

List of Plants



Chemid

CITRONELLOL

Dosage

LD50=4,000 (ims mus)

LD100=300 ug/ml

ADI=500 ug/kg

*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 |
|-----------------------|----------------------|---------|----------|--------|--|
| Agathosma betulina | Leaf Essent. Oil | -- | -- | | * |
| Aloysia citrodora | Plant | 10.0 | 70.0 | -0.58 | Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980. |
| Aniba rosaeodora | Wood Essent. Oil | -- | -- | | * |
| Asimina triloba | Fruit | -- | 0.024 | -0.57 | * |
| Camellia sinensis | Leaf | -- | -- | | * |
| Carum carvi | Seed | -- | 0.1 | | * |
| Cinnamomum camphora | Plant | -- | -- | | * |
| Citrullus colocynthis | Plant | -- | -- | | * |
| Citrus sinensis | Fruit | 0.7 | 1.0 | -0.51 | * |
| Citrus limon | Pericarp Essent. Oil | -- | -- | | Jim Duke's personal files. |
| Citrus reticulata | Fruit | 0.4 | 0.8 | -0.52 | * |
| Citrus paradisi | Leaf | -- | 70.0 | -0.43 | * |
| Citrus limon | Pericarp | -- | -- | | Jim Duke's personal files. |
| Citrus limon | Leaf Essent. Oil | 3700.0 | 14000.0 | -0.97 | Jim Duke's personal files. |
| Citrus aurantium | Plant | -- | -- | | * |
| Cnicus benedictus | Shoot | -- | -- | | Jim Duke's personal files. |
| Coriandrum sativum | Essential Oil | -- | -- | | * |
| Coriandrum sativum | Seed Essent. Oil | 6150.0 | 14620.0 | | * |
| Coriandrum sativum | Fruit | -- | 8.0 | -0.02 | Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980. |
| Cymbopogon nardus | Plant | 252.0 | 1008.0 | 1.71 | Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980. |
| Cymbopogon citratus | Plant | -- | -- | | * |

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|---------------------------------|-------------------|---------|----------|-------|--|
| <i>Cymbopogon winterianus</i> | Plant | 440.0 | 770.0 | 1.13 | Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980. |
| <i>Elettaria cardamomum</i> | Fruit | 14.0 | 40.0 | 2.19 | * |
| <i>Elettaria cardamomum</i> | Fruit Essent. Oil | -- | 5000.0 | 1.0 | * |
| <i>Ephedra sinica</i> | Shoot | -- | 6.0 | -0.18 | * |
| <i>Eucalyptus paniculata</i> | Shoot | -- | 9.0 | -0.18 | Zrira, S. S., Benjilali, B. B., Fechtal, M. M., & Richard, H. H. 1991. Essential Oils of Twenty-seven Eucalyptus Species Grown in Morocco. Journal of Essential Oil Res. 4: 259-264. |
| <i>Eucalyptus camaldulensis</i> | Shoot | -- | 0.1 | -0.18 | Zrira, S. S., Benjilali, B. B., Fechtal, M. M., & Richard, H. H. 1991. Essential Oils of Twenty-seven Eucalyptus Species Grown in Morocco. Journal of Essential Oil Res. 4: 259-264. |
| <i>Eucalyptus moluccana</i> | Shoot | -- | 70.0 | -0.17 | Zrira, S. S., Benjilali, B. B., Fechtal, M. M., & Richard, H. H. 1991. Essential Oils of Twenty-seven Eucalyptus Species Grown in Morocco. Journal of Essential Oil Res. 4: 259-264. |
| <i>Eucalyptus blakelyi</i> | Shoot | -- | 80.0 | -0.17 | Zrira, S. S., Benjilali, B. B., Fechtal, M. M., & Richard, H. H. 1991. Essential Oils of Twenty-seven Eucalyptus Species Grown in Morocco. Journal of Essential Oil Res. 4: 259-264. |
| <i>Eucalyptus maculata</i> | Shoot | -- | 0.1 | -0.18 | Zrira, S. S., Benjilali, B. B., Fechtal, M. M., & Richard, H. H. 1991. Essential Oils of Twenty-seven Eucalyptus Species Grown in Morocco. Journal of Essential Oil Res. 4: 259-264. |
| <i>Eucalyptus dealbata</i> | Shoot | -- | 0.1 | -0.18 | Zrira, S. S., Benjilali, B. B., Fechtal, M. M., & Richard, H. H. 1991. Essential Oils of Twenty-seven Eucalyptus Species Grown in Morocco. Journal of Essential Oil Res. 4: 259-264. |
| <i>Eucalyptus albens</i> | Shoot | -- | 0.1 | -0.18 | Zrira, S. S., Benjilali, B. B., Fechtal, M. M., & Richard, H. H. 1991. Essential Oils of Twenty-seven Eucalyptus Species Grown in Morocco. Journal of Essential Oil Res. 4: 259-264. |
| <i>Eucalyptus citriodora</i> | Leaf | 230.0 | 4000.0 | 2.24 | * |
| <i>Eucalyptus sideroxylon</i> | Shoot | -- | 0.1 | -0.18 | Zrira, S. S., Benjilali, B. B., Fechtal, M. M., & Richard, H. H. 1991. Essential Oils of Twenty-seven Eucalyptus Species Grown in Morocco. Journal of Essential Oil Res. 4: 259-264. |
| <i>Eucalyptus punctata</i> | Shoot | -- | 110.0 | -0.17 | Zrira, S. S., Benjilali, B. B., Fechtal, M. M., & Richard, H. H. 1991. Essential Oils of Twenty-seven Eucalyptus Species Grown in Morocco. Journal of Essential Oil Res. 4: 259-264. |
| <i>Eucalyptus globulus</i> | Leaf Essent. Oil | -- | 136000.0 | -0.4 | * |
| <i>Eucalyptus oviformis</i> | Shoot | -- | 0.1 | -0.18 | Zrira, S. S., Benjilali, B. B., Fechtal, M. M., & Richard, H. H. 1991. Essential Oils of Twenty-seven Eucalyptus Species Grown in Morocco. Journal of Essential Oil Res. 4: 259-264. |
| <i>Eucalyptus brassiana</i> | Leaf | -- | 70.0 | -0.43 | Singh, A. K., Gupta, K. C., & Brophy, J. J. 1991. Chemical Constituents of the Leaf Essential Oil of <i>Eucalyptus brassiana</i> S. T. Blake. Journal of Essential Oil Res. 3: 45-7. |
| <i>Eucalyptus melliodora</i> | Shoot | -- | 0.1 | -0.18 | Zrira, S. S., Benjilali, B. B., Fechtal, M. M., & Richard, H. H. 1991. Essential Oils of Twenty-seven Eucalyptus Species Grown in Morocco. Journal of Essential Oil Res. 4: 259-264. |
| <i>Eucalyptus globulus</i> | Shoot | -- | 0.1 | -0.18 | Zrira, S. S., Benjilali, B. B., Fechtal, M. M., & Richard, H. H. 1991. Essential Oils of Twenty-seven Eucalyptus Species Grown in Morocco. Journal of Essential Oil Res. 4: 259-264. |
| <i>Eucalyptus astringens</i> | Shoot | -- | 105.0 | -0.17 | Zrira, S. S., Benjilali, B. B., Fechtal, M. M., & Richard, H. H. 1991. Essential Oils of Twenty-seven Eucalyptus Species Grown in Morocco. Journal of Essential Oil Res. 4: 259-264. |
| <i>Eucalyptus cladocalyx</i> | Shoot | -- | 10.0 | -0.18 | Zrira, S. S., Benjilali, B. B., Fechtal, M. M., & Richard, H. H. 1991. Essential Oils of Twenty-seven Eucalyptus Species Grown in Morocco. Journal of Essential Oil Res. 4: 259-264. |
| <i>Eucalyptus siderophloia</i> | Shoot | -- | 0.1 | -0.18 | Zrira, S. S., Benjilali, B. B., Fechtal, M. M., & Richard, H. H. 1991. Essential Oils of Twenty-seven Eucalyptus Species Grown in Morocco. Journal of Essential Oil Res. 4: 259-264. |
| <i>Eucalyptus polyanthemus</i> | Shoot | -- | 0.1 | -0.18 | Zrira, S. S., Benjilali, B. B., Fechtal, M. M., & Richard, H. H. 1991. Essential Oils of Twenty-seven Eucalyptus Species Grown in Morocco. Journal of Essential Oil Res. 4: 259-264. |
| <i>Eucalyptus citriodora</i> | Leaf Essent. Oil | 56000.0 | 517000.0 | 1.38 | * |

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|--------------------------------|------------------|---------|----------|-------|--|
| <i>Eucalyptus botryoides</i> | Shoot | -- | 3.0 | -0.18 | Zrira, S. S., Benjilali, B. B., Fechtal, M. M., & Richard, H. H. 1991. Essential Oils of Twenty-seven Eucalyptus Species Grown in Morocco. Journal of Essential Oil Res. 4: 259-264. |
| <i>Eucalyptus occidentalis</i> | Shoot | -- | 0.1 | -0.18 | Zrira, S. S., Benjilali, B. B., Fechtal, M. M., & Richard, H. H. 1991. Essential Oils of Twenty-seven Eucalyptus Species Grown in Morocco. Journal of Essential Oil Res. 4: 259-264. |
| <i>Eucalyptus bosistoana</i> | Shoot | -- | 0.1 | -0.18 | Zrira, S. S., Benjilali, B. B., Fechtal, M. M., & Richard, H. H. 1991. Essential Oils of Twenty-seven Eucalyptus Species Grown in Morocco. Journal of Essential Oil Res. 4: 259-264. |
| <i>Eucalyptus maideni</i> | Shoot | -- | 0.1 | -0.18 | Zrira, S. S., Benjilali, B. B., Fechtal, M. M., & Richard, H. H. 1991. Essential Oils of Twenty-seven Eucalyptus Species Grown in Morocco. Journal of Essential Oil Res. 4: 259-264. |
| <i>Eucalyptus diversicolor</i> | Shoot | -- | 0.1 | -0.18 | Zrira, S. S., Benjilali, B. B., Fechtal, M. M., & Richard, H. H. 1991. Essential Oils of Twenty-seven Eucalyptus Species Grown in Morocco. Journal of Essential Oil Res. 4: 259-264. |
| <i>Eucalyptus citriodora</i> | Shoot | -- | 78000.0 | 5.99 | * |
| <i>Eucalyptus tereticornis</i> | Shoot | -- | 0.1 | -0.18 | Zrira, S. S., Benjilali, B. B., Fechtal, M. M., & Richard, H. H. 1991. Essential Oils of Twenty-seven Eucalyptus Species Grown in Morocco. Journal of Essential Oil Res. 4: 259-264. |
| <i>Eucalyptus saligna</i> | Shoot | -- | 0.1 | -0.18 | Zrira, S. S., Benjilali, B. B., Fechtal, M. M., & Richard, H. H. 1991. Essential Oils of Twenty-seven Eucalyptus Species Grown in Morocco. Journal of Essential Oil Res. 4: 259-264. |
| <i>Foeniculum vulgare</i> | Essential Oil | -- | 2800.0 | -0.77 | Jim Duke's personal files. |
| <i>Juniperus virginiana</i> | Leaf | -- | -- | | * |
| <i>Juniperus communis</i> | Leaf | -- | -- | | * |
| <i>Lavandula angustifolia</i> | Flower | -- | -- | | Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980. |
| <i>Lavandula latifolia</i> | Plant | 1.0 | 41.0 | -0.65 | Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980. |
| <i>Melissa officinalis</i> | Shoot | -- | 80.0 | -0.17 | * |
| <i>Mentha pulegium</i> | Plant | 90.0 | 180.0 | -0.31 | Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705. |
| <i>Mentha pulegium</i> | Essential Oil | -- | 9000.0 | -0.7 | * |
| <i>Mentha x piperita</i> | Essential Oil | -- | -- | | * |
| <i>Myristica fragrans</i> | Seed Essent. Oil | -- | -- | | * |
| <i>Myristica fragrans</i> | Essential Oil | -- | -- | | * |
| <i>Nepeta cataria</i> | Essential Oil | -- | 126000.0 | 0.52 | * |
| <i>Ocimum basilicum</i> | Plant | -- | 0.2 | -0.75 | Die Nahrung. Pino, J., Rosado, A., Goire, I., Roncal, E., and Garcia, I. 1993. Analysis of the Essential Oil from Cuban Basil. Die Nahrung 37:(5): 501-504. |
| <i>Ocimum basilicum</i> | Plant | -- | 0.2 | -0.75 | Die Nahrung. Pino, J., Rosado, A., Goire, I., Roncal, E., and Garcia, I. 1993. Analysis of the Essential Oil from Cuban Basil. Die Nahrung 37:(5): 501-504. |
| <i>Ocimum basilicum</i> | Essential Oil | 80000.0 | 241900.0 | 1.74 | * |
| <i>Origanum syriacum</i> | Shoot | -- | -- | | Fleisher, A. & Fleisher, Z. 1991. Chemical Composition of <i>Origanum syriacum</i> L. Essential Oil. J. Ess. Oil Res. 3: 121-123. |
| <i>Origanum syriacum</i> | Shoot | -- | -- | -0.18 | Fleisher, A. & Fleisher, Z. 1991. Chemical Composition of <i>Origanum syriacum</i> L. Essential Oil. J. Ess. Oil Res. 3: 121-123. |
| <i>Origanum syriacum</i> | Shoot | -- | 0.1 | -0.18 | Fleisher, A. & Fleisher, Z. 1991. Chemical Composition of <i>Origanum syriacum</i> L. Essential Oil. J. Ess. Oil Res. 3: 121-123. |
| <i>Pelargonium roseum</i> | Shoot | -- | 4050.0 | 0.14 | * |

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|------------------------|-------------------|------|--------|-------|--|
| Pelargonium citrosum | Shoot | -- | 220.0 | -0.16 | 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. |
| Pelargonium graveolens | Plant | 21.0 | 1176.0 | 2.12 | * |
| Piper nigrum | Fruit Essent. Oil | -- | 200.0 | -1.0 | * |
| Piper nigrum | Essential Oil | -- | -- | | * |
| Plumeria acutifolia | Flower | -- | -- | | * |
| Ravensara aromatica | Leaf | -- | 60.0 | -0.43 | * |
| Ravensara aromatica | Bark | -- | 22.0 | | * |
| Ribes nigrum | Fruit | -- | -- | | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |
| Rosa gallica | Flower | -- | -- | | * |
| Rosa damascena | Essential Oil | -- | -- | | * |
| Rosa centifolia | Essential Oil | -- | 1200.0 | -0.79 | * |
| Salvia dorisiana | Shoot | -- | -- | -0.18 | Tucker, A.O. & Maciarelllo, M.J. 1994. The Essential Oil of Salvia dorisiana Standley. J. Ess. Oil Res. 6: 97-8. |
| Salvia sclarea | Plant | -- | -- | | Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980. |
| Santalum album | Wood | -- | -- | | * |
| 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 montana | Plant | 1.0 | 325.0 | 0.04 | 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. |
| Satureja subspicata | Plant | -- | 40.0 | -0.65 | 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. |
| Satureja cuneifolia | Shoot | -- | 40.0 | -0.17 | Tumen, G. 1991. The Volatile Constituents of Satureja cuneifolia. J. Ess. Oil Res., 3: 365-366. |
| Satureja obovata | Shoot | -- | 1.0 | -0.18 | Fitoterapia No.60: 277. |
| 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 parvifolia | Shoot | -- | 150.0 | -0.17 | Zygodlo, J.A., Merino. E.F., Maestri, D.M., Guzman, C.A. and Espinar, L.A. 1993. The Essential Oils of Satureja odora and Satureja parvifolia from Argentina. J. Ess. Oil Res. 5: 549-51. |
| 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 | -- | 0.01 | -0.47 | 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 odora | Shoot | -- | -- | -0.18 | Zygodlo, J.A., Merino. E.F., Maestri, D.M., Guzman, C.A. and Espinar, L.A. 1993. The Essential Oils of Satureja odora and Satureja parvifolia from Argentina. J. Ess. Oil Res. 5: 549-51. |
| Thymus x citriodorus | Plant | -- | 30.0 | -0.68 | 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 funkii | Shoot | -- | 16.0 | -0.18 | Vila, R., et al. 1995. Composition and study of the variability of the essential oil of Thymus funkii Cousson. Flav. & Fragr. J. 10(6): 379-383. |
| Thymus serpyllum | Plant | -- | -- | | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| Thymus funkii | Shoot | -- | 16.0 | -0.18 | Vila, R., et al. 1995. Composition and study of the variability of the essential oil of Thymus funkii Cousson. Flav. & Fragr. J. 10(6): 379-383. |

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|--------------------------|---------------------|--------|----------|-------|---|
| Umbellularia californica | Plant | 10.0 | 40.0 | -0.65 | * |
| Vaccinium corymbosum | Fruit | 0.01 | 0.03 | -0.57 | * |
| Vaccinium myrtillus | Fruit Juice | -- | 0.001 | | * |
| Vitex agnus-castus | Leaf | -- | 0.5 | -0.47 | Ekundayo, O., Laakso, I., Holopainen, M., Hiltunen, R., Oguntimein, B., and Kauppinen, V. 1990. The Chemical Composition and Antimicrobial Activity of the Leaf Oil of Vitex agnus-castus L. J. Essential Oil Research, 2: 115-119. |
| Vitis vinifera | Leaf | -- | -- | | * |
| Zea mays | Leaf | -- | -- | | Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705. |
| Zingiber officinale | Rhizome Essent. Oil | 3000.0 | 130000.0 | | * |
| Zingiber officinale | Rhizome | 2.0 | 6500.0 | | * |