

Dr. Duke's Phytochemical and Ethnobotanical Database

Chemicals Found in *Hypericum perforatum*

| Activity Count | Chemical | Plant Part | Low PPM | High PPM | StdDev | Reference Citation |
|----------------|------------------------------|-------------------|---------|----------|----------------------|--|
| 30 | (+)-CATECHIN | Plant | -- | -- | | |
| 38 | (-)-EPICATECHIN | 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. |
| 1 | 1,3,6,7-TETRAHYDROXYXANTHONE | Leaf | -- | -- | | |
| 1 | 1,3,6,7-TETRAHYDROXYXANTHONE | Plant | -- | -- | | |
| 6 | ACETOPHENONE | Plant | 0.1 | 2.25 | -1 | |
| 2 | ALPHA-HUMULENE | Plant | 1 | 18 | -0.6057643151172428 | |
| 11 | ALPHA-PHELLANDRENE | Plant | 0.3 | 5.4 | -1.1319046038135718 | |
| 28 | ALPHA-PINENE | Fruit Essent. Oil | -- | -- | | |
| 28 | ALPHA-PINENE | Plant | 13 | 245 | -0.3080919122446896 | |
| 28 | ALPHA-PINENE | Shoot Essent. Oil | -- | -- | | |
| 28 | ALPHA-PINENE | Leaf Essent. Oil | -- | -- | | |
| 3 | ALPHA-SELINENE | Plant | 1 | 18 | -0.5867176918752404 | |
| 13 | ALPHA-TERPINENE | Plant | 1 | 18 | -0.4744627215339312 | |
| 23 | ALPHA-TERPINEOL | Plant | 3 | 54 | -0.43865827127528684 | |
| 18 | AMENTOFILAVONE | Flower | 100 | 500 | | |
| 18 | AMENTOFILAVONE | Shoot | -- | -- | | |

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|----------------|-----------------|-------------------|---------|----------|----------------------|--|
| 3 | AR-CURCUMENE | Plant | 0.5 | 9 | -0.5646161556334643 | |
| 112 | ASCORBIC-ACID | Leaf | -- | -- | | |
| 112 | ASCORBIC-ACID | Plant | 1300 | 1300 | -0.28849886718467166 | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 112 | ASCORBIC-ACID | Shoot | -- | 16.5 | -0.3703409857421204 | |
| 112 | ASCORBIC-ACID | Seed | 395 | 395 | -0.10131886672592849 | Watt, J.M. and Breyer-Brandwijk, M.G. 1962. The Medicinal and Poisonous Plants of Southern and Eastern Africa. E. & S. Livingstone, Ltd. Edinburg & London. 1457 pp. |
| 9 | BETA-AMYRIN | Shoot | -- | -- | | |
| 53 | BETA-CAROTENE | Shoot | -- | 12.1 | -0.6694191722615046 | |
| 5 | BETA-ELEMENE | Plant | 0.25 | 4.5 | -0.4590469964746937 | |
| 13 | BETA-EUDESOL | Plant | 2 | 32 | -1.4039137909830484 | |
| 13 | BETA-PINENE | Shoot | -- | -- | | |
| 13 | BETA-PINENE | Plant | 335 | 6055 | 6.102304293563025 | |
| 13 | BETA-PINENE | Leaf Essent. Oil | -- | -- | | |
| 13 | BETA-PINENE | Fruit Essent. Oil | -- | -- | | |
| 3 | BETA-SELINENE | Plant | 1.5 | 27 | -0.500067830640769 | |
| 47 | BETA-SITOSTEROL | Shoot | -- | -- | | |

| Activity Count | Chemical | Plant Part | Low PPM | High PPM | StdDev | Reference Citation |
|----------------|-----------------------|---------------|---------|----------|----------------------|--|
| 47 | BETA-SITOSTEROL | Plant | -- | -- | | Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. Herbal Medicine - A Guide for Health-care Professionals. The Pharmaceutical Press, London. 296pp. |
| 35 | BORNEOL | Plant | 0.15 | 2.7 | -0.6684962919153474 | |
| 12 | BORNYL-ACETATE | Plant | 0.2 | 3.6 | -0.46669902653977585 | |
| 4 | CADINENE | Essential Oil | -- | -- | | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 3 | CADMIUM | Plant | 1 | 5 | 1.706360614699241 | |
| 3 | CADMIUM | Root | 1 | 3 | 2.1673447651974533 | |
| 3 | CADMIUM | Leaf | 1 | 7 | 1.8579388000852974 | |
| 102 | CAFFEIC-ACID | Plant | -- | 1000 | -0.927639936569902 | |
| 102 | CAFFEIC-ACID | Shoot | -- | 1000 | -0.30167703804388507 | |
| 9 | CAMPHENE | Plant | 1 | 18 | -0.5750339250011366 | |
| 31 | CARYOPHYLLENE | Plant | 26 | 468 | 0.04369118646892662 | |
| 31 | CARYOPHYLLENE | Essential Oil | -- | -- | | |
| 6 | CARYOPHYLLENE-EPOXIDE | Plant | 0.5 | 9 | | |
| 1 | CATECHINS | Plant | -- | -- | | |
| 77 | CHLOROGENIC-ACID | Plant | -- | -- | | |
| 77 | CHLOROGENIC-ACID | Leaf | -- | -- | | |

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|----------------|-----------------|------------|---------|----------|---------------------|--|
| 21 | CHLOROPHYLL | Plant | -- | -- | | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 20 | CHOLINE | Shoot | 34 | 1000 | 0.572012868491687 | |
| 20 | CHOLINE | Leaf | -- | -- | | |
| 20 | CHOLINE | Plant | -- | -- | | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |
| 18 | CINNAMIC-ACID | Plant | -- | -- | | |
| 7 | CYANIDIN | Plant | -- | -- | | |
| 13 | CYSTEINE | Plant | -- | -- | | |
| 9 | DELTA-CADINENE | Plant | 0.5 | 9 | -0.5016588984240995 | |
| 1 | DODECANOL | Plant | -- | -- | | Gruenwald, J. et al. 1998. PDR for Herbal Medicine. 1st ed. Medical Economics Co., Montvale, NJ. 1244 pp. (abbreviated as PHR or Physicians Herbal Reference in my mind) |
| 2 | ELEMOL | Plant | 0.25 | 4.5 | -0.6106083925528936 | |
| 40 | EPICATECHIN | Plant | -- | -- | | |
| 61 | FERULIC-ACID | Plant | -- | -- | | |
| 22 | GABA | Plant | -- | 700 | | |
| 62 | GALLIC-ACID | Plant | -- | -- | | |
| 11 | GAMMA-TERPINENE | Plant | 1.5 | 27 | -0.5229803987451376 | |

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|----------------|-----------------|---------------|---------|----------|-----------------------|---|
| 8 | GENTISIC-ACID | Plant | -- | -- | | |
| 13 | GERANIAL | Plant | 0.35 | 6.3 | -0.8448404627021195 | |
| 35 | GERANIOL | Plant | 4 | 72 | -0.4372882513568854 | |
| 5 | GERANYL-ACETATE | Plant | 24 | 432 | -0.046931008281076325 | |
| 5 | GLUTAMINE | Plant | -- | -- | | |
| 3 | GUAIOL | Plant | 1.5 | 27 | -1 | |
| 2 | HUMULENE | Essential Oil | -- | -- | | |
| 2 | HUMULENE | Plant | -- | -- | | Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp. |
| 7 | HYPERFORIN | Shoot | -- | -- | | |
| 7 | HYPERFORIN | Plant | 20000 | 45000 | | |
| 7 | HYPERFORIN | Fruit | -- | -- | | |
| 7 | HYPERFORIN | Leaf | -- | -- | | |
| 7 | HYPERFORIN | Flower | -- | 27930 | | |
| 26 | HYPERICIN | Leaf | 190 | 1950 | | |
| 26 | HYPERICIN | Fruit | -- | 730 | | |
| 26 | HYPERICIN | Flower | 860 | 18000 | | |
| 26 | HYPERICIN | Plant | 5000 | 7000 | | Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp. |

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|----------------|-----------------|--------------------|---------|----------|--------------------|--|
| 26 | HYPERICIN | Stem | 40 | 210 | | |
| 26 | HYPERICIN | Flower Essent. Oil | 5 | 19 | | |
| 26 | HYPERICIN | Cotyledon | -- | 14.5 | | |
| 26 | HYPERICIN | Essential Oil | -- | 2200 | | |
| 26 | HYPERICIN | Shoot | 390 | 1780 | | |
| 14 | HYPERIN | Plant | 3500 | 5500 | | |
| 30 | HYPEROSIDE | Stem | -- | -- | | |
| 30 | HYPEROSIDE | Flower | -- | 6570 | 1.3767817207229411 | |
| 30 | HYPEROSIDE | Plant | 3500 | 20000 | 1.4142135623730945 | |
| 30 | HYPEROSIDE | Shoot | 5000 | 40000 | 1 | |
| 30 | HYPEROSIDE | Leaf | -- | -- | | |
| 1 | IMANIN | Shoot | -- | -- | | |
| 1 | IMANIN | Plant | -- | -- | | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |
| 4 | ISOFERULIC-ACID | Plant | -- | -- | | |
| 3 | ISOQUERCETIN | Plant | -- | -- | | Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp. |
| 22 | ISOQUERCITRIN | Plant | -- | 3000 | 1 | |
| 22 | ISOQUERCITRIN | Flower | -- | -- | | |

| Activity Count | Chemical | Plant Part | Low PPM | High PPM | StdDev | Reference Citation |
|----------------|---------------|-------------------|---------|----------|----------------------|--|
| 75 | KAEMPFEROL | Plant | -- | -- | | |
| 2 | LEUCINE | Plant | -- | -- | | |
| 1 | LEUCOCYANIDIN | Plant | -- | -- | | Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp. |
| 60 | LIMONENE | Plant | 5 | 90 | -0.43049106807161513 | |
| 60 | LIMONENE | Shoot | -- | -- | | |
| 60 | LIMONENE | Leaf Essent. Oil | -- | -- | | |
| 60 | LIMONENE | Fruit Essent. Oil | -- | -- | | |
| 53 | LINALOOL | Plant | 2.5 | 45 | -0.6582300842221918 | |
| 15 | LUTEIN | Flower | -- | -- | | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |
| 78 | LUTEOLIN | Plant | -- | -- | | Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. Herbal Medicine - A Guide for Health-care Professionals. The Pharmaceutical Press, London. 296pp. |
| 4 | LYSINE | Plant | -- | -- | | |
| 18 | MANGIFERIN | Shoot | -- | -- | | |
| 18 | MANGIFERIN | Plant | -- | -- | | |
| 18 | MANNITOL | Plant | 11000 | 20000 | 1 | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |

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|----------------|----------------|-------------------|---------|----------|----------------------|--|
| 22 | MYRCENE | Shoot | -- | -- | | |
| 22 | MYRCENE | Leaf Essent. Oil | -- | -- | | |
| 22 | MYRCENE | Essential Oil | -- | -- | | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 22 | MYRCENE | Fruit Essent. Oil | -- | -- | | |
| 22 | MYRCENE | Plant | 10 | 190 | -0.26735798519548487 | |
| 34 | MYRICETIN | Plant | -- | -- | | |
| 6 | MYRISTIC-ACID | Plant | -- | -- | | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 1 | N-DECANAL | Essential Oil | -- | -- | | |
| 2 | N-OCTANAL | Essential Oil | -- | -- | | |
| 4 | NERAL | Plant | 0.35 | 6.3 | -0.7605971244477834 | |
| 10 | NEROL | Plant | 1 | 18 | -0.4305189847416696 | |
| 5 | NERYL-ACETATE | Plant | 1 | 18 | -0.5533167201767719 | |
| 11 | NICOTINIC-ACID | Leaf | 0.007 | 1200 | 0.8574828309219877 | |
| 2 | NONACOSANE | Plant | -- | -- | | |
| 25 | OPCS | Plant | -- | -- | | Gruenwald, J. et al. 1998. PDR for Herbal Medicine. 1st ed. Medical Economics Co., Montvale, NJ. 1244 pp. (abbreviated as PHR or Physicians Herbal Reference in my mind) |

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|----------------|------------------------|---------------|---------|----------|---------------------|--|
| 5 | ORNITHINE | Plant | -- | -- | | |
| 25 | P-COUMARIC-ACID | Plant | -- | -- | | |
| 16 | P-CYMENE | Plant | 0.5 | 9 | -0.4179122586089107 | |
| 13 | P-HYDROXY-BENZOIC-ACID | Plant | -- | -- | | Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. Herbal Medicine - A Guide for Health-care Professionals. The Pharmaceutical Press, London. 296pp. |
| 13 | PALMITIC-ACID | Plant | -- | -- | | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 24 | PECTIN | Plant | -- | -- | | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |
| 26 | PHENOL | Plant | -- | -- | | |
| 8 | PHLOROGLUCINOL | Shoot | -- | -- | | |
| 8 | PHLOROGLUCINOL | Plant | -- | -- | | |
| 2 | PHYTOSTEROLS | Plant | -- | -- | | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 12 | PINENE | Essential Oil | -- | -- | | |
| 34 | PROANTHOCYANIDINS | Plant | -- | 120000 | | |
| 27 | PROCYANIDINS | Plant | -- | -- | | Bisset, N.G., ed. 1994. Herbal Drugs and Phytopharmaceuticals. CRC Press. Boca Raton, FL. 566 pp. |

| Activity Count | Chemical | Plant Part | Low PPM | High PPM | StdDev | Reference Citation |
|----------------|-----------------|------------|---------|----------|---------------------|--------------------|
| 2 | PSEUDOHYPERICIN | Leaf | -- | -- | | |
| 2 | PSEUDOHYPERICIN | Flower | 2260 | 5800 | | |
| 2 | PSEUDOHYPERICIN | Shoot | -- | 40 | | |
| 2 | PSEUDOHYPERICIN | Plant | -- | -- | | |
| 2 | PSEUDOHYPERICIN | Cotyledon | -- | 164.9 | | |
| 23 | PYROGALLOL | Plant | -- | -- | | |
| 176 | QUERCETIN | Plant | -- | 20000 | 1 | |
| 176 | QUERCETIN | Shoot | -- | -- | | |
| 176 | QUERCETIN | Flower | -- | 1000 | 0.9439875157035426 | |
| 176 | QUERCETIN | Leaf | -- | -- | | |
| 176 | QUERCETIN | Stem | -- | -- | | |
| 44 | QUERCITRIN | Shoot | 3000 | 5240 | -1 | |
| 44 | QUERCITRIN | Plant | -- | -- | | |
| 44 | QUERCITRIN | Leaf | -- | -- | | |
| 44 | QUERCITRIN | Flower | -- | 3380 | | |
| 87 | RUTIN | Leaf | 2000 | 3000 | -0.8182983793201679 | |
| 87 | RUTIN | Plant | -- | 16000 | -0.4415440806455522 | |
| 87 | RUTIN | Shoot | -- | 10000 | 0.17325822920583467 | |
| 87 | RUTIN | Flower | 1000 | 2800 | -0.7206034752837803 | |

| Activity Count | Chemical | Plant Part | Low PPM | High PPM | StdDev | Reference Citation |
|----------------|-----------------|------------|---------|----------|---------------------|--|
| 87 | RUTIN | Stem | -- | -- | | |
| 44 | SCOPOLETIN | Plant | -- | -- | | |
| 8 | STEARIC-ACID | Plant | -- | -- | | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 2 | TARAXASTEROL | Shoot | -- | -- | | |
| 23 | TERPINEN-4-OL | Plant | 0.5 | 9 | -0.2775675416087286 | |
| 4 | THREONINE | Plant | -- | -- | | |
| 1 | TRIACONTAN-1-OL | Leaf | -- | -- | | |
| 22 | UMBELLIFERONE | Plant | -- | -- | | |
| 24 | VANILLIC-ACID | Plant | -- | -- | | Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. Herbal Medicine - A Guide for Health-care Professionals. The Pharmaceutical Press, London. 296pp. |
| 2 | VIOLAXANTHIN | Flower | -- | -- | | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |
| 6 | XANTHONES | Plant | -- | 12.8 | | |