

# Asarone

|                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Other names:         | (E)-2,4,5-Trimethoxypropenylbenzene<br>trans-2,4,5-Trimethoxypropenylbenzene<br>Benzene, 1,2,4-trimethoxy-5-(1-propenyl)-, (E)-<br>Benzene, 1,2,4-trimethoxy-5-propenyl-, (E)-<br>Asaron<br>Asarone, trans-<br>«alpha»-Asarone<br>trans-Asarone<br>Asarum camphor<br>Benzene, 1,2,4-trimethoxy-5-propenyl-, trans-<br>Etherophenol<br>trans-Isoasarone<br>E-2,4,5-Trimethoxy-prop-1-enylbenzene<br>(E)-Asarone<br>trans-Isoasaron<br>(E)-Azarone<br>(E)-1,2,4-trimethoxy-5-prop-1-enylbenzene |
| Inchi:               | InChI=1S/C12H16O3/c1-5-6-9-7-11(14-3)12(15-4)8-10(9)13-2/h5-8H,1-4H3/b6-5+                                                                                                                                                                                                                                                                                                                                                                                                                    |
| InchiKey:            | RKFAZBXYICVSKP-AATRIKPKSA-N                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Formula:             | C12H16O3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| SMILES:              | CC=Cc1cc(OC)c(OC)cc1OC                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Mol. weight [g/mol]: | 208.25                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| CAS:                 | 2883-98-9                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |

## Physical Properties

| Property code | Value   | Unit   | Source         |
|---------------|---------|--------|----------------|
| gf            | -101.10 | kJ/mol | Joback Method  |
| hf            | -368.33 | kJ/mol | Joback Method  |
| hfus          | 23.48   | kJ/mol | Joback Method  |
| hvap          | 53.76   | kJ/mol | Joback Method  |
| log10ws       | -3.07   |        | Crippen Method |
| logp          | 2.745   |        | Crippen Method |
| mcvol         | 169.490 | ml/mol | McGowan Method |
| pc            | 2304.74 | kPa    | Joback Method  |
| rinpol        | 1678.00 |        | NIST Webbook   |
| rinpol        | 1688.30 |        | NIST Webbook   |
| rinpol        | 1646.00 |        | NIST Webbook   |

|        |         |         |               |
|--------|---------|---------|---------------|
| rinpol | 1645.00 |         | NIST Webbook  |
| rinpol | 1678.00 |         | NIST Webbook  |
| rinpol | 1681.00 |         | NIST Webbook  |
| rinpol | 1678.00 |         | NIST Webbook  |
| rinpol | 1646.00 |         | NIST Webbook  |
| rinpol | 1638.00 |         | NIST Webbook  |
| rinpol | 1703.00 |         | NIST Webbook  |
| rinpol | 1693.00 |         | NIST Webbook  |
| rinpol | 1678.00 |         | NIST Webbook  |
| rinpol | 1650.00 |         | NIST Webbook  |
| ripol  | 2459.00 |         | NIST Webbook  |
| ripol  | 2463.00 |         | NIST Webbook  |
| ripol  | 2445.00 |         | NIST Webbook  |
| ripol  | 2459.00 |         | NIST Webbook  |
| ripol  | 2445.00 |         | NIST Webbook  |
| tb     | 587.00  | K       | Joback Method |
| tc     | 792.75  | K       | Joback Method |
| tf     | 350.59  | K       | Joback Method |
| vc     | 0.633   | m3/kmol | Joback Method |

## Temperature Dependent Properties

| Property code | Value     | Unit    | Temperature [K] | Source        |
|---------------|-----------|---------|-----------------|---------------|
| cpg           | 404.78    | J/mol×K | 587.00          | Joback Method |
| cpg           | 419.37    | J/mol×K | 621.29          | Joback Method |
| cpg           | 433.31    | J/mol×K | 655.58          | Joback Method |
| cpg           | 446.60    | J/mol×K | 689.87          | Joback Method |
| cpg           | 459.22    | J/mol×K | 724.16          | Joback Method |
| cpg           | 471.18    | J/mol×K | 758.45          | Joback Method |
| cpg           | 482.46    | J/mol×K | 792.75          | Joback Method |
| dvisc         | 0.0006142 | Pa×s    | 350.59          | Joback Method |
| dvisc         | 0.0003804 | Pa×s    | 389.99          | Joback Method |
| dvisc         | 0.0002572 | Pa×s    | 429.39          | Joback Method |
| dvisc         | 0.0001858 | Pa×s    | 468.80          | Joback Method |
| dvisc         | 0.0001411 | Pa×s    | 508.20          | Joback Method |
| dvisc         | 0.0001115 | Pa×s    | 547.60          | Joback Method |
| dvisc         | 0.0000910 | Pa×s    | 587.00          | Joback Method |

# Sources

|                        |                                                                                                                                             |
|------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|
| <b>NIST Webbook:</b>   | <a href="http://webbook.nist.gov/cgi/cbook.cgi?ID=C2883989&amp;Units=SI">http://webbook.nist.gov/cgi/cbook.cgi?ID=C2883989&amp;Units=SI</a> |
| <b>Crippen Method:</b> | <a href="http://pubs.acs.org/doi/abs/10.1021/ci990307l">http://pubs.acs.org/doi/abs/10.1021/ci990307l</a>                                   |
| <b>Crippen Method:</b> | <a href="https://www.chemeo.com/doc/models/crippen_log10ws">https://www.chemeo.com/doc/models/crippen_log10ws</a>                           |
| <b>Joback Method:</b>  | <a href="https://en.wikipedia.org/wiki/Joback_method">https://en.wikipedia.org/wiki/Joback_method</a>                                       |
| <b>McGowan Method:</b> | <a href="http://link.springer.com/article/10.1007/BF02311772">http://link.springer.com/article/10.1007/BF02311772</a>                       |

## Legend

|                 |                                                 |
|-----------------|-------------------------------------------------|
| <b>cpg:</b>     | Ideal gas heat capacity                         |
| <b>dvisc:</b>   | Dynamic viscosity                               |
| <b>gf:</b>      | Standard Gibbs free energy of formation         |
| <b>hf:</b>      | Enthalpy of formation at standard conditions    |
| <b>hfus:</b>    | Enthalpy of fusion at standard conditions       |
| <b>hvap:</b>    | Enthalpy of vaporization at standard conditions |
| <b>log10ws:</b> | Log10 of Water solubility in mol/l              |
| <b>logp:</b>    | Octanol/Water partition coefficient             |
| <b>mcvol:</b>   | McGowan's characteristic volume                 |
| <b>pc:</b>      | Critical Pressure                               |
| <b>rinpol:</b>  | Non-polar retention indices                     |
| <b>ripol:</b>   | Polar retention indices                         |
| <b>tb:</b>      | Normal Boiling Point Temperature                |
| <b>tc:</b>      | Critical Temperature                            |
| <b>tf:</b>      | Normal melting (fusion) point                   |
| <b>vc:</b>      | Critical Volume                                 |

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