

C LINALYL-ACETATE

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LINALYLACETATE

*Unless otherwise noted all references are to Duke, James A. 1992. Handbook of phytochemical constituents of GRAS herbs and other economic plants. Boca Raton, FL. CRC Press.

Plant	Part	Low PPM	High PPM	StdDev	Reference
Acacia farnesiana	Flower	--	--		Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.
Acacia farnesiana	Plant	--	--		Pakistan Encyclopedia Planta Medica. 1986.
Anethum graveolens	Seed	--	--		Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
Apium graveolens	Leaf	--	--		Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
Artemisia vulgaris	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.
Bursera delpechiana	Wood	10200	56400		--
Chrysanthemum x morifolium	Plant	6	23	-0.567007818782863	Wealth of India.
Cinnamomum camphora	Leaf	48	14400	2.0459555933839066	--

Plant	Part	Low PPM	High PPM	StdDev	Reference
Cinnamomum verum	Bark	--	--		Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
Cinnamomum verum	Leaf	--	245	-0.4688164226239724	Mallavarupu, G. R. et al. 1995. Investigation of the essential oil of cinnamon leaf grown at Bangalore and Hyderabad. Flav. & Fragr. J., 10: 239-242.
Citrus aurantium	Leaf	4429	5500	0.46478491571028424	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
Citrus aurantium	Flower	80	520	-0.45159116756655254	List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
Citrus limon	Essential Oil	--	--		--
Citrus medica	Pericarp	--	--		--
Citrus paradisi	Fruit	--	--		Guenther, E., The Essential Oils, 6 volumes, D. van Nostrand, New York, 1948-1952.
Coleus barbatus	Leaf Essent. Oil	--	8100		Jim Duke's personal files.
Coleus barbatus	Stem Essent. Oil	--	8100		Jim Duke's personal files.
Cymbopogon citratus	Plant	--	--		Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
Cymbopogon nardus	Plant	24	96	-0.5319033458701463	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
Cymbopogon winterianus	Plant	80	140	-0.5107444854843993	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
Elettaria cardamomum	Plant	1197	8000	3.2689973925149545	--
Elettaria cardamomum	Fruit	1197	8000		--

Plant	Part	Low PPM	High PPM	StdDev	Reference
Elsholtzia blanda	Shoot	14	14	-0.26770617362791266	Bestman, H.J., Rauscher, J., Vostrowsky O., Pant, A.K., Dev. V., Perihar, R. and Mathela, C.S. 1992. Constituents of the Essential Oil of Elsholtzia blanda Benth. (Labiatae). J. Ess. Oils Res. 4: 121-124
Elsholtzia polystachya	Leaf	0	0	-0.5123430311666732	Mathela, C.S., Melkani, A.B., Bisht, J.C., Pant, A.K., Bestmann, H.J., Erler, J., Kobold, U., Rauscher, J. and Vostrowsky, O. 1992. Chemical Varieties of Essential Oils from Elsholtzia polystachya from Two Different Locations in India. Planta Medica 58: 376-379.
Elsholtzia polystachya	Leaf	--	0	-0.5123430311666732	Mathela, C.S., Melkani, A.B., Bisht, J.C., Pant, A.K., Bestmann, H.J., Erler, J., Kobold, U., Rauscher, J. and Vostrowsky, O. 1992. Chemical Varieties of Essential Oils from Elsholtzia polystachya from Two Different Locations in India. Planta Medica 58: 376-379.
Ferula gummosa	Plant	--	--		--
Ficus carica	Leaf	--	--		Blaschek, W., Hansel, R., Keller, K., Reichling, J., Rimpler, H., and Schneider, G. eds. 1998. Hager's Handbuch der Pharmazeutischen Praxis, Auflage Band 2 (A-K), 909 pp., (L-Z), 858 pp. Springer-Verlag, Berlin.
Gardenia jasminoides	Flower	--	--		ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
Hedeoma pulegioides	Plant	36	180	-0.4915091578609929	--
Helianthus annuus	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.
Jasminum officinale	Flower	186	285	-0.48763135108150873	--
Juniperus communis	Plant	--	--		--
Lavandula angustifolia	Flower	240	7200	1.9991413114504657	--
Lavandula latifolia	Plant	1	198	-0.48285326043046	--

Plant	Part	Low PPM	High PPM	StdDev	Reference
Lavandula sp	Shoot	--	--		Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
Lavandula x hybrida	Shoot	0.5	3.5	-0.3413788201583656	Tucker, A.O., Maciarelo, M.J., Angell, S., Espaillat, J.R., and French, E.C. 1993. The Essential Oil of Lavandula x hybrida Balb. ex Ging., a Distinct Hybrid from L. x heterophylla Poir. (Labiatae). J. Ess. Oil Res. 5: 443-445.
Lavandula x intermedia	Plant	2170	3950	1.3214204706450585	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
Melia azedarach	Wood	--	--		--
Mentha aquatica	Leaf	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
Micromeria croatica	Leaf	140	140	-0.487470683427987	Kirimer, N., Ozek, T., and Baser, K.H.C. 1991. Composition of the Essential Oil of Micromeria congesta. J. Ess. Oil Res., 3: 387-393.
Micromeria juliana	Leaf	10	10	-0.5105664348996242	Kirimer, N., Ozek, T., and Baser, K.H.C. 1991. Composition of the Essential Oil of Micromeria congesta. J. Ess. Oil Res., 3: 387-393.
Micromeria myrtifolia	Shoot	0.2	0.2	-0.36453308049650807	Ozek, T., Kirimer, N., and Baser, K.H.C. 1992. Composition of the Essential Oil of Micromeria myrtifolia Boiss. et Hohen. J. Ess. Oil Res., 4: 79-80.
Micromeria thymifolia	Leaf	10	10	-0.5105664348996242	Kirimer, N., Ozek, T., and Baser, K.H.C. 1991. Composition of the Essential Oil of Micromeria congesta. J. Ess. Oil Res., 3: 387-393.
Monarda citriodora	Plant	24	24	-0.5665269355922778	--
Monarda clinopodia	Plant	4050	4050	1.3695087897035745	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
Monarda didyma	Flower	4	4	-0.5307262088164137	Flavour and Fragrance Journal, 6: 80.
Monarda didyma	Leaf	--	--		Flavour and Fragrance Journal, 6: 80.

Plant	Part	Low PPM	High PPM	StdDev	Reference
Monarda didyma	Plant	50	505	-0.33522212092081605	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
Monarda media	Plant	69	69	-0.5448871920159456	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
Monarda punctata	Plant	49	378	-0.3962942861251313	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
Monarda russeliana	Plant	557	557	-0.3102161950103877	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
Myrtus communis	Plant	18	28	-0.5646034028299372	--
Ocimum basilicum	Plant	15	240	-0.4626561664258833	Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.
Ocimum suave	Shoot	--	--		J. Nat. Prod. 44: 308.
Origanum majorana	Plant	3	17	0.8790079353067117	--
Origanum onites	Shoot	0	0	-0.36593636900184995	Biondi, D., Cianci, P., Geraci, C. and Ruberto, G. 1993. Antimicrobial Activity and Chemical Composition of Essential Oils from Sicilian Aromatic Plants. Flav. & Frag. J. 8: 331-7.
Origanum vulgare	Plant	7	7	-0.5747019498322256	Sezik, E., Tumen, G., Kirimer, N., Ozek, T., and Baser, K.H.C. 1993. Essential Oil Composition of Four Origanum vulgare Subspecies of Anatolian Origin. J. Ess. Oil Res., 5: 425-431.
Origanum vulgare	Plant	50	50	-0.5540239726370636	Sezik, E., Tumen, G., Kirimer, N., Ozek, T., and Baser, K.H.C. 1993. Essential Oil Composition of Four Origanum vulgare Subspecies of Anatolian Origin. J. Ess. Oil Res., 5: 425-431.
Origanum vulgare	Plant	15	15	-0.5708548843075443	Sezik, E., Tumen, G., Kirimer, N., Ozek, T., and Baser, K.H.C. 1993. Essential Oil Composition of Four Origanum vulgare Subspecies of Anatolian Origin. J. Ess. Oil Res., 5: 425-431.

Plant	Part	Low PPM	High PPM	StdDev	Reference
Origanum vulgare	Plant	8	184	-0.4895856250986523	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
Piper nigrum	Fruit	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
Prunella vulgaris	Plant	--	210	-0.47708266214343814	--
Prunella vulgaris	Essential Oil	--	--		--
Pycnanthemum flexuosum	Shoot	612	612	3.9281264573445513	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
Rosmarinus officinalis	Shoot	--	4	-0.33787059889501075	Tucker, A. O. and Maciarello, M. J. 1998. The essential oils of some rosemary cultivars. Flavor and Fragrance Journal, 1: 137-142. 1986.
Salvia officinalis	Plant	0	6048	2.330313404492723	--
Salvia sclarea	Plant	1	3750	1.2252438325280266	--
Satureja montana	Plant	3	240	-0.4626561664258833	--
Satureja obovata	Leaf	55	55	-0.5025717516979036	Arrebola, M.L., Navaro, M.C., Jimenez, J. and Ocana, F.A. 1994. Variations in Yield and Composition of the Essential Oil of Satureja obovata. Phytochemistry 35(1): 83.
Satureja obovata	Leaf	--	--		Arrebola, M.L., Navaro, M.C., Jimenez, J. and Ocana, F.A. 1994. Variations in Yield and Composition of the Essential Oil of Satureja obovata. Phytochemistry 35(1): 83.
Satureja obovata	Leaf	--	230	-0.4714813170245459	Arrebola, M.L., Navaro, M.C., Jimenez, J. and Ocana, F.A. 1994. Variations in Yield and Composition of the Essential Oil of Satureja obovata. Phytochemistry 35(1): 83.
Satureja obovata	Leaf	--	55	-0.5025717516979036	Arrebola, M.L., Navaro, M.C., Jimenez, J. and Ocana, F.A. 1994. Variations in Yield and Composition of the Essential Oil of Satureja obovata. Phytochemistry 35(1): 83.

Plant	Part	Low PPM	High PPM	StdDev	Reference
Satureja subspicata	Plant	15	15	-0.5708548843075443	Stanic, G., Petricic, J., and Blazevic, N. 1991. Gas Chromatographic Investigations of Essential Oils of Satureja montana and Satureja subspicata from Yugoslavia. J. Ess. Oil Res., 3: 153-158.
Skimmia arborescens	Leaf	2300	16800	2.47233869747567	--
Tagetes erecta	Plant	61	61	-0.5487342575406269	List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
Tagetes minuta	Plant	34	125	-0.5179577333431766	--
Tagetes patula	Plant	262	262	-0.4520767362330098	List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
Teucrium asiaticum	Shoot	6.25	6.25	-0.3220836032099137	Velasco-Negueruela, A. and Perez-Alonso, M.J. 1990. The Volatiles of Six Teucrium Species from the Iberian Peninsula and the Balearic Islands. Phytochemistry 29(4): 1165-9.
Teucrium oxylepis	Shoot	0.12	0.12	-0.3650943958986448	Velasco-Negueruela, A. and Perez-Alonso, M.J. 1990. The Volatiles of Six Teucrium Species from the Iberian Peninsula and the Balearic Islands. Phytochemistry 29(4): 1165-9.
Teucrium oxylepis	Shoot	0.06	0.06	-0.3655153824502474	Velasco-Negueruela, A. and Perez-Alonso, M.J. 1990. The Volatiles of Six Teucrium Species from the Iberian Peninsula and the Balearic Islands. Phytochemistry 29(4): 1165-9.
Teucrium pseudoscorodonia	Shoot	0.14	0.14	-0.3649540670481107	Velasco-Negueruela, A. and Perez-Alonso, M.J. 1990. The Volatiles of Six Teucrium Species from the Iberian Peninsula and the Balearic Islands. Phytochemistry 29(4): 1165-9.
Teucrium salviastrum	Shoot	--	--		Velasco-Negueruela, A. and Perez-Alonso, M.J. 1990. The Volatiles of Six Teucrium Species from the Iberian Peninsula and the Balearic Islands. Phytochemistry 29(4): 1165-9.
Teucrium scorodonia	Shoot	0.35	0.35	-0.3634806141175016	Velasco-Negueruela, A. and Perez-Alonso, M.J. 1990. The Volatiles of Six Teucrium Species from the Iberian Peninsula and the Balearic Islands. Phytochemistry 29(4): 1165-9.

Plant	Part	Low PPM	High PPM	StdDev	Reference
Thymus broussonettii	Shoot	60	60	0.05505018260073846	Tantaoui-Elaraki, A., Lattaoui, N., Errifi, A. and Benjlali, B. 1993. Composition and Antimicrobial Activity of the Essential Oils of Thymus broussonettii, T. zygis and T. saturejoides. J. Ess. Oil Res. 5: 45-53.
Thymus capitatus	Shoot	0	0	-0.36593636900184995	Biondi, D., Cianci, P., Geraci, C. and Ruberto, G. 1993. Antimicrobial Activity and Chemical Composition of Essential Oils from Sicilian Aromatic Plants. Flav. & Fragr. J. 8: 331-7.
Thymus mastichina	Plant	100	150	-0.5059356535785476	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
Thymus saturejoides	Shoot	50	50	-0.01511424266635961	Tantaoui-Elaraki, A., Lattaoui, N., Errifi, A. and Benjlali, B. 1993. Composition and Antimicrobial Activity of the Essential Oils of Thymus broussonettii, T. zygis and T. saturejoides. J. Ess. Oil Res. 5: 45-53.
Thymus serpyllum	Plant	--	--		Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
Thymus vulgaris	Plant	15	4680	1.672465199772225	--
Thymus x citriodorus	Plant	0	0	-0.5780681321663216	Stahl-Biskup, E. and Holthuijzen, J. 1995. Essential oil and glycosidally bound volatiles of lemon-scented thyme, Thymus x citriodorus (Pers.) Schreb. Flav. & Fragr. J. 10: 225-229.
Thymus zygis	Shoot	0	100	0.33570788366913074	De Cunha, A.P. and Salguiero, L.R. 1991. The Chemical Polymorphism of Thymus zygis ssp. sylvestris from Central Portugal. J. Ess. Oil Res. 3: 409-12.
Thymus zygis	Shoot	18	18	-0.23964040352107344	Jimenez, J., Navarro, M.C., Montilla, M.P., Martin, A. and Martinez, A. 1993. Thymus zygis Oil: Its Effects on CCl4-Induced Hepatotoxicity and Free Radical Scavenger Activity. JEO5: 153-8.
Thymus zygis	Shoot	--	18	-0.23964040352107344	Jimenez, J., Navarro, M.C., Montilla, M.P., Martin, A. and Martinez, A. 1993. Thymus zygis Oil: Its Effects on CCl4-Induced Hepatotoxicity and Free Radical Scavenger Activity. JEO5: 153-8.
Tilia sp.	Flower	--	--		--

Plant	Part	Low PPM	High PPM	StdDev	Reference
Trifolium pratense	Flower	--	14	-0.52919258398599	Buchnauer,G.,Jirovetz,L.,Nikiforov,A.1996.Comparative Investigation of Essential Clover Flower Oils from Austria Using Gas Chromatography-Flame Ionization Detection,Gas Chromatography-Mass Spectrometry,and Gas Chrom.-Olfactometry.J.Agrc.Food Chem.44:1827-8
Zanthoxylum alatum	Fruit	--	--		ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
Zanthoxylum alatum	Leaf	45	45	-0.5043483479649526	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.