

# List of All Chemicals

## **P** Pycnanthemum torreyi (Lamiaceae)

### Common name(s)

Torrey's Mountain Mint

### How used

Medicinal

\*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.

| Chemical    | Part<br><input type="button" value="All"/> | Low<br>PPM | High<br>PPM | StdDev | *Reference   |
|-------------|--|------------|-------------|--------|--|
| 1,8-CINEOLE | Shoot                                      | --         | 10.0        | -0.14  | Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980. |

#### Activities (67)

|   |  |
|---|--|
| (-)-Chronotropic 87 nl/ml                 | Hansel, R., Keller, K., Rimpler, H., and Schneider, G. eds. 1992. Hager's Handbuch der Pharmazeutischen Praxis, Drogen (A-D), 1209 pp., 1993 (E-O), 970 pp., 1994 (P-Z), 1196 pp. Springer-Verlag, Berlin.               |
| (-)-Inotropic 87 nl/ml                    | Hansel, R., Keller, K., Rimpler, H., and Schneider, G. eds. 1992. Hager's Handbuch der Pharmazeutischen Praxis, Drogen (A-D), 1209 pp., 1993 (E-O), 970 pp., 1994 (P-Z), 1196 pp. Springer-Verlag, Berlin.               |
| Acaricide LC100=6 uM                      |  |
| Allelopathic                              |  |
| Allergenic                                |  |
| Anesthetic                                |  |
| Anthelmintic                              | Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.   |
| Antiacetylcholinesterase<br>IC50=41 ug/ml |  |
| Antiallergic                              | J. Food Hyg. Soc. Jap. 33(6): 569.   |
| Antibacterial 50 ppm                      |  |
| Antibronchitic                            |  |
| Anticariogenic                            |  |
| Anticatarrh                               | Martindale's 29th  |
| Anticholinesterase<br>IC50=50-70          |  |
| Antifatigue                               |  |
| Antihalitosis                             | American Health, 12(4): 17, 1993.  |
| Antiinflammatory                          |  |
| Antilaryngitic                            |  |
| Antinociceptive                           |  |
| Antipharyngitic                           |  |
| Antiplaque                                |  |
| Antirheumatic                             |  |
| Antirhinitic                              |  |
| Antiseptic                                | Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.   |
| Antisinusitic                             |  |
| Antispasmodic                             |  |
| Antistaphylococcic 50 ppm                 |  |
| Antitussive                               |  |
| Antiulcer                                 |  |
| CNS-Stimulant                             |  |
| Candidicide                               |  |
| Carcinogenic                              | Zebovitz, T. C. Ed. 1989. Part VII. Flavor and Fragrance Substances, in Keith L. H. and Walters, D.B., eds. Compendium of Safety Data Sheets for Research and Industrial Chemicals. VCH Publishers, New York. 3560-4253. |
| Choleretic                                |  |
| Convulsant                                |  |
| Counterirritant                           | Martindale's 29th  |
| Cytochrome-P450-Inducer                   |  |
| Decongestant                              |  |
| Degranulant 0.3 ul/ml                     |  |
| Dentifrice                                | Martindale's 29th  |

|                                  |  |
|----------------------------------|--|
| Edemagenic inj                   |  |
| Expectorant                      | Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.       |
| FLavor FEMA 1-200                | Aloe Research Council - Duke writeup of non-peer reviewed book by Coats and draft by Henry   |
| Fungicide                        |  |
| Gastroprotective                 |  |
| Gram(+)icide                     |  |
| Gram(-)icide                     |  |
| Hepatotonic                      |  |
| Herbicide IC50=78 uM             | Keeler, R.F. and Tu, A.T. eds. 1991. Toxicology of Plant and Fungal Compounds. (Handbook of Natural Toxins Vol. 6) Marcel Dekker, Inc. NY. 665 pp.           |
| Hypotensive                      |  |
| Inflammatory inj                 |  |
| Insectifuge                      |  |
| Irritant                         | Rinzler, C. A. 1990. The Complete Book of Herbs, Spices and Condiments. Facts on File, New York. 199 pp.   |
| Myorelaxant                      | Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. Herbal Medicine - A Guide for Health-care Professionals. The Pharmaceutical Press, London. 296pp. |
| Nematicide                       | Nigg, H.N. and Seigler, D.S., eds. 1992. Phytochemical Resources for Medicine and Agriculture. Plenum Press, New York. 445 pp.                               |
| Neurotoxic                       |  |
| P450-Inducer                     |  |
| Pediculicide 2.3 x pyrethrin     |  |
| Perfume                          | Aloe Research Council - Duke writeup of non-peer reviewed book by Coats and draft by Henry   |
| Pesticide                        |  |
| Rubefacient                      | Martindale's 29th  |
| Secretagogue                     |  |
| Sedative                         |  |
| Spasmogenic                      |  |
| Surfactant                       |  |
| Testosterone-Hydroxylase-Inducer |  |
| Transdermal                      |  |
| Trichomonicide LD100=1,000 ug/ml |  |

|              |       |    |      |       |  |
|--------------|-------|----|------|-------|--|
| 1-OCTEN-3-OL | Shoot | -- | 70.0 | -0.33 | Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980. |
| ALPHA-PINENE | Shoot | -- | 20.0 | -0.15 | Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980. |

**Activities (28)**

|                                     |  |
|-------------------------------------|--|
| Allelochemic                        |  |
| Allergenic                          |  |
| Antiacne                            |  |
| Antibacterial                       |  |
| Antifeedant                         |  |
| Antiflu                             | Economic & Medicinal Plant Research, 5: 195.   |
| Antiinflammatory 500 mg/kg          |  |
| Antipneumonic                       |  |
| Antiseptic                          |  |
| Antispasmodic                       |  |
| Antistaphylococcic                  |  |
| Antiviral                           | Economic & Medicinal Plant Research, 5: 195.   |
| Cancer-Preventive                   | Stitt, P. A. Why George Should Eat Broccoli. Dougherty Co, Milwaukee, WI, 1990, 399 pp.  |
| Coleoptophile                       |  |
| Expectorant                         | Michael Castleman 1991. The Healing Herbs. Rodale Press, Emmaus, PA 436 pp.  |
| FLavor FEMA 15-150                  | Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry  |
| Herbicide IC50=30 uM                | Keeler, R.F. and Tu, A.T. eds. 1991. Toxicology of Plant and Fungal Compounds. (Handbook of Natural Toxins Vol. 6) Marcel Dekker, Inc. NY. 665 pp.     |
| Insecticide 0.82 uM/fly             |  |
| Insectifuge 50 ppm                  |  |
| Insectiphile                        | J. Stored. Prod. Res., 22:141, 1986.   |
| Irritant                            | Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp. |
| P450-2B1-Inhibitor<br>IC50=0.087 uM |  |
| Perfumery                           | Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry  |
| Pesticide                           |  |
| Sedative                            | Lawrence Review of Natural Products, Jun-90.   |
| Spasmogenic                         |  |
| Tranquilizer                        | Lawrence Review of Natural Products, Jun-90.   |
| Transdermal                         |  |

**BETA-PINENE**      Shoot      --      20.0      -0.12      Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.

**Activities (13)**

|                    |  |
|--------------------|--|
| Allergenic         |  |
| Antiinflammatory   |  |
| Antiseptic         | Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.  |
| Antispasmodic      |  |
| Candidicide        |  |
| FLavor FEMA 15-600 | Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry  |
| Herbicide          | Keeler, R.F. and Tu, A.T. eds. 1991. Toxicology of Plant and Fungal Compounds. (Handbook of Natural Toxins Vol. 6) Marcel Dekker, Inc. NY. 665 pp.   |
| Insectifuge        | Jacobson, M., Glossary of Plant-Derived Insect Deterrents, CRC Press, Inc., Boca Raton, FL, 213 p, 1990.   |
| Irritant           | Zebovitz, T. C. Ed. 1989. Part VII. Flavor and Fragrance Substances, in Keith L. H. and Walters, D.B., eds. Compendium of Safety Data Sheets for Research and Industrial Chemicals. VCH Publishers, New York. 3560-4253. |
| Perfumery          | Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry  |
| Pesticide          |  |
| Spasmogenic        | Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. Herbal Medicine - A Guide for Health-care Professionals. The Pharmaceutical Press, London. 296pp.   |
| Transdermal        |  |

**CAMPHERE**      Shoot      --      10.0      -0.13      Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.

| Activities (9)        |   |  |  |  |  |
|-----------------------|---|--|--|--|--|
| Allelopathic          | Wright,C.W.(Ed)2002.Medicinal&Aromatic Plants-Industrial Profiles.Artemisia.344pp.Maffei,M.(Ed)2002.Vetiveria.The Genus Vetiveria.Taylor&Francis.NY,NY.191pp.Southwell,I.,Lowe,R.(Eds)1999.Tea Tree.The Genus Melaleuca.Harwood Acad.Pub.Amsterdam,Netherlands. |  |  |  |  |
| Antilithic?           | Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.  |  |  |  |  |
| Antioxidant           | Jim Duke's personal files.  |  |  |  |  |
| Expectorant           | Hansel, R., Keller, K., Rimpler, H., and Schneider, G. eds. 1992. Hager's Handbuch der Pharmazeutischen Praxis, Drogen (A-D), 1209 pp., 1993 (E-O), 970 pp., 1994 (P-Z), 1196 pp. Springer-Verlag, Berlin.  |  |  |  |  |
| FLavor FEMA 15-175    | Aloe Research Council - Duke writeup of non-peer reviewed book by Coats and draft by Henry  |  |  |  |  |
| Hypocholesterolemic?  | Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.  |  |  |  |  |
| Insectifuge Pesticide | Jacobson, M., Glossary of Plant-Derived Insect Deterrents, CRC Press, Inc., Boca Raton, FL, 213 p, 1990.  |  |  |  |  |
| Spasmogenic           | Fitoterapia No.59-1984.   |  |  |  |  |

|               |       |    |       |       |  |
|---------------|-------|----|-------|-------|--|
| CARYOPHYLLENE | Shoot | -- | 140.0 | -0.39 | Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980. |
|---------------|-------|----|-------|-------|--|

| Activities (31)                 |  |  |  |  |  |
|---------------------------------|--|--|--|--|--|
| Aldose-Reductase-Inhibitor      |  |  |  |  |  |
| Allergenic                      |  |  |  |  |  |
| Analgesic                       | Taylor, Leslie. 2005. The Healing Power of Rainforest Herbs. SquareOne Publisher, Garden City Park, NY. 519 pp.  |  |  |  |  |
| Antiacne                        |  |  |  |  |  |
| Antiasthmatic                   | Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.  |  |  |  |  |
| Antibacterial                   |  |  |  |  |  |
| Anticariogenic MIC=>1,600 ug/ml | Muroi, H. and Kubo, I. 1993. Combination Effects of Antibacterial Compounds in Green Tea Flavor against Streptococcus mutans. J. Agric. Food Chem. 41: 1102-1105.  |  |  |  |  |
| Antidermatitic                  |  |  |  |  |  |
| Antiedemic                      | Shimizu,*M., et al. 1990. Anti-inflammatory Constituents of Topically Applied Crude Drugs. IV.1) Constituents and Anti-inflammatory Effect of Paraguayan Crude Drug 'Alhucema' (Lavandula latifolia Vill.)2). Chem. Pharm. Bull. 38(8): 2283-2284, 1990. |  |  |  |  |
| Antifeedant 500 ppm             | Keeler, R.F. and Tu, A.T. eds. 1991. Toxicology of Plant and Fungal Compounds. (Handbook of Natural Toxins Vol. 6) Marcel Dekker, Inc. NY. 665 pp.   |  |  |  |  |
| Antiinflammatory IC50=100 uM    | Shimizu,*M., et al. 1990. Anti-inflammatory Constituents of Topically Applied Crude Drugs. IV.1) Constituents and Anti-inflammatory Effect of Paraguayan Crude Drug 'Alhucema' (Lavandula latifolia Vill.)2). Chem. Pharm. Bull. 38(8): 2283-2284, 1990. |  |  |  |  |
| Antileishmanic                  |  |  |  |  |  |
| Antionychotic                   | Taylor, Leslie. 2005. The Healing Power of Rainforest Herbs. SquareOne Publisher, Garden City Park, NY. 519 pp.  |  |  |  |  |
| Antiproliferant                 |  |  |  |  |  |
| Antispasmodic                   |  |  |  |  |  |
| Antistaphylococcic              |  |  |  |  |  |
| Antistreptococcic               |  |  |  |  |  |
| Antitumor                       | Zheng, G-Q., Kenney, P.M., and Lam, L.K.T. Sesquiterpenes From Clove (Eugenia caryophyllata) As Potential Anticarcinogenic Agents. Journal of Natural Products 55(7): 999-1003, 1992.  |  |  |  |  |
| Antiulcer                       | Taylor, Leslie. 2005. The Healing Power of Rainforest Herbs. SquareOne Publisher, Garden City Park, NY. 519 pp.  |  |  |  |  |
| Candidicide                     |  |  |  |  |  |
| FLavor FEMA 20-200              | Aloe Research Council - Duke writeup of non-peer reviewed book by Coats and draft by Henry   |  |  |  |  |
| Fungicide                       |  |  |  |  |  |
| Gastroprotective                | Taylor, Leslie. 2005. The Healing Power of Rainforest Herbs. SquareOne Publisher, Garden City Park, NY. 519 pp.  |  |  |  |  |
| Insectifuge                     |  |  |  |  |  |
| Irritant                        | Zebovitz, T. C. Ed. 1989. Part VII. Flavor and Fragrance Substances, in Keith L. H. and Walters, D.B., eds. Compendium of Safety Data Sheets for Research and Industrial Chemicals. VCH Publishers, New York. 3560-4253.                                 |  |  |  |  |
| Larvicide                       |  |  |  |  |  |
| Mosquitocide                    |  |  |  |  |  |
| Perfumery                       | Merck 11th Edition   |  |  |  |  |
| Pesticide                       |  |  |  |  |  |
| Sedative                        |  |  |  |  |  |
| Termitifuge                     | Jacobson, M., Glossary of Plant-Derived Insect Deterrents, CRC Press, Inc., Boca Raton, FL, 213 p, 1990.   |  |  |  |  |

|                 |       |    |      |       |  |
|-----------------|-------|----|------|-------|--|
| CIS-ISOPULEGONE | Shoot | -- | 20.0 | -0.93 | Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980. |
|-----------------|-------|----|------|-------|--|

|    |       |    |         |       |  |
|----|-------|----|---------|-------|--|
| EO | Shoot | -- | 10000.0 | -0.03 | Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980. |
|----|-------|----|---------|-------|--|

|              |       |    |      |       |  |
|--------------|-------|----|------|-------|--|
| GERMACRENE-D | Shoot | -- | 90.0 | -0.32 | Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980. |
|--------------|-------|----|------|-------|--|

| Activities (2) |  |  |  |  |  |
|----------------|--|--|--|--|--|
| Pesticide      |  |  |  |  |  |
| Pheromone      |  |  |  |  |  |

|             |       |    |       |       |  |
|-------------|-------|----|-------|-------|--|
| ISOMENTHONE | Shoot | -- | 310.0 | -0.48 | Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980. |
|-------------|-------|----|-------|-------|--|

**Activities (3)**

Antiacetylcholinesterase IC50=1.6 mM

Antioxidant

Antiradicular

|          |       |    |      |      |  |
|----------|-------|----|------|------|--|
| LIMONENE | Shoot | -- | 60.0 | -0.3 | Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980. |
|----------|-------|----|------|------|--|

**Activities (60)**

|   |  |
|---|--|
| AChE-Inhibitor                                      | Grundy, D. L. and Still, C. C., Inhibition of acetylcholinesterases by pulegone-1,2-epoxide, <i>Oest. Biochem. &amp; Physiol.</i> , 23, 1985, 383-8. |
| Acaricide LC100=8 uM                                |  |
| Allelochemic  |  |
| Allergenic 1/20th carene                            |  |
| Antiacetylcholinesterase IC22-26=1.2 mM             |  |
| Antiadenomic  |  |
| Antialzheimeran?                                    | Grundy, D. L. and Still, C. C., Inhibition of acetylcholinesterases by pulegone-1,2-epoxide, <i>Oest. Biochem. &amp; Physiol.</i> , 23, 1985, 383-8. |
| Antiasthmatic                                       |  |
| Antibacterial                                       | Revista Itiliana Eppos, 12: 5, 1994.   |
| Anticancer  |  |
| Antiesophagitic                                     |  |
| Antifeedant   |  |
| Antiflu   | Economic & Medicinal Plant Research, 5: 195.   |
| Antiinflammatory                                    |  |
| Antilithic  |  |
| Antilymphomic                                       |  |
| Antimetastatic (Stomach)                            |  |
| Antimutagenic                                       | Economic & Medicinal Plant Research, 6: 235.   |
| Antiobesity   |  |
| Antiseptic  |  |
| Antispasmodic ED50=0.197 mg/ml                      | Fitoterapia No.59-1984.  |
| Antitumor   |  |
| Antitumor (Breast)                                  |  |
| Antitumor (Colon)                                   |  |
| Antitumor (Pancreas)                                |  |
| Antitumor (Prostate)                                |  |
| Antitumor (Stomach)                                 |  |
| Antiviral   |  |
| Apoptotic   |  |
| Bronchoprotectant                                   |  |
| Cancer-Preventive                                   | Stitt, P. A. Why George Should Eat Broccoli. Dougherty Co, Milwaukee, WI, 1990, 399 pp.  |
| Candidistat   |  |
| Chemopreventive                                     |  |
| Cholesterolytic                                     |  |
| Detoxicant  |  |
| Enterocontractant                                   | J. Aromatherapy 4: 22.   |
| Expectorant   |  |
| FLavor  |  |
| Fungiphilic   | J. Agric. Food Chem. 43: 2283.   |
| Fungistat   |  |
| GST-Inducer   |  |
| Herbicide IC50=45 uM                                | Keeler, R.F. and Tu, A.T. eds. 1991. Toxicology of Plant and Fungal Compounds. (Handbook of Natural Toxins Vol. 6) Marcel Dekker, Inc. NY. 665 pp.   |
| Histaminic  |  |
| Immunomodulator                                     |  |
| Insecticide 0.37 uM/fly                             |  |
| Insectifuge   | Jacobson, M., Glossary of Plant-Derived Insect Deterrents, CRC Press, Inc., Boca Raton, FL, 213 p, 1990.   |
| Interleukin-6-Inhibitor                             |  |
| Irritant  |  |
| Lipolytic   |  |
| Myorelaxant 50 mg/kg                                |  |
| NO-Genic  |  |
| Nematicide IC=100 ug/ml                             | Nigg, H.N. and Seigler, D.S., eds. 1992. Phytochemical Resources for Medicine and Agriculture. Plenum Press, New York. 445 pp.                       |
| Ornithine-Decarboxylase-Inhibitor ~750 mg/kg (diet) |  |
| Ozone-Scavenger                                     |  |
| P450-Inducer  |  |
| Peristaltic   |  |
| Pesticide   |  |
| Photosensitizer                                     | Rinzler, C. A. 1990. The Complete Book of Herbs, Spices and Condiments. Facts on File, New York. 199 pp.   |
| Sedative ED=1-32 mg/kg                              | Wagner & Wolff, eds. 1977. New Natural Products (RS164. I56. 176)  |
| Transdermal   |  |

|          |       |    |        |       |  |
|----------|-------|----|--------|-------|--|
| LINALOL  | Shoot | -- | 10.0   | -0.22 | Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980. |
| MENTHONE | Shoot | -- | 8100.0 | 0.56  | Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980. |

### Activities (30)

|   |   |  |  |  |  |
|---|---|--|--|--|--|
| Acaricide                                 |   |  |  |  |  |
| Allelopathic                              |   |  |  |  |  |
| Analgesic                                 |   |  |  |  |  |
| Antiacetylcholinesterase<br>IC50=1.4 mM   |   |  |  |  |  |
| Antiaggregant<br>IC50=750                 |   |  |  |  |  |
| Antiallergic                              | J. Food Hyg. Soc. Jap. 33(6): 569.  |  |  |  |  |
| Antibacillary MIC=1.25<br>mg/ml           |   |  |  |  |  |
| Antibacterial<br>MIC=0.625-5 mg/ml        |   |  |  |  |  |
| Antiescherichic MIC=5<br>mg/ml            |   |  |  |  |  |
| Antihistaminic                            | J. Food Hyg. Soc. Jap. 33(6): 569.  |  |  |  |  |
| Antilisteria MIC=1.25<br>mg/ml            |   |  |  |  |  |
| Antisalmonella MIC=5<br>mg/ml             |   |  |  |  |  |
| Antiseptic 2.25 x phenol                  | Wagner & Wolff, eds. 1977. New Natural Products (RS164. I56. 176)   |  |  |  |  |
| Antispasmodic<br>ED50=0.044 mg/ml         | Fitoterapia No.59-1984.   |  |  |  |  |
| Antistaphylococcic<br>MIC=0.625-2.5 mg/ml |   |  |  |  |  |
| Cancer-Preventive                         | Stitt, P. A. Why George Should Eat Broccoli. Dougherty Co, Milwaukee, WI, 1990, 399 pp.   |  |  |  |  |
| Candidicide MIC=2.5<br>mg/ml              |   |  |  |  |  |
| Cerebrotoxic orl man                      | J. Aromatherapy 4: 24.  |  |  |  |  |
| Culicide LC50=156-194<br>mg/l             |   |  |  |  |  |
| FLavor FEMA 5-50                          | Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry   |  |  |  |  |
| Fungicide                                 |   |  |  |  |  |
| Insecticide LC50=156-<br>194 mg/l         |   |  |  |  |  |
| Larvicide LC50=156-194<br>mg/l            |   |  |  |  |  |
| Mutagenic                                 |   |  |  |  |  |
| Nematicide MLC=1<br>mg/ml                 | Shoyakugaku Zasshi, 44: 183.  |  |  |  |  |
| Perfumery                                 | Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.  |  |  |  |  |
| Pesticide                                 |   |  |  |  |  |
| Psychoactive                              |   |  |  |  |  |
| Sedative                                  | Ortiz de Urbina, A.V., Martin*, M.L., Montero, M.J., Moran, A., and San Roman, L. 1988. Sedating and Antipyretic Activity of the Essential Oil of Calamintha sylvatica subsp. Ascendens. Journal of Ethnopharmacology, 25: 165-171, 1989. |  |  |  |  |
| Trichomonicide<br>LD100=600 ug/ml         |   |  |  |  |  |

|         |       |    |      |       |  |
|---------|-------|----|------|-------|--|
| MYRCENE | Shoot | -- | 90.0 | -0.24 | Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980. |
|---------|-------|----|------|-------|--|

**Activities (22)**

ACE-Inhibitor 100 ug/ml

Aldose-Reductase-Inhibitor 100 ug/ml Okamura, K., Iwakami, S., Matsunaga, T. 1992. Biological Activity of Monoterpenes from Trees. Toyama-Ken Yakuji Kenkyusho Nenpo, (20): 95-101.

Allergenic

Analgesic Kauderer, B., Zamith, H., Paumgartten, F.J.R., and Speit, G. Evaluation of the Mutagenicity of B-Myrcene in Mammalian Cells In Vitro. Environmental and Molecular Mutagenesis 18: 28-34, 1991.

Antibacterial

Anticonvulsant

Antimutagenic Kauderer, B., Zamith, H., Paumgartten, F.J.R., and Speit, G. Evaluation of the Mutagenicity of B-Myrcene in Mammalian Cells In Vitro. Environmental and Molecular Mutagenesis 18: 28-34, 1991.

Antinitrosaminic

Antinociceptive 10-20 mg/kg ipr mus Rao, V.S.N., Menezes, A.M.S., Viana, G.S.B. 1990. Effect of myrcene on nociception in mice. J. Pharm. Pharmacol. 42: 877-878, 1990.

Antinociceptive 20-40 mg/kg scu mus Rao, V.S.N., Menezes, A.M.S., Viana, G.S.B. 1990. Effect of myrcene on nociception in mice. J. Pharm. Pharmacol. 42: 877-878, 1990.

Antioxidant Jim Duke's personal files.

Antispasmodic Jim Duke's personal files.

Chemopreventive Stitt, P. A. Why George Should Eat Broccoli. Dougherty Co, Milwaukee, WI, 1990, 399 pp.

FLavor FEMA 0.5-9 Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry

Fungicide Keeler, R.F. and Tu, A.T. eds. 1991. Toxicology of Plant and Fungal Compounds. (Handbook of Natural Toxins Vol. 6) Marcel Dekker, Inc. NY. 665 pp.

Hypothermic

Insectifuge

Irritant Zebovitz, T. C. Ed. 1989. Part VII. Flavor and Fragrance Substances, in Keith L. H. and Walters, D.B., eds. Compendium of Safety Data Sheets for Research and Industrial Chemicals. VCH Publishers, New York. 3560-4253.

Myorelaxant 100-200 mg/kg

P450-2B1-Inhibitor IC50=0.14 uM

Perfumery Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor &amp; Frost, London. 791 pp.

Pesticide

|          |       |    |      |       |  |
|----------|-------|----|------|-------|--|
| P-CYMENE | Shoot | -- | 30.0 | -0.48 | Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980. |
|----------|-------|----|------|-------|--|

**Activities (16)**

Analgesic Martindale's 28th

Antiacetylcholinesterase IC40=1.2 mM

Antibacillary

Antibacterial

Antiflu

Antirheumatalgic Martindale's 28th

Antiviral

FLavor FEMA 12-250 Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry

Fungicide Keeler, R.F. and Tu, A.T. eds. 1991. Toxicology of Plant and Fungal Compounds. (Handbook of Natural Toxins Vol. 6) Marcel Dekker, Inc. NY. 665 pp.

Herbicide IC50=50 uM Keeler, R.F. and Tu, A.T. eds. 1991. Toxicology of Plant and Fungal Compounds. (Handbook of Natural Toxins Vol. 6) Marcel Dekker, Inc. NY. 665 pp.

Insectifuge 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.

Irritant Zebovitz, T. C. Ed. 1989. Part VII. Flavor and Fragrance Substances, in Keith L. H. and Walters, D.B., eds. Compendium of Safety Data Sheets for Research and Industrial Chemicals. VCH Publishers, New York. 3560-4253.

Laxative Zebovitz, T. C. Ed. 1989. Part VII. Flavor and Fragrance Substances, in Keith L. H. and Walters, D.B., eds. Compendium of Safety Data Sheets for Research and Industrial Chemicals. VCH Publishers, New York. 3560-4253.

Pesticide

Sedative Zebovitz, T. C. Ed. 1989. Part VII. Flavor and Fragrance Substances, in Keith L. H. and Walters, D.B., eds. Compendium of Safety Data Sheets for Research and Industrial Chemicals. VCH Publishers, New York. 3560-4253.

Trichomonicide LD100=50 ug/ml

|              |       |      |      |       |  |
|--------------|-------|------|------|-------|--|
| PIPERITENONE | Shoot | 40.0 | 62.0 | -0.44 | Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980. |
|--------------|-------|------|------|-------|--|

**Activities (3)**

Antiacetylcholinesterase IC50=110 ug/ml

Perfumery Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry

Toxic 10,000/man Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry

|            |       |    |      |       |  |
|------------|-------|----|------|-------|--|
| PIPERITONE | Shoot | -- | 30.0 | -0.22 | Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980. |
|------------|-------|----|------|-------|--|



| Activities (7)       |  |  |  |  |  |
|----------------------|--|--|--|--|--|
| Antiasthmatic        |  |  |  |  |  |
| FLavor FEMA 1-2      | Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry  |  |  |  |  |
| Herbicide IC50=30 mM | Lydon, J. & Duke, S., The potential of pesticides from plants, pp. 1-41 in Craker, L. & Simon, J., eds, Herbs, Spices & Medicinal Plants: Recent Advances in Botany, Horticulture, & Pharmacology, v. 4, Oryx Press, Phoenix, 1989, 267pp. |  |  |  |  |
| Herbicide IC50=75 uM | Keeler, R.F. and Tu, A.T. eds. 1991. Toxicology of Plant and Fungal Compounds. (Handbook of Natural Toxins Vol. 6) Marcel Dekker, Inc. NY. 665 pp.   |  |  |  |  |
| Insectifuge (> DEET) | Bowers, W.S., Ortego, F., You, X., and Evans, P.H. Insect Repellents From The Chinese Prickly Ash Zanthoxylum bungeanum. Journal of Natural Products, 56(6): 935-938, 1993.  |  |  |  |  |
| Perfumery            | Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry  |  |  |  |  |
| Pesticide            |  |  |  |  |  |

|          |       |    |       |       |  |
|----------|-------|----|-------|-------|--|
| PULEGONE | Shoot | -- | 820.0 | -0.26 | Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980. |
|----------|-------|----|-------|-------|--|

| Activities (28)                         |  |  |  |  |  |
|---|--|--|--|--|--|
| AChE-Inhibitor                          | Grundy, D. L. and Still, C. C., Inhibition of acetylcholinesterases by pulegone-1,2-epoxide, Oest. Biochem. & Physiol., 23, 1985, 383-8.   |  |  |  |  |
| Antiacetylcholinesterase IC50=0.9 mM    |  |  |  |  |  |
| Antiacetylcholinesterase IC50=136 ug/ml |  |  |  |  |  |
| Antialzheimeran?                        | Grundy, D. L. and Still, C. C., Inhibition of acetylcholinesterases by pulegone-1,2-epoxide, Oest. Biochem. & Physiol., 23, 1985, 383-8.   |  |  |  |  |
| Antibacterial                           | Economou, D., and Nahrstedt, A. 1991. Chemical, Physiological, and Toxicological Aspects of the Essential Oil of Some Species of the Genus Bystropogon*. Planta Medica, 57: 347, 1991.   |  |  |  |  |
| Anticholinesterase                      | Grundy, D. L. and Still, C. C., Inhibition of acetylcholinesterases by pulegone-1,2-epoxide, Oest. Biochem. & Physiol., 23, 1985, 383-8.   |  |  |  |  |
| Antihistaminic                          | Ortiz De Urbina, A.V., Martin, M.L., Montero, M.J., Carron, R., Sevilla, M.A., San Roman, L. 1989. Antihistaminic activity of pulegone on the guinea-pig ileum. J. Pharm. Pharmacol. 42: 295-296, 1990.  |  |  |  |  |
| Antipyretic                             |  |  |  |  |  |
| Avifuge                                 |  |  |  |  |  |
| Cancer-Preventive                       | Stitt, P. A. Why George Should Eat Broccoli. Dougherty Co, Milwaukee, WI, 1990, 399 pp.  |  |  |  |  |
| Candidicide                             | Economou, D., and Nahrstedt, A. 1991. Chemical, Physiological, and Toxicological Aspects of the Essential Oil of Some Species of the Genus Bystropogon*. Planta Medica, 57: 347, 1991.   |  |  |  |  |
| Cerebrotoxic orl man                    | J. Aromatherapy 4: 24.   |  |  |  |  |
| Encephalopathic 80 mg/kg orl rat        | Lawrence Review of Natural Products, Jan-92.   |  |  |  |  |
| FLavor FEMA 5-30                        | Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry  |  |  |  |  |
| Fungicide                               | Economou, D., and Nahrstedt, A. 1991. Chemical, Physiological, and Toxicological Aspects of the Essential Oil of Some Species of the Genus Bystropogon*. Planta Medica, 57: 347, 1991.   |  |  |  |  |
| Glutathionalytic                        | Lawrence Review of Natural Products, Jan-92.   |  |  |  |  |
| Hallucinogenic                          | R.J. Hixtable (Huxtable, R.J. (as T. Max). 1992. This and That:The Essential Pharmacology of Herbs and Spices. Tips 13:15-20 Huxtable, R.J. 1992b. The Myth of Benificent Nature. The Risk of Herbal Preparations. Anns. Intern. Med. 117(2):165-6; Huxtable, R. |  |  |  |  |
| Hepatotoxic                             | Lewis, E.J. and Friedrich, E.C. 1989. The Essential Oil of Poliomintha incana. Planta Medica 56(2): 224-226, 1990.   |  |  |  |  |
| Herbicide IC50=1.5 uM                   | Keeler, R.F. and Tu, A.T. eds. 1991. Toxicology of Plant and Fungal Compounds. (Handbook of Natural Toxins Vol. 6) Marcel Dekker, Inc. NY. 665 pp.   |  |  |  |  |
| Insecticide                             | Grundy, D. L. and Still, C. C., Inhibition of acetylcholinesterases by pulegone-1,2-epoxide, Oest. Biochem. & Physiol., 23, 1985, 383-8.   |  |  |  |  |
| Insectifuge                             |  |  |  |  |  |
| Nephrotoxic                             | R.J. Hixtable (Huxtable, R.J. (as T. Max). 1992. This and That:The Essential Pharmacology of Herbs and Spices. Tips 13:15-20 Huxtable, R.J. 1992b. The Myth of Benificent Nature. The Risk of Herbal Preparations. Anns. Intern. Med. 117(2):165-6; Huxtable, R. |  |  |  |  |
| Neurotoxic                              |  |  |  |  |  |
| Perfumery                               | Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry  |  |  |  |  |
| Pesticide                               |  |  |  |  |  |
| Pulfuge                                 |  |  |  |  |  |
| Pulmonotoxic                            |  |  |  |  |  |
| Sedative                                |  |  |  |  |  |

|          |       |    |      |       |  |
|----------|-------|----|------|-------|--|
| SABINENE | Shoot | -- | 10.0 | -0.29 | Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980. |
|----------|-------|----|------|-------|--|

| Activities (5)   |   |  |  |  |  |
|------------------|---|--|--|--|--|
| Antibacterial    |   |  |  |  |  |
| Antihelicobacter |   |  |  |  |  |
| Antiseptic       |   |  |  |  |  |
| Antiulcer        |   |  |  |  |  |
| Perfumery        | Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry |  |  |  |  |

|                   |       |    |      |       |  |
|-------------------|-------|----|------|-------|--|
| TRANS-ISOPULEGONE | Shoot | -- | 70.0 | -0.34 | Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980. |
|-------------------|-------|----|------|-------|--|