

C BETA-SELINENE

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BETASELINENE

*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
Ageratum conyzoides	Plant	4	32	-0.44797743161568887	--
Angelica archangelica	Root	--	--		--
Apium graveolens	Fruit Essent. Oil	55000	325000	1	--
Apium graveolens	Leaf Essent. Oil	--	30000	1	--
Apium graveolens	Stem Essent. Oil	--	10000		--
Apium graveolens	Seed	100	8125	1	--
Apium graveolens	Seed Essent. Oil	55000	325000		--
Artemisia annua	Plant	--	--		--
Atractylodes lancea	Rhizome	--	--		--
Boswellia sacra	Essential Oil	--	--		Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.

Plant	Part	Low PPM	High PPM	StdDev	Reference
Callicarpa americana	Leaf	--	25	-0.27432396220543237	--
Carthamus tinctorius	Flower	0.14	0.29	-1	--
Carthamus tinctorius	Leaf	0.11	0.11	-0.5235476750267929	--
Chamaemelum nobile	Plant	--	--		--
Cinnamomum aromaticum	Plant	--	--		--
Cinnamomum camphora	Leaf	--	--		--
Cinnamomum verum	Plant	--	--		--
Cinnamomum verum	Leaf	--	9.4	-0.43052685171982463	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.
Cinnamomum verum	Leaf Essent. Oil	--	--		--
Cinnamomum verum	Stem Bark	--	--		--
Citrus mitis	Fruit Juice	--	--		--
Copaifera spp	Gum	--	--		--
Cynara cardunculus	Essential Oil	--	--		Leung, A.Y., Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics, John Wiley & Sons, New York, 1980.
Cyperus rotundus	Root	--	--		--
Daucus carota	Seed	118	410	-1	--

Plant	Part	Low PPM	High PPM	StdDev	Reference
Elsholtzia polystachya	Leaf	22	22	-0.3043629794197386	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	--	22	-0.3043629794197386	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.
Eucalyptus angulosa	Leaf	--	16	-0.36444101384835104	Bignell,C.M.,Dunlop,P.J.,Brophy,J.J.,and Jackson, J.F.1994.Volatile Leaf Oils of Some South-western and Southern Australian Species of the Genus Eucalyptus.Part I.Subgenus Symphyomyrtus,Section Dumaria,Series Incrassatae.Flavour and Fragrance J.9(3):113-7
Eucalyptus behriana	Leaf	30	30	-0.22425893351492204	Bignell, C.M., Dunlop, P.J., Brophy, J.J., and Jackson, J.F. 1995. Volatile Leaf Oils of Some South-western and Southern Australian Species of the Genus Eucalyptus. Part VI. Subgenus Symphyomyrtus, Section Adnataria. Flavour and Fragrance J. 10(6):359-364
Eucalyptus ceratocorys	Leaf	--	50	-0.02399881875288061	Bignell,C.M.,Dunlop,P.J.,Brophy,J.J.,and Jackson, J.F.1994.Volatile Leaf Oils of Some South-western and Southern Australian Species of the Genus Eucalyptus.Part I.Subgenus Symphyomyrtus,Section Dumaria,Series Incrassatae.Flavour and Fragrance J.9(3):113-7
Eucalyptus cuprea	Leaf	18	18	-0.3444150023721469	Bignell, C.M., Dunlop, P.J., Brophy, J.J., and Jackson, J.F. 1995. Volatile Leaf Oils of Some South-western and Southern Australian Species of the Genus Eucalyptus. Part VI. Subgenus Symphyomyrtus, Section Adnataria. Flavour and Fragrance J. 10(6):359-364
Eucalyptus desquamata	Leaf	0	15	-0.3744540195864531	Bignell, C.M., Dunlop, P.J., Brophy, J.J., and Jackson, J.F. 1995. Volatile Leaf Oils of Some South-western and Southern Australian Species of the Genus Eucalyptus. Part VI. Subgenus Symphyomyrtus, Section Adnataria. Flavour and Fragrance J. 10(6):359-364

Plant	Part	Low PPM	High PPM	StdDev	Reference
Eucalyptus dolichorhyncha	Leaf	--	50	-0.02399881875288061	Bignell, C.M., Dunlop, P.J., Brophy, J.J., and Jackson, J.F. 1994. Volatile Leaf Oils of Some South-western and Southern Australian Species of the Genus Eucalyptus. Part I. Subgenus Symphyomyrtus, Section Dumaria, Series Incrassatae. Flavour and Fragrance J. 9(3):113-7
Eucalyptus erythrandra	Leaf	--	41	-0.11411587039579925	Bignell, C.M., Dunlop, P.J., Brophy, J.J., and Jackson, J.F. 1994. Volatile Leaf Oils of Some South-western and Southern Australian Species of the Genus Eucalyptus. Part I. Subgenus Symphyomyrtus, Section Dumaria, Series Incrassatae. Flavour and Fragrance J. 9(3):113-7
Eucalyptus fasciculosa	Leaf	0	1.3	-0.5116321981984515	Bignell, C.M., Dunlop, P.J., Brophy, J.J., and Jackson, J.F. 1995. Volatile Leaf Oils of Some South-western and Southern Australian Species of the Genus Eucalyptus. Part VI. Subgenus Symphyomyrtus, Section Adnataria. Flavour and Fragrance J. 10(6):359-364
Eucalyptus forrestiana	Leaf	--	75	0.22632632469967118	Bignell, C.M., Dunlop, P.J., Brophy, J.J., and Jackson, J.F. 1994. Volatile Leaf Oils of Some South-western and Southern Australian Species of the Genus Eucalyptus. Part I. Subgenus Symphyomyrtus, Section Dumaria, Series Incrassatae. Flavour and Fragrance J. 9(3):113-7
Eucalyptus incrassata	Leaf	--	125	0.7269766116047747	Bignell, C.M., Dunlop, P.J., Brophy, J.J., and Jackson, J.F. 1994. Volatile Leaf Oils of Some South-western and Southern Australian Species of the Genus Eucalyptus. Part I. Subgenus Symphyomyrtus, Section Dumaria, Series Incrassatae. Flavour and Fragrance J. 9(3):113-7
Eucalyptus intertexta	Leaf	5.5	5.5	-0.46957757409842277	Bignell, C.M., Dunlop, P.J., Brophy, J.J., and Jackson, J.F. 1995. Volatile Leaf Oils of Some South-western and Southern Australian Species of the Genus Eucalyptus. Part VI. Subgenus Symphyomyrtus, Section Adnataria. Flavour and Fragrance J. 10(6):359-364
Eucalyptus lansdowneana	Leaf	2.4	2.4	-0.5006178918865392	Bignell, C.M., Dunlop, P.J., Brophy, J.J., and Jackson, J.F. 1995. Volatile Leaf Oils of Some South-western and Southern Australian Species of the Genus Eucalyptus. Part VI. Subgenus Symphyomyrtus, Section Adnataria. Flavour and Fragrance J. 10(6):359-364

Plant	Part	Low PPM	High PPM	StdDev	Reference
Eucalyptus largisparsa	Leaf	52	52	-0.0039728072766764665	Bignell, C.M., Dunlop, P.J., Brophy, J.J., and Jackson, J.F. 1995. Volatile Leaf Oils of Some South-western and Southern Australian Species of the Genus Eucalyptus. Part VI. Subgenus Symphyomyrtus, Section Adnataria. Flavour and Fragrance J. 10(6):359-364
Eucalyptus leucoxyton	Leaf	10	10	-0.42451904827696346	Bignell, C.M., Dunlop, P.J., Brophy, J.J., and Jackson, J.F. 1995. Volatile Leaf Oils of Some South-western and Southern Australian Species of the Genus Eucalyptus. Part VI. Subgenus Symphyomyrtus, Section Adnataria. Flavour and Fragrance J. 10(6):359-364
Eucalyptus melanophloia	Leaf	0	0.8	-0.5166387010675025	Bignell, C.M., Dunlop, P.J., Brophy, J.J., and Jackson, J.F. 1995. Volatile Leaf Oils of Some South-western and Southern Australian Species of the Genus Eucalyptus. Part VI. Subgenus Symphyomyrtus, Section Adnataria. Flavour and Fragrance J. 10(6):359-364
Eucalyptus nova-anglica	Leaf	55	90	0.3765214107712022	Brophy, J. L., Lassak, E. V., & Boland, D. J. 1992. The Leaf Essential Oils of Eucalyptus nova-anglica. Deane & Maiden. Journal of Essential Oil Res. 4: 29-32.
Eucalyptus ochrophloia	Leaf	0.5	0.5	-0.5196426027889332	Bignell, C.M., Dunlop, P.J., Brophy, J.J., and Jackson, J.F. 1995. Volatile Leaf Oils of Some South-western and Southern Australian Species of the Genus Eucalyptus. Part VI. Subgenus Symphyomyrtus, Section Adnataria. Flavour and Fragrance J. 10(6):359-364
Eucalyptus odorata	Leaf	4.4	4.4	-0.480591880410335	Bignell, C.M., Dunlop, P.J., Brophy, J.J., and Jackson, J.F. 1995. Volatile Leaf Oils of Some South-western and Southern Australian Species of the Genus Eucalyptus. Part VI. Subgenus Symphyomyrtus, Section Adnataria. Flavour and Fragrance J. 10(6):359-364
Eucalyptus populnea	Leaf	1.8	1.8	-0.5066256953294005	Bignell, C.M., Dunlop, P.J., Brophy, J.J., and Jackson, J.F. 1995. Volatile Leaf Oils of Some South-western and Southern Australian Species of the Genus Eucalyptus. Part VI. Subgenus Symphyomyrtus, Section Adnataria. Flavour and Fragrance J. 10(6):359-364

Plant	Part	Low PPM	High PPM	StdDev	Reference
Eucalyptus porosa	Leaf	10	10	-0.42451904827696346	Bignell, C.M., Dunlop, P.J., Brophy, J.J., and Jackson, J.F. 1995. Volatile Leaf Oils of Some South-western and Southern Australian Species of the Genus Eucalyptus. Part VI. Subgenus Symphyomyrtus, Section Adnataria. Flavour and Fragrance J. 10(6):359-364
Eucalyptus sparsa	Leaf	460	460	4.0813335338689685	Bignell, C.M., Dunlop, P.J., Brophy, J.J., and Jackson, J.F. 1995. Volatile Leaf Oils of Some South-western and Southern Australian Species of the Genus Eucalyptus. Part VI. Subgenus Symphyomyrtus, Section Adnataria. Flavour and Fragrance J. 10(6):359-364
Eucalyptus stoatei	Leaf	--	135	0.8271066689857954	Bignell, C.M., Dunlop, P.J., Brophy, J.J., and Jackson, J.F. 1994. Volatile Leaf Oils of Some South-western and Southern Australian Species of the Genus Eucalyptus. Part I. Subgenus Symphyomyrtus, Section Dumaria, Series Incrassatae. Flavour and Fragrance J. 9(3):113-7
Eucalyptus tetraptera	Leaf	--	75	0.22632632469967118	Bignell, C.M., Dunlop, P.J., Brophy, J.J., and Jackson, J.F. 1994. Volatile Leaf Oils of Some South-western and Southern Australian Species of the Genus Eucalyptus. Part I. Subgenus Symphyomyrtus, Section Dumaria, Series Incrassatae. Flavour and Fragrance J. 9(3):113-7
Eucalyptus viridis	Leaf	0	0.5	-0.5196426027889332	Bignell, C.M., Dunlop, P.J., Brophy, J.J., and Jackson, J.F. 1995. Volatile Leaf Oils of Some South-western and Southern Australian Species of the Genus Eucalyptus. Part VI. Subgenus Symphyomyrtus, Section Adnataria. Flavour and Fragrance J. 10(6):359-364
Eupatorium triplinerve	Plant	--	--		Morton, J.F., Major Medicinal Plants. 1977. Atlas of Medicinal Plants of Middle America. Bahamas to Yucatan. 1981.
Humulus lupulus	Fruit	150	150	1	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
Hypericum perforatum	Plant	1.5	27	-0.500067830640769	--
Juniperus communis	Fruit	32	32	-1	--
Juniperus communis	Fruit Essent. Oil	--	--		--

Plant	Part	Low PPM	High PPM	StdDev	Reference
Laurus nobilis	Leaf	--	--		Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
Leptospermum scoparium	Essential Oil	--	--		--
Levisticum officinale	Root	10	100		Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
Magnolia denudata	Bulb	--	--		--
Magnolia denudata	Flower	--	--		--
Magnolia denudata	Leaf	--	--		--
Magnolia denudata	Twig	--	--		--
Melissa officinalis	Shoot	--	--		--
Metrosideros sclerocarpa	Leaf	98	392	3.400449143678028	--
Murraya koenigii	Leaf	--	0.1	-0.523647805084174	--
Myrrhis odorata	Leaf Essent. Oil	--	9500	-1	--
Myrtus communis	Plant	0	1	-0.7709379055711856	--
Ocimum basilicum	Plant	--	--		--
Ocimum gratissimum	Plant	15	240	1.7189831678276435	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
Panax ginseng	Root Essent. Oil	--	80000		--

Plant	Part	Low PPM	High PPM	StdDev	Reference
Panax ginseng	Plant	--	--		Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
Panax quinquefolius	Plant	--	--		--
Pelargonium citrosum	Shoot	--	2		Matsuda, B. M., et al. 1996. Essential Oil Analysis and Field Evaluation of the Citrosa Plant 'Pelargonium citrosum' as a Repellent Against Populations of Aedes Mosquitoes. J. Am. Mosq. Contr. Assoc. 12(1):69-74.
Petroselinum crispum	Leaf	1.68	1.68	-0.5078272560179726	--
Pimenta dioica	Plant	--	--		--
Pinus sylvestris	Wood	--	--		--
Piper nigrum	Fruit	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
Piper nigrum	Fruit Essent. Oil	--	6400	-1	--
Psidium guajava	Fruit	--	--		--
Sassafras albidum	Leaf	0	11	-0.41450604253886136	--
Stevia rebaudiana	Flower	--	43	1.0000000000000002	Kinghorn, A. D. (Ed.) 2002. Medicinal and Aromatic Plants - Industrial Profiles. Stevia. The genus Stevia. Taylor & Francis. New York, NY. 211 pp.
Stevia rebaudiana	Leaf	--	29	-0.23427193925302411	Kinghorn, A. D. (Ed.) 2002. Medicinal and Aromatic Plants - Industrial Profiles. Stevia. The genus Stevia. Taylor & Francis. New York, NY. 211 pp.
Syzygium aromaticum	Fruit	--	--		--
Tagetes lucida	Shoot	--	--		Bicchi, C., Fresia, M., Rubiolo, P., Monti, D., Franz, C., Goehler, I. 1997. Constituents of Tagetes lucida Cav. ssp. lucida essential oil. Flavor & Fragrance, 12(1): 47-52.

Plant	Part	Low PPM	High PPM	StdDev	Reference
Zingiber officinale	Rhizome	--	--		--
Zingiber officinale	Rhizome Essent. Oil	--	--		--