

C MENTHOL

Chemid

MENTHOL

*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 |
|------------------------------------|------------------|---------|----------|---------------------|---|
| Achillea millefolium | Plant | -- | -- | | -- |
| Acinos suaveolens | Shoot | 3 | 3 | -0.6414348966484517 | Tumen, G. 1991. The Volatile Constituents of Acinos suaveolens (Sibt. et Smith). G. Don fil. Growing in Turkey. J. Ess. Oil Res. 3:191-2. |
| Acorus calamus | Rhizome | -- | -- | | Pakistan Encyclopedia Planta Medica. 1986. |
| Agathosma betulina | Leaf Essent. Oil | -- | -- | | -- |
| Artemisia annua | Plant | -- | -- | | -- |
| Artemisia dracunculus | Shoot | 50 | 500 | 0.10999266642586884 | -- |
| Artemisia dracunculus | Essential Oil | -- | -- | | -- |
| Brassica oleracea var. capitata l. | Plant | -- | -- | | -- |
| Brassica oleracea var. capitata l. | Leaf | -- | -- | | -- |

| Plant | Part | Low PPM | High PPM | StdDev | Reference |
|-----------------------|--------------------|---------|----------|---------------------|---|
| Calamintha nepeta | Leaf | 1 | 1 | -0.6077084517963512 | Akgul, A., De Pooter, H.L., and De Buyck, L.F. 1991. The Essential Oils of Calamintha nepeta subsp. glandulosa and Ziziphora clinopodioides from Turkey. J. Ess. Oil Res., 3: 7-10. |
| Calamintha nepeta | Plant | 290 | 290 | -0.4235767522138178 | J. Ethnopharmacology, 39: 167. |
| Camellia sinensis | Leaf | -- | -- | | -- |
| Cocos nucifera | Fruit | -- | -- | | Jim Duke's personal files. |
| Cymbopogon nardus | Plant | -- | -- | | Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980. |
| Elytrigia repens | Plant | 15 | 20 | -0.6245205427971803 | Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp. |
| Elytrigia repens | Rhizome | -- | 18 | 1 | Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp. |
| Eucalyptus citriodora | Leaf Essent. Oil | -- | -- | | -- |
| Glechoma hederacea | Plant | -- | -- | | Chemical Constituents of Oriental Herbs (3 diff. books) |
| Hedeoma drummondii | Plant | 10 | 10 | -0.6319629054113789 | Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980. |
| Hedeoma pulegioides | Plant | 6 | 30 | -0.6170781801829817 | -- |
| Hedeoma pulegioides | Essential Oil | -- | -- | | -- |
| Hedeoma pulegioides | Pollen Or Spore | -- | 1000 | | -- |
| Helianthus annuus | Flower Essent. Oil | 235000 | 310000 | | -- |

| Plant | Part | Low PPM | High PPM | StdDev | Reference |
|--|-------------------|---------|----------|----------------------|--|
| <i>Hyptis suaveolens</i> | Plant | -- | -- | | Morton, J.F., Major Medicinal Plants. 1977. Atlas of Medicinal Plants of Middle America. Bahamas to Yucatan. 1981. |
| <i>Juniperus communis</i> | Fruit | 22 | 22 | | -- |
| <i>Juniperus communis</i> | Fruit Essent. Oil | -- | -- | | -- |
| <i>Levisticum officinale</i> | Root | -- | -- | | Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980. |
| <i>Mentha aquatica</i> | Leaf | 3570 | 3570 | -0.19360438419646248 | -- |
| <i>Mentha aquatica</i> | Shoot | 1 | 1 | -0.6444587500209842 | Umemoto, K., Arai, T., Nii, H. and Furukawa, K. 1993. A New Chemotype of <i>Mentha aquatica</i> Containing Sesquiterpene Alcohols as Major Components. <i>Nippon Nogeikagaku Kaishi</i> 67(10): 1417-1419. |
| <i>Mentha aquatica</i> | Shoot | -- | -- | | Umemoto, K., Arai, T., Nii, H. and Furukawa, K. 1993. A New Chemotype of <i>Mentha aquatica</i> Containing Sesquiterpene Alcohols as Major Components. <i>Nippon Nogeikagaku Kaishi</i> 67(10): 1417-1419. |
| <i>Mentha aquatica</i> | Shoot | -- | 3 | -0.6414348966484517 | Umemoto, K., Arai, T., Nii, H. and Furukawa, K. 1993. A New Chemotype of <i>Mentha aquatica</i> Containing Sesquiterpene Alcohols as Major Components. <i>Nippon Nogeikagaku Kaishi</i> 67(10): 1417-1419. |
| <i>Mentha aquatica</i> | Shoot | -- | -- | | Umemoto, K., Arai, T., Nii, H. and Furukawa, K. 1993. A New Chemotype of <i>Mentha aquatica</i> Containing Sesquiterpene Alcohols as Major Components. <i>Nippon Nogeikagaku Kaishi</i> 67(10): 1417-1419. |
| <i>Mentha aquatica</i> | Shoot | -- | 1 | -0.6444587500209842 | Umemoto, K., Arai, T., Nii, H. and Furukawa, K. 1993. A New Chemotype of <i>Mentha aquatica</i> Containing Sesquiterpene Alcohols as Major Components. <i>Nippon Nogeikagaku Kaishi</i> 67(10): 1417-1419. |
| <i>Mentha arvensis</i> var. <i>piperascens</i> | Leaf | 1000 | 24385 | 2.2215192266445816 | -- |
| <i>Mentha longifolia</i> | Shoot | 0 | 620 | 0.29142386877781745 | -- |

| Plant | Part | Low PPM | High PPM | StdDev | Reference |
|-----------------------|---------------|---------|----------|----------------------|--|
| Mentha pulegium | Plant | -- | 3780 | 2.1738078001414967 | Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705. |
| Mentha pulegium | Essential Oil | 1000 | 478000 | 1 | -- |
| Mentha pulegium | Shoot | -- | -- | | -- |
| Mentha sp | Plant | -- | -- | | Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp. |
| Mentha spicata | Leaf | 0 | 375 | -0.5643139655866684 | -- |
| Mentha spicata | Leaf | 8 | 200 | -0.5846188722355842 | Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705. |
| Mentha spicata | Essential Oil | 0 | 15000 | -1 | -- |
| Mentha x piperita | Leaf | 156 | 6750 | 1.712736280041748 | -- |
| Mentha x rotundifolia | Leaf | 0 | 80 | -0.5985422367948408 | -- |
| Micromeria fruticosa | Leaf | 3030 | 3030 | -0.25625952471311697 | 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 fruticosa | Shoot | 85 | 85 | -0.5174569083746201 | Fleisher, Z. and Fleisher, A. 1991. The Essential Oil of Micromeria fruticosa (L.) Druce subsp. barbata (Boiss et. Ky.), P.H. Davis. Aromatic Plants of the Holy Land and the Sinai. Part VII. J. Ess. Oil Res 3: 477-479. |
| Micromeria fruticosa | Shoot | -- | 85 | -0.5174569083746201 | Fleisher, Z. and Fleisher, A. 1991. The Essential Oil of Micromeria fruticosa (L.) Druce subsp. barbata (Boiss et. Ky.), P.H. Davis. Aromatic Plants of the Holy Land and the Sinai. Part VII. J. Ess. Oil Res 3: 477-479. |
| Micromeria thymifolia | Leaf | 45 | 45 | -0.6026032181246239 | 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. |

| Plant | Part | Low PPM | High PPM | StdDev | Reference |
|-----------------------------|------------------|---------|----------|----------------------|--|
| Minthostachys mollis | Shoot | 120 | 215 | -0.3209064391600091 | Alkire, B.H., Tucker, A.O., and Maciarelo, M.J. 1994. Tipo (Minthostachys mollis (Lamiaceae): An Ecuadorian Mint. Econ. Bot. 48(1): 60-64. |
| Ocimum basilicum | Plant | 4 | 32 | -0.6155897076601419 | Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705. |
| Ocimum basilicum | Essential Oil | -- | -- | -- | -- |
| Ononis spinosa | Root | -- | -- | -- | -- |
| Origanum majorana | Essential Oil | -- | -- | -- | -- |
| Pelargonium graveolens | Plant | 2 | 1852 | 0.738920288124005 | -- |
| Psidium guajava | Leaf Essent. Oil | -- | -- | -- | -- |
| Pycnanthemum beadleii | Shoot | 140 | 140 | -0.434300940629977 | Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980. |
| Pycnanthemum clinopodioides | Shoot | 168 | 176 | -0.3798715799243924 | Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980. |
| Pycnanthemum incanum | Shoot | 22 | 798 | 0.5605468189332079 | Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980. |
| Pycnanthemum montanum | Shoot | 28 | 32 | -0.5975890227467308 | Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980. |
| Pycnanthemum muticum | Shoot | 87 | 450 | 0.034396332112556924 | Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980. |
| Pycnanthemum pilosum | Flower | 142 | 700 | | Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980. |

| Plant | Part | Low PPM | High PPM | StdDev | Reference |
|---------------------------------|-----------------------|---------|----------|-----------------------|--|
| <i>Pycnanthemum pilosum</i> | Leaf | 142 | 700 | -0.5266048532386818 | Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980. |
| <i>Pycnanthemum setosum</i> | Shoot | -- | -- | | Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980. |
| <i>Pycnanthemum tenuifolium</i> | Shoot | 62 | 620 | 0.29142386877781745 | Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980. |
| <i>Pycnanthemum virginianum</i> | Shoot | 18 | 3016 | 3.914000209071725 | Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980. |
| <i>Rheum palmatum</i> | Rhizome | -- | 0.5 | -1 | -- |
| <i>Rhododendron dauricum</i> | Plant | -- | -- | | -- |
| <i>Salvia officinalis</i> | Leaf | -- | -- | | -- |
| <i>Salvia officinalis</i> | Plant | -- | -- | | -- |
| <i>Sambucus nigra</i> | Flower Essent. Oil | -- | -- | | -- |
| <i>Satureja grandiflora</i> | Shoot | 420 | 420 | -0.010961468475430228 | Carnat, A., Chossegras, A., and Lamaison, J. 1991. The Essential Oil of <i>Satureja grandiflora</i> (L.) Scheele from France. <i>J. Ess. Oil Res.</i> , 3: 361-362 |
| <i>Satureja odora</i> | Shoot | 0 | 0 | -0.6459706767072504 | Zygodlo, J.A., Merino. E.F., Maestri, D.M., Guzman, C.A. and Espinar, L.A. 1993. The Essential Oils of <i>Satureja odora</i> and <i>Satureja parvifolia</i> from Argentina. <i>J. Ess. Oil Res.</i> 5: 549-51. |
| <i>Satureja parvifolia</i> | Shoot | 1010 | 1010 | 0.8810752764216505 | Zygodlo, J.A., Merino. E.F., Maestri, D.M., Guzman, C.A. and Espinar, L.A. 1993. The Essential Oils of <i>Satureja odora</i> and <i>Satureja parvifolia</i> from Argentina. <i>J. Ess. Oil Res.</i> 5: 549-51. |
| <i>Sideritis scardica</i> | Shoot | 370 | 370 | -0.08655780278874216 | Menkovic, N., et al. 1991. The Essential Oil of <i>Sideritis scardica</i> . <i>Pl. Med.</i> 57. Suppl. 2. pp. A137-A132. |

| Plant | Part | Low PPM | High PPM | StdDev | Reference |
|--------------|-------------------|----------------|-----------------|---------------|--|
| Zea mays | Leaf | -- | -- | | Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705. |
| Zea mays | Silk Stigma Style | -- | -- | | Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705. |