

Dr. Duke's Phytochemical and Ethnobotanical Databases

Chemicals found in *Verbascum thapsus*

| Activities Count | Chemical          | Plant Part | Low PPM | High PPM | StdDev              | Reference Citation   |
|------------------|-------------------|------------|---------|----------|---------------------|--|
| 10               | ALPHA-AMYRIN      | Root       |         |          |                     | --   |
| 10               | ALPHA-AMYRIN      | Stem       |         |          |                     | --   |
| 10               | ALPHA-AMYRIN      | Leaf       |         |          |                     | --   |
| 2                | ALPHA-SPINASTEROL | Fruit      |         |          |                     | --   |
| 5                | ALUMINUM          | Leaf       |         | 1090.0   | 0.3892201259242459  | Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.                                    |
| 6                | ARABINOGALACTAN   | Flower     |         |          |                     | --   |
| 2                | ARENARIOSIDE      | Plant      |         | 22.0     |                     | --   |
| 112              | ASCORBIC-ACID     | Leaf       | 341.0   | 776.0    | -0.3719171852420888 | --   |
| 20               | AUCUBIN           | Stem       |         | 600.0    |                     | --   |
| 20               | AUCUBIN           | Leaf       |         | 100.0    | -1.1297063465489834 | --   |
| 20               | AUCUBIN           | Plant      |         | 150.0    | -0.3198520148637861 | --   |
| 20               | AUCUBIN           | Shoot      | 25.0    | 13900.0  |                     | --   |
| 20               | AUCUBIN           | Root       |         |          |                     | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| 1                | BEHENIC-ACID      | Seed Oil   |         | 3000.0   | -1.2213893416546542 | --   |
| 1                | BEHENIC-ACID      | Flower     |         |          |                     | --   |
| 9                | BENZYL-ALCOHOL    | Seed       |         |          |                     | --   |
| 9                | BETA-AMYRIN       | Seed       |         |          |                     | --   |
| 9                | BETA-AMYRIN       | Root       |         |          |                     | --   |
| 9                | BETA-AMYRIN       | Stem       |         |          |                     | --   |
| 9                | BETA-AMYRIN       | Leaf       |         |          |                     | --   |
| 53               | BETA-CAROTENE     | Leaf       | 19.0    | 43.0     | -0.9506764482123975 | --   |
| 47               | BETA-SITOSTEROL   | Root       |         |          |                     | --   |
| 47               | BETA-SITOSTEROL   | Stem       |         |          |                     | --   |
| 47               | BETA-SITOSTEROL   | Leaf       |         |          |                     | --   |

| Activities Count | Chemical        | Plant Part | Low PPM | High PPM | StdDev               | Reference Citation   |
|------------------|-----------------|------------|---------|----------|----------------------|--|
| 47               | BETA-SITOSTEROL | Seed Oil   |         |          |                      | --   |
| 47               | BETA-SITOSTEROL | Flower     |         |          |                      | --   |
| 47               | BETA-SITOSTEROL | Seed       |         |          |                      | --   |
| 28               | CALCIUM         | Leaf       | 5852.0  | 13300.0  | -0.3510114574130655  | --   |
| 2                | CAMPESTEROL     | Stem       |         |          |                      | --   |
| 3                | CATALPOL        | Plant      |         | 50.0     |                      | --   |
| 3                | CATALPOL        | Shoot      |         |          |                      | --   |
| 24               | CHROMIUM        | Leaf       | 0.6     | 1.4      | -0.52714700936206    | --   |
| 2                | COBALT          | Leaf       | 6.0     | 12.8     | -0.22280563230793393 | --   |
| 57               | COUMARIN        | Leaf       |         |          |                      | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.   |
| 10               | CROCETIN        | Flower     |         |          |                      | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.   |
| 15               | FIBER           | Leaf       |         | 111000.0 | -0.6249222392756235  | Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.  |
| 2                | FORSYTHOSIDE-B  | Plant      |         | 4.0      |                      | --   |
| 6                | HARPAGIDE       | Plant      |         | 70.0     |                      | --   |
| 6                | HARPAGOSIDE     | Plant      |         | 89.0     |                      | --   |
| 31               | HESPERIDIN      | 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. |
| 6                | IRON            | Leaf       | 104.0   | 236.0    | -0.32238008504806986 | --   |
| 11               | ISORHAMNETIN    | Flower     |         |          |                      | --   |

| Activities Count | Chemical       | Plant Part | Low PPM  | High PPM | StdDev                | Reference Citation   |
|------------------|----------------|------------|----------|----------|-----------------------|--|
| 27               | LINOLEIC-ACID  | Seed       | 48000.0  | 613000.0 | 4.33441124200899      | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |
| 21               | LUPEOL         | Root       |          |          |                       | --   |
| 21               | LUPEOL         | Stem       |          |          |                       | --   |
| 21               | LUPEOL         | Leaf       |          |          |                       | --   |
| 65               | MAGNESIUM      | Leaf       | 1421.0   | 3230.0   | -0.34587713524983377  | --   |
| 14               | MANGANESE      | Leaf       | 5.3      | 12.0     | -0.43993638289409226  | --   |
| 3                | MUCILAGE       | Flower     |          |          |                       | --   |
| 3                | MUCILAGE       | Seed       |          | 3700.0   | -1.2198632439349997   | --   |
| 39               | NIACIN         | Leaf       | 42.0     | 95.0     | -0.030418329796116125 | --   |
| 64               | OLEANOLIC-ACID | Flower     |          |          |                       | --   |
| 18               | OLEIC-ACID     | Seed       | 292000.0 | 300000.0 | 1.4870759326450875    | --   |
| 13               | PALMITIC-ACID  | Seed       |          | 309600.0 | 5.688451515633364     | --   |
| 13               | PALMITIC-ACID  | Seed Oil   |          | 656000.0 | 3.1527427453153964    | --   |
| 4                | PHOSPHORUS     | Leaf       | 2508.0   | 5700.0   | 0.13404287578502      | --   |
| 14               | POTASSIUM      | Leaf       | 5808.0   | 13200.0  | -0.7570441086555757   | --   |
| 15               | RIBOFLAVIN     | Leaf       | 0.5      | 1.1      | -0.172705289047245    | --   |
| 13               | ROTENONE       | Leaf       |          |          |                       | --   |
| 5                | SAPONINS       | Plant      |          |          |                       | --   |
| 60               | SELENIUM       | Leaf       | 0.2      | 0.5      | -0.34412954703445015  | --   |
| 4                | SILICON        | Leaf       | 3.3      | 7.4      | -0.39118183776763965  | --   |
| 1                | SODIUM         | Leaf       | 334.0    | 760.0    | -0.5123036729552699   | --   |
| 8                | STEARIC-ACID   | Seed       |          | 164000.0 | 2.9928530647275444    | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |
| 8                | STEARIC-ACID   | Seed Oil   |          | 325000.0 | 1.7217050423196145    | --   |
| 12               | STIGMASTEROL   | Root       |          |          |                       | --   |

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|------------------|--------------|------------|---------|----------|---------------------|--|
| 12               | STIGMASTEROL | Seed       |         |          |                     | --   |
| 12               | STIGMASTEROL | Stem       |         |          |                     | --   |
| 12               | STIGMASTEROL | Leaf       |         |          |                     | --   |
| 14               | SUCROSE      | Seed Oil   |         |          |                     | --   |
| 2                | TARAXASTEROL | Seed       |         |          |                     | --   |
| 31               | THIAMIN      | Leaf       |         |          |                     | Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.  |
| 4                | TIN          | Leaf       | 5.3     | 12.0     | -0.4331991239429111 | --   |
| 1                | VERBASCOSE   | Root       |         |          |                     | --   |
| 20               | VERBASCOSIDE | 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                | XYLOGLUCAN   | Flower     |         |          |                     | --   |
| 77               | ZINC         | Leaf       | 0.2     | 0.4      | -0.524313284412666  | --   |