

Dr. Duke's Phytochemical and Ethnobotanical Databases

Chemicals found in Cuminum cyminum

| Activities Count | Chemical | Plant Part | Low PPM | High PPM | StdDev | Reference Citation |
|------------------|--------------------------|------------------|---------|----------|----------------------|--|
| 67 | 1,8-CINEOLE | Fruit | 40.0 | 138.0 | -0.4155160165966862 | -- |
| 67 | 1,8-CINEOLE | Seed | 40.0 | 138.0 | -0.6912409465781895 | Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980. |
| 19 | ACETYL-CHOLINE | Seed | | 68.0 | -0.21613518728808323 | -- |
| 0 | ALDEHYDES | Fruit | 12000.0 | 30000.0 | | -- |
| 0 | ALDEHYDES | Seed | 12000.0 | 30000.0 | | Leung, A.Y., Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics, John Wiley & Sons, New York, 1980. |
| 0 | ALPHA-P-DIMETHYL-STYRENE | Seed | | 30.0 | -0.9120291854009067 | Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980. |
| 0 | ALPHA-P-DIMETHYL-STYRENE | Fruit | | 30.0 | -0.11624763874381962 | -- |
| 11 | ALPHA-PHELLANDRENE | Seed | | 60.0 | -0.9184826797367149 | Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980. |
| 11 | ALPHA-PHELLANDRENE | Fruit | | 60.0 | -0.5463965854128641 | -- |
| 11 | ALPHA-PHELLANDRENE | Seed Essent. Oil | | 8400.0 | 0.7805772238273097 | -- |
| 28 | ALPHA-PINENE | Seed | 9.0 | 330.0 | -0.4681305937392061 | Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980. |
| 28 | ALPHA-PINENE | Fruit | 9.0 | 330.0 | -0.6326269333262723 | -- |
| 28 | ALPHA-PINENE | Seed Essent. Oil | | 3000.0 | -0.7212203254805465 | -- |
| 13 | ALPHA-TERPINENE | Seed | | 27.0 | -0.49447014585831817 | Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980. |
| 13 | ALPHA-TERPINENE | Fruit | | 27.0 | -0.3094025385841535 | -- |
| 13 | ALPHA-TERPINENE | Seed Essent. Oil | | 5000.0 | -0.747287894378325 | -- |
| 23 | ALPHA-TERPINEOL | Seed | 30.0 | 275.0 | -0.4192681580586145 | Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980. |
| 23 | ALPHA-TERPINEOL | Fruit | 30.0 | 275.0 | -0.18222634096235243 | -- |

| Activities Count | Chemical | Plant Part | Low PPM | High PPM | StdDev | Reference Citation |
|------------------|-----------------------------------|------------------|---------|----------|----------------------|--|
| 23 | ALPHA-TERPINEOL | Seed Essent. Oil | | 500.0 | -0.7380690023576203 | -- |
| 0 | ALPHA-THUJENE | Seed | | 24.0 | -1.1767496731268863 | Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980. |
| 0 | ALPHA-THUJENE | Fruit | | 24.0 | -0.5742881361044722 | -- |
| 7 | ANISALDEHYDE | Fruit | | 837.0 | 0.3007182102385518 | -- |
| 7 | ANISALDEHYDE | Seed | | 837.0 | -0.9438488054306591 | Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980. |
| 0 | APIGENIN-5-O-GLUCOSIDE | Seed | | | | -- |
| 0 | APIGENIN-7-GLUCOSIDE | Fruit | | | | -- |
| 0 | APIGENIN-7-GLUCOSIDE | Seed | | | | Leung, A.Y., Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics, John Wiley & Sons, New York, 1980. |
| 0 | APIGENIN-7-GLUCURONOSYL-GLUCOSIDE | Fruit | | | | -- |
| 0 | APIGENIN-7-GLUCURONOSYL-GLUCOSIDE | Seed | | | | -- |
| 0 | APIGETRIN | Seed | | | | -- |
| 4 | APIIN | Seed | | | | -- |
| 112 | ASCORBIC-ACID | Fruit | 0.0 | 76.0 | -0.27976355402626646 | -- |
| 112 | ASCORBIC-ACID | Tissue Culture | | | | -- |
| 112 | ASCORBIC-ACID | Seed | 0.0 | 76.0 | -0.2928301356509014 | -- |
| 0 | ASH | Seed | 58000.0 | 89000.0 | 1.2367887262181747 | -- |
| 0 | ASH | Fruit | 58000.0 | 89000.0 | 0.8373581639684924 | -- |
| 4 | BENZYL-CINNAMATE | Seed | | 1341.0 | | Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980. |
| 4 | BENZYL-CINNAMATE | Fruit | | 1341.0 | | -- |
| 6 | BETA-BISABOLENE | Seed | 60.0 | 360.0 | -0.5964358465216921 | Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980. |

| Activities Count | Chemical | Plant Part | Low PPM | High PPM | StdDev | Reference Citation |
|------------------|-------------------|------------------|---------|----------|----------------------|--|
| 6 | BETA-BISABOLENE | Fruit | 60.0 | 360.0 | -0.6279289020524476 | -- |
| 53 | BETA-CAROTENE | Seed | 5.0 | 8.0 | 0.07076552722792115 | -- |
| 53 | BETA-CAROTENE | Fruit | 5.0 | 8.0 | -0.1353367732684366 | -- |
| 5 | BETA-ELEMENE | Seed | | 30.0 | -0.7668490032631218 | Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980. |
| 5 | BETA-ELEMENE | Fruit | | 30.0 | -0.5255615099967239 | -- |
| 0 | BETA-FARNESENE | Seed | 220.0 | 440.0 | 1.0 | Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980. |
| 0 | BETA-FARNESENE | Fruit | 220.0 | 440.0 | 1.0 | -- |
| 3 | BETA-PHELLANDRENE | Seed Essent. Oil | | 700.0 | -1.0822902451231144 | -- |
| 3 | BETA-PHELLANDRENE | Fruit | 90.0 | 279.0 | -0.4243936628944281 | -- |
| 3 | BETA-PHELLANDRENE | Seed | 90.0 | 279.0 | -0.9915321681819333 | Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980. |
| 13 | BETA-PINENE | Seed Essent. Oil | | 60300.0 | -0.4033073996580829 | -- |
| 13 | BETA-PINENE | Seed | 48.0 | 6600.0 | 0.11443413980397102 | -- |
| 13 | BETA-PINENE | Fruit | 48.0 | 6600.0 | -0.08639391856372851 | -- |
| 47 | BETA-SITOSTEROL | Seed | | 300.0 | -0.5158539786189745 | Spiller, G. A. 1996 (Spiller, G. A. Ed. 1996. CRC Handbook of Lipids in Human Nutrition. CRC Press. Boca Raton, FL. 233 pp.) |
| 0 | BETA-TERPINENE | Fruit | | 204.0 | | -- |
| 0 | BETA-TERPINENE | Seed | | 204.0 | | Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980. |
| 12 | BORNYL-ACETATE | Fruit | | 36.0 | -0.7126671869128719 | -- |
| 12 | BORNYL-ACETATE | Seed | | 36.0 | | Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980. |
| 4 | BORON | Fruit | 34.0 | 50.0 | 0.20278384568897864 | -- |

| Activities Count | Chemical | Plant Part | Low PPM | High PPM | StdDev | Reference Citation |
|------------------|----------------------|------------------|----------|----------|----------------------|---|
| 4 | BORON | Seed | 34.0 | 50.0 | 1.2280232969498832 | Betting on Boron, Unpublished draft by J. A. Duke on file at USDA, draft and papers relating to boron percentages. Includes Internat. Z. Vit. Ern. Forschung 43:1973 (boron). |
| 28 | CALCIUM | Seed | 9310.0 | 15511.0 | 2.087195698631959 | -- |
| 28 | CALCIUM | Fruit | 9310.0 | 15511.0 | 2.6894460586450313 | -- |
| 2 | CAMPESTEROL | Seed | | 50.0 | -0.5188689275444304 | Spiller, G. A. 1996 (Spiller, G. A. Ed. 1996. CRC Handbook of Lipids in Human Nutrition. CRC Press. Boca Raton, FL. 233 pp.) |
| 9 | CAMPHENE | Seed Essent. Oil | | 400.0 | -1.4910054033640832 | -- |
| 0 | CAR-3-ENE | Seed Essent. Oil | | 200.0 | -1.0 | -- |
| 0 | CARBOHYDRATES | Seed | 442000.0 | 570000.0 | 0.18518872608740047 | -- |
| 0 | CARBOHYDRATES | Fruit | 442000.0 | 570000.0 | -1.1383877321758809 | -- |
| 1 | CARVEOL | Seed | | 435.0 | -1.0 | Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980. |
| 1 | CARVEOL | Fruit | | 435.0 | | -- |
| 31 | CARYOPHYLLENE | Fruit | 144.0 | 320.0 | -0.38650624079902074 | -- |
| 31 | CARYOPHYLLENE | Seed | 144.0 | 320.0 | -1.0 | Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980. |
| 8 | CARYOPHYLLENE-OXIDE | Seed | | 435.0 | 1.097913908269028 | Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980. |
| 8 | CARYOPHYLLENE-OXIDE | Fruit | | 435.0 | -0.5007242267296801 | -- |
| 20 | CHOLINE | Seed | | 3003.0 | 1.2524025343894258 | -- |
| 24 | CHROMIUM | Fruit | | 8.4 | 0.6722150195358815 | -- |
| 24 | CHROMIUM | Seed | | 8.4 | 0.5412807345301005 | -- |
| 0 | CIS-BETA-FARNESENE | Seed Essent. Oil | | 4500.0 | | -- |
| 0 | CIS-GAMMA-BISABOLENE | Fruit | | 30.0 | | -- |

| Activities Count | Chemical | Plant Part | Low PPM | High PPM | StdDev | Reference Citation |
|------------------|----------------------|------------------|----------|----------|----------------------|--|
| 0 | CIS-GAMMA-BISABOLENE | Seed | | 30.0 | | Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980. |
| 0 | CIS-SABINENE-HYDRATE | Seed | | 207.0 | | Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980. |
| 0 | CIS-SABINENE-HYDRATE | Seed Essent. Oil | | 1500.0 | -1.0 | -- |
| 0 | CIS-SABINENE-HYDRATE | Fruit | | 207.0 | 1.414213562373095 | -- |
| 2 | COBALT | Fruit | | 2.2 | -0.268784847122832 | -- |
| 2 | COBALT | Seed | | 2.2 | -0.11052683130845588 | -- |
| 1 | COPAENE | Fruit | | 30.0 | -0.7063409156616118 | -- |
| 1 | COPAENE | Seed | | 30.0 | | Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980. |
| 12 | COPPER | Fruit | 9.0 | 16.0 | 0.24757908207921683 | -- |
| 12 | COPPER | Seed | 9.0 | 16.0 | 0.10753302142111128 | -- |
| 4 | COSMOSIIN | Seed | | 1500.0 | | -- |
| 0 | CRYPTONE | Fruit | | | | -- |
| 0 | CRYPTONE | Seed | | | | Leung, A.Y., Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics, John Wiley & Sons, New York, 1980. |
| 1 | CUMENE | Seed | | | | Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980. |
| 1 | CUMENE | Fruit | | | | -- |
| 1 | CUMIN-ALCOHOL | Seed Essent. Oil | | 4200.0 | | -- |
| 10 | CUMINALDEHYDE | Seed Essent. Oil | 205100.0 | 480000.0 | | -- |
| 10 | CUMINALDEHYDE | Essential Oil | | 350000.0 | -1.0 | -- |
| 10 | CUMINALDEHYDE | Seed | 4000.0 | 16000.0 | | Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980. |
| 10 | CUMINALDEHYDE | Fruit | 4000.0 | 16000.0 | 1.0 | -- |

| Activities Count | Chemical | Plant Part | Low PPM | High PPM | StdDev | Reference Citation |
|------------------|-----------------------------|------------|---------|----------|---------------------|--|
| 0 | CUMINIC-ACID | Fruit | | 1.0 | | -- |
| 0 | CUMINIC-ACID | Seed | | 1.0 | | Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980. |
| 0 | CUMINIC-ALCOHOL | Seed | | | | Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980. |
| 0 | CUMINIC-ALCOHOL | Fruit | | | | -- |
| 0 | CUMINYL-ALCOHOL | Fruit | 300.0 | 21660.0 | | -- |
| 0 | CUMINYL-ALCOHOL | Seed | 300.0 | 21660.0 | | Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980. |
| 3 | CYNAROSIDE | Seed | | 500.0 | -1.0 | -- |
| 0 | DAUCENE | Seed | | 90.0 | -1.0 | Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980. |
| 0 | DAUCENE | Fruit | | 90.0 | | -- |
| 8 | DELTA-3-CARENE | Fruit | | 270.0 | -0.1615236669067504 | -- |
| 8 | DELTA-3-CARENE | Seed | | 270.0 | 1.2977713690461004 | Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980. |
| 0 | DELTA-5,6-OCTADECENOIC-ACID | Fruit | | | | -- |
| 0 | DELTA-5,6-OCTADECENOIC-ACID | Seed | | | | -- |
| 0 | DILLAPIOLE | Seed | | 150.0 | -1.0 | Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980. |
| 0 | DILLAPIOLE | Fruit | | 150.0 | -1.0 | -- |
| 7 | DIPENTENE | Fruit | | | | -- |
| 7 | DIPENTENE | Seed | | | | Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980. |
| 0 | EO | Seed | 20000.0 | 50000.0 | 0.08159531399912463 | -- |
| 0 | EO | Fruit | 20000.0 | 50000.0 | 0.1518886748253213 | -- |

| Activities Count | Chemical | Plant Part | Low PPM | High PPM | StdDev | Reference Citation |
|------------------|------------------|------------------|----------|----------|----------------------|--|
| 76 | EUGENOL | Seed | | | | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |
| 76 | EUGENOL | Fruit | | | | -- |
| 17 | FARNESOL | Seed | | 834.0 | -1.0 | Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980. |
| 17 | FARNESOL | Fruit | | 834.0 | 1.413989751209689 | -- |
| 0 | FAT | Seed | 134000.0 | 270380.0 | 0.02629680271488368 | -- |
| 0 | FAT | Fruit | 134000.0 | 270380.0 | 1.423888601701519 | -- |
| 15 | FIBER | Fruit | 105000.0 | 136000.0 | -0.05356506176852561 | -- |
| 15 | FIBER | Seed | 105000.0 | 136000.0 | 0.009642624567051585 | -- |
| 11 | GAMMA-TERPINENE | Fruit | 174.0 | 11800.0 | 1.5201342086172545 | -- |
| 11 | GAMMA-TERPINENE | Seed Essent. Oil | | 135100.0 | 1.7741924046473574 | -- |
| 11 | GAMMA-TERPINENE | Essential Oil | | | | -- |
| 11 | GAMMA-TERPINENE | Seed | 174.0 | 11800.0 | 1.3004692670430558 | Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980. |
| 0 | GUM | Seed | | | | Leung, A.Y., Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics, John Wiley & Sons, New York, 1980. |
| 0 | GUM | Fruit | | | | -- |
| 6 | IRON | Fruit | 155.0 | 748.0 | 2.4396262164214058 | -- |
| 6 | IRON | Seed | 155.0 | 748.0 | 2.774806205372537 | -- |
| 1 | ISOCARYOPHYLLENE | Seed Essent. Oil | | 2800.0 | | -- |
| 60 | LIMONENE | Fruit | 60.0 | 696.0 | -0.6503856897192445 | -- |
| 60 | LIMONENE | Seed | 60.0 | 696.0 | -0.7143557055167975 | Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980. |
| 60 | LIMONENE | Seed Essent. Oil | | 2500.0 | -0.8605696309526396 | -- |
| 0 | LINALOL | Fruit | 30.0 | 318.0 | -0.5850669501995082 | -- |

| Activities Count | Chemical | Plant Part | Low PPM | High PPM | StdDev | Reference Citation |
|------------------|-----------------------------------|------------------|---------|----------|----------------------|--|
| 53 | LINALOOL | Seed | 30.0 | 318.0 | -0.1602566890671307 | Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980. |
| 53 | LINALOOL | Seed Essent. Oil | | 300.0 | -0.5568630458522826 | -- |
| 78 | LUTEOLIN | Seed | | | | -- |
| 78 | LUTEOLIN | Fruit | | | | -- |
| 78 | LUTEOLIN | Leaf | | | | -- |
| 7 | LUTEOLIN-7-GLUCOSIDE | Fruit | | | | -- |
| 7 | LUTEOLIN-7-GLUCOSIDE | Seed | | | | Leung, A.Y., Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics, John Wiley & Sons, New York, 1980. |
| 0 | LUTEOLIN-7-GLUCURONOSYL-GLUCOSIDE | Fruit | | | | -- |
| 0 | LUTEOLIN-7-GLUCURONOSYL-GLUCOSIDE | Seed | | | | -- |
| 14 | MANGANESE | Fruit | 24.0 | 33.0 | -0.18593979479616832 | -- |
| 14 | MANGANESE | Seed | 24.0 | 33.0 | -0.25562914891156324 | -- |
| 18 | MANNITOL | Seed | | | | -- |
| 6 | METHYL-CHAVICOL | Seed | | 30.0 | -1.0272094750696692 | Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980. |
| 6 | METHYL-CHAVICOL | Fruit | | 30.0 | -0.9052787471318983 | -- |
| 5 | METHYL-CINNAMATE | Seed | | 138.0 | | Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980. |
| 5 | METHYL-CINNAMATE | Fruit | | 138.0 | | -- |
| 22 | MYRCENE | Seed Essent. Oil | | 5000.0 | -0.6729231762483394 | -- |
| 22 | MYRCENE | Seed | 36.0 | 120.0 | -1.016190392064844 | Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980. |
| 22 | MYRCENE | Fruit | 36.0 | 120.0 | -0.36584426066354236 | -- |

| Activities Count | Chemical | Plant Part | Low PPM | High PPM | StdDev | Reference Citation |
|------------------|---------------------------|------------------|---------|----------|----------------------|--|
| 2 | MYRTENOL | Seed | | | | Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980. |
| 2 | MYRTENOL | Fruit | | | | -- |
| 39 | NIACIN | Fruit | 46.0 | 49.0 | -0.1563834722018048 | -- |
| 39 | NIACIN | Seed | 46.0 | 49.0 | 0.18301568158571277 | -- |
| 3 | NICKEL | Fruit | | 3.6 | 0.31537310910976213 | -- |
| 3 | NICKEL | Seed | | 3.6 | -0.22040689220295698 | -- |
| 0 | OCTADECA-5,6-DIENOIC-ACID | Seed Oil | | | | -- |
| 18 | OLEIC-ACID | Seed Oil | | | | -- |
| 18 | OLEIC-ACID | Seed | | 154000.0 | 0.28687020919917255 | -- |
| 16 | P-CYMENE | Seed | 810.0 | 12639.0 | 2.5658784542716937 | -- |
| 16 | P-CYMENE | Fruit | 810.0 | 12639.0 | 1.093379153357459 | -- |
| 16 | P-CYMENE | Seed Essent. Oil | | 57400.0 | 1.1697457846107164 | -- |
| 16 | P-CYMENE | Essential Oil | | | | -- |
| 0 | P-ISOPROPYLPHENOL | Seed Essent. Oil | | 800.0 | | -- |
| 0 | P-MENTH-3-EN-7-AL | Seed Essent. Oil | | 4400.0 | | -- |
| 0 | P-MENTHA-1,3-DIEN-7-AL | Fruit | 3330.0 | 4560.0 | | -- |
| 0 | P-MENTHA-1,3-DIEN-7-AL | Seed Essent. Oil | | 60100.0 | | -- |
| 0 | P-MENTHA-1,3-DIEN-7-AL | Essential Oil | | | | -- |
| 0 | P-MENTHA-1,3-DIEN-7-AL | Seed | 3330.0 | 4560.0 | | Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980. |
| 0 | P-MENTHA-1,4-DIEN-7-AL | Fruit | 7080.0 | 7290.0 | | -- |
| 0 | P-MENTHA-1,4-DIEN-7-AL | Seed Essent. Oil | | 319800.0 | | -- |
| 0 | P-MENTHA-1,4-DIEN-7-AL | Essential Oil | | | | -- |
| 0 | P-MENTHA-1,4-DIEN-7-AL | Seed | 7080.0 | 7290.0 | | Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980. |
| 0 | P-MENTHA-3-EN-7-OL | Fruit | 140.0 | 280.0 | | -- |

| Activities Count | Chemical | Plant Part | Low PPM | High PPM | StdDev | Reference Citation |
|------------------|--------------------|------------|----------|----------|----------------------|--|
| 0 | P-MENTHA-3-EN-7-OL | Seed | 140.0 | 280.0 | | Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980. |
| 11 | PERILLALDEHYDE | Seed | | 336.0 | 1.3948390326025877 | Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980. |
| 11 | PERILLALDEHYDE | Fruit | | 336.0 | 1.4139019929570265 | -- |
| 0 | PETROSELINIC-ACID | Seed | | 522000.0 | -0.08234362953415873 | -- |
| 0 | PETROSELINIC-ACID | Seed Oil | | | | -- |
| 0 | PHELLANDRAL | Seed | | | | Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980. |
| 0 | PHELLANDRAL | Fruit | | | | -- |
| 4 | PHOSPHORUS | Seed | 4900.0 | 5673.0 | 0.0844694836529903 | -- |
| 4 | PHOSPHORUS | Fruit | 4900.0 | 5673.0 | 0.7462902843572051 | -- |
| 2 | PHYTOSTEROLS | Root | | 680.0 | -0.5617667644397336 | Spiller, G. A. 1996 (Spiller, G. A. Ed. 1996. CRC Handbook of Lipids in Human Nutrition. CRC Press. Boca Raton, FL. 233 pp.) |
| 0 | PIPERITOL | Seed | | 243.0 | | Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980. |
| 0 | PIPERITOL | Fruit | | 243.0 | | -- |
| 7 | PIPERITONE | Fruit | | 172.0 | | -- |
| 7 | PIPERITONE | Seed | | 172.0 | | Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980. |
| 14 | POTASSIUM | Seed | 17880.0 | 20916.0 | 0.7339716357950823 | -- |
| 14 | POTASSIUM | Fruit | 17880.0 | 20916.0 | 0.26537600660314625 | -- |
| 0 | PROTEIN | Fruit | 166000.0 | 212000.0 | 1.374076643190184 | -- |
| 0 | PROTEIN | Seed | 166000.0 | 212000.0 | -0.19388730833174384 | -- |
| 0 | RESIN | Fruit | | | | -- |

| Activities Count | Chemical | Plant Part | Low PPM | High PPM | StdDev | Reference Citation |
|------------------|---------------------|------------------|---------|----------|----------------------|--|
| 0 | RESIN | Seed | | | | Leung, A.Y., Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics, John Wiley & Sons, New York, 1980. |
| 15 | RIBOFLAVIN | Fruit | 3.0 | 4.0 | -0.21615825716438572 | -- |
| 15 | RIBOFLAVIN | Seed | 3.0 | 4.0 | 0.18234587940570884 | -- |
| 5 | SABINENE | Fruit | 30.0 | 1014.0 | -0.217118135360517 | -- |
| 5 | SABINENE | Seed | 30.0 | 1014.0 | -0.3944636041574373 | Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980. |
| 5 | SABINENE | Seed Essent. Oil | | 3200.0 | -0.48390449587595435 | -- |
| 7 | SALICYLATES | Seed | | 450.0 | 2.0742057734588757 | -- |
| 1 | SODIUM | Fruit | 1680.0 | 2028.0 | 0.008362175941227531 | -- |
| 1 | SODIUM | Seed | 1680.0 | 2028.0 | 2.5035675487310334 | -- |
| 12 | STIGMASTEROL | Seed | | 310.0 | -0.13634492946832524 | Spiller, G. A. 1996 (Spiller, G. A. Ed. 1996. CRC Handbook of Lipids in Human Nutrition. CRC Press. Boca Raton, FL. 233 pp.) |
| 35 | TANNIN | Fruit | | | | -- |
| 35 | TANNIN | Seed | | | | Leung, A.Y., Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics, John Wiley & Sons, New York, 1980. |
| 23 | TERPINEN-4-OL | Seed | | 30.0 | -0.6762665967069378 | Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980. |
| 23 | TERPINEN-4-OL | Seed Essent. Oil | | 1000.0 | -0.656858499149851 | -- |
| 23 | TERPINEN-4-OL | Fruit | | 30.0 | -0.35380476892863855 | -- |
| 9 | TERPINOLENE | Seed Essent. Oil | | 400.0 | -0.7791560503540546 | -- |
| 0 | TERPINOLENE-EPOXIDE | Fruit | | 60.0 | | -- |
| 0 | TERPINOLENE-EPOXIDE | Seed | | 60.0 | | Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980. |
| 31 | THIAMIN | Seed | 6.0 | 7.0 | 0.09921569102976133 | -- |

| Activities Count | Chemical | Plant Part | Low PPM | High PPM | StdDev | Reference Citation |
|------------------|-------------------------|------------------|---------|----------|----------------------|--|
| 31 | THIAMIN | Fruit | 6.0 | 7.0 | 0.21342198396383905 | -- |
| 71 | THYMOL | Seed Essent. Oil | | 200.0 | -0.730649211036064 | -- |
| 0 | TRANS-ALPHA-BERGAMOTENE | Seed Essent. Oil | | 900.0 | | -- |
| 2 | TRANS-PINOCARVEOL | Fruit | | 30.0 | | -- |
| 2 | TRANS-PINOCARVEOL | Seed | | 30.0 | | Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980. |
| 0 | TRANS-SABINENE-HYDRATE | Seed Essent. Oil | | 800.0 | -1.0 | -- |
| 0 | TRANS-SABINENE-HYDRATE | Fruit | | 87.0 | -0.43545971945575607 | -- |
| 0 | TRANS-SABINENE-HYDRATE | Seed | | 87.0 | -1.0 | Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980. |
| 0 | WATER | Seed | | 81000.0 | -0.5625925943807273 | -- |
| 0 | WATER | Fruit | | 81000.0 | -2.9983398493677664 | -- |
| 3 | XANTHOPHYLL | Seed | | | | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |
| 3 | XANTHOPHYLL | Fruit | | | | -- |
| 77 | ZINC | Fruit | 41.0 | 58.0 | 0.8333322427894736 | -- |
| 77 | ZINC | Seed | 41.0 | 58.0 | 0.3653236164034136 | -- |