCINIC-ACID	Leaf				Soldatenkov, S. V., Mazurova, T. A., Ranteleev, A. N. 1960. Organic Acids of Onion and Spinach. Trudy Petergof Biol. Inst., Leningrad Gosudarst Univ Im AA Zhdanova, 18: 55-61.
16	ACETIC-ACID	Bulb				Wilkins, W. F. 1964. Isolation and Identification of the Lachrymogenic Compound of Onion. Cornell Univ., Agr. Expt. Sta. Mem. No., 385: 31 pp.
13	MUFA	Bulb	230.0	2230.0		USDA's Ag Handbook 8 and sequelae)
61	FERULIC-ACID	Root				Das, V. S. R., Rao, J. V. S. 1964. Phenolic Acids of Onion Plant. Curr. Sci., 33(15): 471-472.
7	GLUCOSE	Bulb				Osman, S. A. 1980. Chemical and Biological Studies of Onion and Garlic in an Attempt to Isolate a Hypoclycaemic Extract. Abstr. 4th Asian Symp. Med. Plants Spices Bangkok, Thailand, September 15-19: 117.
102	CAFFEIC-ACID	Bulb				--
2	PROPIIONALDEHYDE	Bulb				Wilkins, W. F. 1964. Isolation and Identification of the Lachrymogenic Compound of Onion. Cornell Univ., Agr. Expt. Sta. Mem. No., 385: 31 pp.
1	PYRUVIC-ACID	Bulb				Malkki, Y., Nikkila, O. E., Aalto, M. 1978. The Composition and Aroma of Onions and Influencing Factors. J. Sci. Agr. Soc. Finland, 50: 103-.
21	ALLIIN	Essential Oil				Bekdairova, K. Z., Klyshev, L. K. 1982. Garlic Essential Oil and its Quantitative Analysis. Izv Akad Nauk Kaz Ssr Ser Biol, 1: 6-11.
12	STIGMASTEROL	Bulb		40.0		--
112	ASCORBIC-ACID	Bulb				--
9	OXALIC-ACID	Bulb		10.0		--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
15	LUTEIN	Bulb		0.02		Granado, F., Olmedilla, B., Blanco, I., Rojas-Hidalgo, E. 1992. Carotenoid Composition in Raw and Cooked Spanish Vegetables. J. Agr. Food Chem., 40(11): 2135-2140.
25	DIALLYL-SULFIDE	Essential Oil				Schultz, O. E., Mohrmann, H. L. 1965. Analysis of Constituents of Garlic Allium sativum. II. Gas Chromatography of Garlic Oil. Pharmazie, 20(7): 441-447.
2	DIMETHYL-DISULFIDE	Essential Oil				Jirovetz, L., Koch, H. P., Jager, W., Remberg, G. 1992. Investigations of German Onion Oil by GC-FID, GC-MS and GC-FTIR. Pharmazie, 47(6): 455-456.
23	CITRIC-ACID	Bulb				Soldatenkov, S. V., Mazurova, T. A., Ranteleev, A. N. 1960. Organic Acids of Onion and Spinach. Trudy Petergof Biol. Inst., Leningrad Gosudarst Univ Im AA Zhdanova, 18: 55-61.
12	STIGMASTEROL	Seed				Kintia, P. K., Degtiaryova, L. P., Balashova, N. N., Shvets, S. A. 1987. Sterols and Steroidal Glycosides of Bulb Onion Seeds. Fecs. Int. Conf. Chem. Biotechol. Biol. Act. Nat. Prod., (Proc.) 3rd: 166-170.
3	ABSCISSIC-ACID	Bulb				--
61	FERULIC-ACID	Leaf				Das, V. S. R., Rao, J. V. S. 1964. Phenolic Acids of Onion Plant. Curr. Sci., 33(15): 471-472.
7	FUMARIC-ACID	Bulb				--
1	TULIPOSIDE-A	Root				Slob, A., Jekel, B., De Jong, B., Schlatmann, E. 1975. On the Occurrence of Tuliposides in the Liliiflorae. Phytochemistry, 14: 1997-2005.
3	CADMIUM	Bulb	0.005	0.38		--
43	PROTOCATECHUIC-ACID	Leaf				Das, V. S. R., Rao, J. V. S. 1964. Phenolic Acids of Onion Plant. Curr. Sci., 33(15): 471-472.

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
28	ADENOSINE	Bulb				--
8	STEARIC-ACID	Bulb	20.0	195.0		--
2	ARSENIC	Bulb	0.002	0.076		--
27	LINOLEIC-ACID	Bulb				Osman, S. A. 1980. Chemical and Biological Studies of Onion and Garlic in an Attempt to Isolate a Hypoclycaemic Extract. Abstr. 4th Asian Symp. Med. Plants Spices Bangkok, Thailand, September 15-19: 117.
26	DIALLYL-DISULFIDE	Essential Oil				Schultz, O. E., Mohrmann, H. L. 1965. Analysis of Constituents of Garlic <i>Allium sativum</i> . II. Gas Chromatography of Garlic Oil. <i>Pharmazie</i> , 20(7): 441-447.
75	KAEMPFEROL	Bulb		2.0		--
5	24-METHYLENE-CYCLOARTANOL	Bulb				Itoh, T., Tamura, T., Mitsuhashi, T., Matsumoto, T. 1977. Sterols of Liliaceae. <i>Phytochemistry</i> , 16: 140-141.
1	RAFFINOSE	Bulb				Osman, S. A. 1980. Chemical and Biological Studies of Onion and Garlic in an Attempt to Isolate a Hypoclycaemic Extract. Abstr. 4th Asian Symp. Med. Plants Spices Bangkok, Thailand, September 15-19: 117.
12	STIGMASTEROL	Seed Oil				Grujic-Injac, B., Basarevic-Dinic, L., Lajsic, S., Stefanovic, D. 1985. Chemical Analysis of Seed Oil of the Onion (<i>Allium cepa</i>). <i>Hrana Ishrana</i> , 25: 167-169 (Inst Ishr Vet Fak Belgrade, Yugoslavia)
2	5-OCTYL-CYCLOPENTA-1,3-DIONE	Bulb				--
4	DIPROPYL-DISULFIDE	Bulb				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
8	FRUCTOSE	Bulb				Osman, S. A. 1980. Chemical and Biological Studies of Onion and Garlic in an Attempt to Isolate a Hypoclycaemic Extract. Abstr. 4th Asian Symp. Med. Plants Spices Bangkok, Thailand, September 15-19: 117.
2	QUERCETIN-3,4'-DIGLUCOSIDE	Bulb				--
2	PROSTAGLANDIN-E-1	Bulb				Ustunes, L., Claeys, M., Laekeman, G., Herman, A.G., Vlietinck, A.J., Ozer, A. 1985. Isolation and Identification of Two Isomeric Trihydroxy Octadecenoic Acids with Prostaglandin E-Like Activity from Onion Bulbs(<i>Allium cepa</i>). Prostaglandins, 29(5):847-865
4	CIS-N-PROPYLSULPHINOTHIOIC-ACID-S-1-PROPENYLESTER	Bulb				--
7	GLUTATHIONE	Bulb				Ueda, Y., Taubuku, T., Miyajima, R. 1994. Composition of Sulfur-Containing Components in Onion and Their Flavor Characters. Biosci. Biotech. Biochem., 58(1): 108-110.
4	SPIRAEOSIDE	Bulb	10000.0	11300.0		--
1	PYRUVIC-ACID	Fruit Juice		1034.0		Morgan, E. J. 1946. Pyruvic Acid in the Juice of Onion (<i>Allium cepa</i>). Nature (London), 157: 512.
1	QUINIC-ACID	Bulb				--
2	5-HEXYL-CYCLOPENTA-1,3-DIONE	Bulb				--
2	METHANOL	Bulb				--
3	DIPHENYLAMINE	Plant		500.0		Karawy, M. S., Ehayyal, A. S. E., Farrag, N. M., Ayad, M. M. 1986. Screening of Diphenylamine as an Antihyperglycaemic Agent in Certain Edible Plant Organs. Acta. Pharm. Hung, 56: 55-58.

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
2	PROPIONALDEHYDE	Leaf				Burtsev, A. F., Pashchenko, T. W., Rik, G. R. 1974. Mass-Spectrometric Analysis of Volatile Phytonocide Substances of Cucumber and Common Onion Leaves. Fiziol Biokhim Kul't Rast, 6: 516-.
4	CIS-METHYLSULPHINOTHIOIC-ACID-S-1-PROPENYLESTER	Bulb				--
64	OLEANOLIC-ACID	Bulb				--
8	GLUTAMIC-ACID	Bulb				Thomas, D. J., Parkin, K. L. 1994. Quantification of Alk(en)yl-L-Cysteine Sulfoxides and Related Amino Acids in Alliums by High-Performance Liquid Chromatography. J. Agr. Food Chem., 42(8): 1632-1638.
13	CYSTEINE	Bulb				Ueda, Y., Taubuku, T., Miyajima, R. 1994. Composition of Sulfur-Containing Components in Onion and Their Flavor Characters. Biosci. Biotech. Biochem., 58(1): 108-110.
20	CHOLINE	Bulb		830.0		Dakshinamurti, K. 1955. Choline Content of South Indian Foods. Curr. Sci., 24: 194-195.
2	QUERCETIN-3-O-BETA-D-GLUCOSIDE	Bulb	0.0	40.0		Abstract (See species file)
4	SPIRAEOSIDE	Epidermis				Ito, Y., Ono, M., Masuoka, C., Yahara, S., Nohara, T. 1995. Hyaluronidase Inhibitors of Onion (<i>Allium cepa</i> L.) Skin. Kyushu Tokai Daigaku Nogakubu Kiyo, 14: 43-48.
1	1-(METHYLSULFINYL)-PROPYL-METHYL-DISULFIDE	Bulb				--
3	DI-N-PROPYL-DISULFIDE	Bulb				Wilkins, W. F. 1962. The Isolation and Identification of the Lachrymogenic Compound of Onion. Diss. Abstr. Int. B, 22: 3978.

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
11	ISORHAMNETIN	Bulb				Park, Y. K., Lee, C. Y. 1996. Identification of Isorhamnetin 4'-Glucoside in Onions. J. Agric. Food Chem., 44(1): 34-36.
7	GLUCOSE	Leaf				Osman, S. A. 1980. Chemical and Biological Studies of Onion and Garlic in an Attempt to Isolate a Hypoclycaemic Extract. Abstr. 4th Asian Symp. Med. Plants Spices Bangkok, Thailand, September 15-19: 117.
3	CYCLOEUCALENOL	Bulb				Itoh, T., Tamura, T., Mitsuhashi, T., Matsumoto, T. 1977. Sterols of Liliaceae. Phytochemistry, 16: 140-141.
9	SINAPIC-ACID	Bulb				Das, V. S. R., Rao, J. V. S. 1964. Phenolic Acids of Onion Plant. Curr. Sci., 33(15): 471-472.
30	ANTHOCYANINS	Bulb				Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
1	CHOLESTEROL	Bulb				--
9	SINAPIC-ACID	Root				Das, V. S. R., Rao, J. V. S. 1964. Phenolic Acids of Onion Plant. Curr. Sci., 33(15): 471-472.
23	CITRIC-ACID	Leaf				Soldatenkov, S. V., Mazurova, T. A., Ranteleev, A. N. 1960. Organic Acids of Onion and Spinach. Trudy Petergof Biol. Inst., Leningrad Gosudarst Univ Im AA Zhdanova, 18: 55-61.
4	N-PROPYLSULPHINOTHIOIC-ACID-S-N-PROPYLESTER	Bulb				--
8	PHLOROGLUCINOL	Bulb		100.0		--
22	ISOQUERCITRIN	Bulb				Kiviranta, J., Huovinen, K., Hiltunen, R. 1986. Variation of Flavonoids in Allium cepa. Planta Medica, 6: 517-518.

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
15	ALPHA-LINOLENIC-ACID	Bulb				Ustunes, L., Claeys, M., Laekeman, G., Herman, A.G., Vlietinck, A.J., Ozer, A. 1985. Isolation and Identification of Two Isomeric Trihydroxy Octadecenoic Acids with Prostaglandin E-Like Activity from Onion Bulbs(<i>Allium cepa</i>). <i>Prostaglandins</i> , 29(5):847-865
7	CYCLOARTENOL	Bulb				Itoh, T., Tamura, T., Mitsuhashi, T., Matsumoto, T. 1977. Sterols of Liliaceae. <i>Phytochemistry</i> , 16: 140-141.
3	SILVER	Bulb	0.038	0.054		--
2	ALLYLMETHYLSULFIDE	Bulb				Wealth of India.
10	ALPHA-AMYRIN	Bulb				Smoczwiczowa, A., Nitschke, D. 1978. Study of Saponins and Sapogenins in Onions. <i>Zesz Nauk Akad Ekon Poznaniu Ser</i> , 1(73): 40-43.
22	CATECHOL	Bulb				Link, K. P., Walker, J. C. 1933. The Isolation of Catechol from Pigmented Onion Scales and its Significance in Relation to Disease Resistance in Onions. <i>J. Biol. Chem.</i> , 100: 379-383.
1	PYRUVIC-ACID	Fruit		1034.0		--
9	SINAPIC-ACID	Leaf				Das, V. S. R., Rao, J. V. S. 1964. Phenolic Acids of Onion Plant. <i>Curr. Sci.</i> , 33(15): 471-472.
1	CHOLESTEROL	Seed				Kintia, P. K., Degtiaryova, L. P., Balashova, N. N., Shvets, S. A. 1987. Sterols and Steroidal Glycosides of Bulb Onion Seeds. <i>Fecs. Int. Conf. Chem. Biotechol. Biol. Act. Nat. Prod.</i> , (Proc.) 3rd: 166-170.
24	ETHANOL	Bulb				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
3	MURAMIDASE	Leaf		0.3		LAWSON in Koch, H. P. and Lawson, L. D., eds. 1996. Garlic- The Science and therapeutic application of <i>Allium sativum</i> L. and related species. Williams & Wilkins, Baltimore. 329 pp.
16	P-CYMENE	Fruit Juice				Schmidt, N. E., et. al. 1996. Rapid Extraction Method of Quantitating the Lachrymatory Factor of Onion Using Gas Chromatography. J. Agric. Food Chem., 44(9): 2690-2693.
3	CYCLOALLIIN	Bulb				--
4	SILICON	Bulb	1.0	75.0		ACTA AGRIC SCAND SUPPL 22: 1980
2	ALLYL-METHYL-DISULFIDE	Bulb				Wealth of India.
3	ALLYL-PROPYL-DISULFIDE	Bulb				--
3	XYLOSE	Bulb				Sinha, A. 1959. Chemical Examination of <i>Allium cepa</i> . I. Glycosidic and Sugar Fractions. Indian J. Appl. Chem., 22: 89-91.
4	TRANS-TRANS-5-ETHYL-4,6,7-TRITHIA-2,8-DECADIENE-4-S-OXIDE	Bulb				--
12	PYROCATECHOL	Bulb				Hermann, K. 1958. Flavonols and Phenols of the Onion (<i>Allium cepa</i>). Arch. Pharm. (Weinheim), 291: 238-247.
47	BETA-SITOSTEROL	Seed				Kintia, P. K., Degtiaryova, L. P., Balashova, N. N., Shvets, S. A. 1987. Sterols and Steroidal Glycosides of Bulb Onion Seeds. Fecs. Int. Conf. Chem. Biotechol. Biol. Act. Nat. Prod., (Proc.) 3rd: 166-170.
15	MALIC-ACID	Leaf				Soldatenkov, S. V., Mazurova, T. A., Ranteleev, A. N. 1960. Organic Acids of Onion and Spinach. Trudy Petergof Biol. Inst., Leningrad Gosudarst Univ Im AA Zhdanova, 18: 55-61.

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
2	CAMPESTEROL	Seed				Kintia, P. K., Degtiaryova, L. P., Balashova, N. N., Shvets, S. A. 1987. Sterols and Steroidal Glycosides of Bulb Onion Seeds. Fecs. Int. Conf. Chem. Biotechol. Biol. Act. Nat. Prod., (Proc.) 3rd: 166-170.
3	DIPHENYLAMINE	Bulb		23000.0		--
6	TARTARIC-ACID	Bulb				--
20	BENZYL-ISOTHIOCYANATE	Bulb				Dorsch, W., Adam, O., Weber, J., Ziegeltrum, T. 1985. Antiasthmatic Effects of Onion Extracts - Detection of Benzyl- and Other Isothiocyanates (Mustard Oils) as Antiasthmatic Compounds of Plant Origin. Eur. J. Pharmacol., 107(1): 17-24.
24	PECTIN	Bulb				Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
9	OXALIC-ACID	Leaf				Gad, S. S., Esmat El-Zalaki, M., Hohamed, M. S., Mohasseb, S. Z. 1982. Oxalate Content of Some Leafy Vegetables and Dry Legumes Consumed Widely in Egypt. Food Chem., 8(3): 169-177. (Coll. Agric. Alexandria Univ. Ale.)
25	P-COUMARIC-ACID	Root				Das, V. S. R., Rao, J. V. S. 1964. Phenolic Acids of Onion Plant. Curr. Sci., 33(15): 471-472.
5	SAPONINS	Bulb				Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
21	ALLIIN	Bulb				--
4	GLYCOLIC-ACID	Bulb				Balansard, J., Arnoux, M. 1951. A Study of the Hepato-Renaldiuretics. III. The Active Principle of Onion Juice. Med. Trop. (Marseille), 11: 632-634.

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
10	XYLITOL	Bulb				Counsell, J. N., Robertson, D. J. 1976. Xylitol-A Sweetener Which is Kind to the Teeth. Food Process Ind., 45(54): 24-26.
4	TRANS-N-PROPYLSULPHINOTHIOIC-ACID-S-1-PROPENYLESTER	Bulb				--
4	CALCIUM-OXALATE	Bulb				Walter-Levy, L., Strauss, R. 1954. Inorganic Deposits in Plants. C. R. Acad. Sci., 239: 897-.
4	PUFA	Bulb	620.0	6005.0		USDA's Ag Handbook 8 and sequelae)
47	BETA-SITOSTEROL	Seed Oil				Grujic-Injac, B., Basarevic-Dinic, L., Lajsic, S., Stefanovic, D. 1985. Chemical Analysis of Seed Oil of the Onion (Allium cepa). Hrana Ishrana, 25: 167-169 (Inst Ishr Vet Fak Belgrade, Yugoslavia)
15	MALIC-ACID	Bulb				Soldatenkov, S. V., Mazurova, T. A., Ranteleev, A. N. 1960. Organic Acids of Onion and Spinach. Trudy Petergof Biol. Inst., Leningrad Gosudarst Univ Im AA Zhdanova, 18: 55-61.
102	CAFFEIC-ACID	Root				Das, V. S. R., Rao, J. V. S. 1964. Phenolic Acids of Onion Plant. Curr. Sci., 33(15): 471-472.
2	DIMETHYL-SULFIDE	Essential Oil				Schultz, O. E., Mohrmann, H. L. 1965. Analysis of Constituents of Garlic Allium sativum. II. Gas Chromatography of Garlic Oil. Pharmazie, 20(7): 441-447.
6	MYRISTIC-ACID	Seed Oil				Reddy, P. N., Azeemoddin, G., Rao, S. D. T. 1989. Processing and Analysis of Onionseed (Allium cepa) and its Fixed Oil. J. Amer. Oil Chem. Soc., 66(3): 365.
25	P-COUMARIC-ACID	Leaf				Das, V. S. R., Rao, J. V. S. 1964. Phenolic Acids of Onion Plant. Curr. Sci., 33(15): 471-472.

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
5	ZEAXANTHIN	Bulb				Granado, F., Olmedilla, B., Blanco, I., Rojas-Hidalgo, E. 1992. Carotenoid Composition in Raw and Cooked Spanish Vegetables. J. Agr. Food Chem., 40(11): 2135-2140.
67	ALLICIN	Bulb				--
1	N-PROPYL-MERCAPTAN	Bulb				Nishimura, H., Mizutani, J. 1975. Effect of Gamma-Irradiation on Development of Lachrymator of Onion. Agric. Biol. Chem., 39: 2245-.