# Cyclopentene, 1,2-dimethyl-

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|---|---|
| **Other names:** | 1,2-Dimethylcyclopentene |
| | 1,2-dimethyl-1-cyclopentene |
| **Inchi:** | InChI=1S/C7H12/c1-6-4-3-5-7(6)2/h3-5H2,1-2H3 |
| **InchiKey:** | SZZWLAZADBEDQP-UHFFFAOYSA-N |
| **Formula:** | C7H12 |
| **SMILES:** | CC1=C(C)CCC1 |
| **Mol. weight [g/mol]:** | 96.17 |
| **CAS:** | 765-47-9 |

# Physical Properties

| Property code | Value | Unit | Source |
|---|---|---|---|
| affp | 822.60 | kJ/mol | NIST Webbook |
| basg | 791.90 | kJ/mol | NIST Webbook |
| gf | 63.02 | kJ/mol | Joback Method |
| hf | -41.40 | kJ/mol | NIST Webbook |
| hfus | 7.19 | kJ/mol | Joback Method |
| hvap | 33.36 | kJ/mol | Joback Method |
| log10ws | -2.50 | | Crippen Method |
| logp | 2.507 | | Crippen Method |
| mcvol | 94.330 | ml/mol | McGowan Method |
| pc | 3581.35 | kPa | Joback Method |
| rinpol | 743.00 | | NIST Webbook |
| rinpol | 745.00 | | NIST Webbook |
| rinpol | 764.00 | | NIST Webbook |
| rinpol | 774.00 | | NIST Webbook |
| rinpol | 751.00 | | NIST Webbook |
| rinpol | 741.00 | | NIST Webbook |
| rinpol | 710.00 | | NIST Webbook |
| tb | 366.40 ± 1.00 | K | NIST Webbook |
| tb | 378.30 ± 2.00 | K | NIST Webbook |
| tb | 378.18 ± 0.40 | K | NIST Webbook |
| tb | 376.70 ± 3.00 | K | NIST Webbook |
| tb | 378.95 ± 0.30 | K | NIST Webbook |
| tb | 375.70 ± 2.00 | K | NIST Webbook |
| tb | 376.00 ± 6.00 | K | NIST Webbook |
| tb | 377.80 ± 2.00 | K | NIST Webbook |
| tb | 379.00 | K | NIST Webbook |

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|---|---|---|---|
| tb | 378.18 | K | KDB |
| tc | 588.63 | K | Joback Method |
| tf | 182.75 ± 0.50 | K | NIST Webbook |
| vc | 0.355 | m3/kmol | Joback Method |

# Temperature Dependent Properties

| Property code | Value | Unit | Temperature [K] | Source |
|---|---|---|---|---|
| cpg | 233.33 | J/mol×K | 588.63 | Joback Method |
| cpg | 223.50 | J/mol×K | 555.30 | Joback Method |
| cpg | 213.15 | J/mol×K | 521.96 | Joback Method |
| cpg | 202.24 | J/mol×K | 488.63 | Joback Method |
| cpg | 190.78 | J/mol×K | 455.30 | Joback Method |
| cpg | 178.72 | J/mol×K | 421.96 | Joback Method |
| cpg | 166.06 | J/mol×K | 388.63 | Joback Method |
| dvisc | 0.0020148 | Pa×s | 209.59 | Joback Method |
| dvisc | 0.0002610 | Pa×s | 388.63 | Joback Method |
| dvisc | 0.0003184 | Pa×s | 358.79 | Joback Method |
| dvisc | 0.0004028 | Pa×s | 328.95 | Joback Method |
| dvisc | 0.0005340 | Pa×s | 299.11 | Joback Method |
| dvisc | 0.0007537 | Pa×s | 269.27 | Joback Method |
| dvisc | 0.0011590 | Pa×s | 239.43 | Joback Method |
| hvapt | 36.40 | kJ/mol | 362.50 | NIST Webbook |

# Correlations

| Information | Value |
|---|---|
| Property code | pvap |
| Equation | ln(Pvp) = A + B/(T + C) |
| Coeff. A | 1.41360e+01 |
| Coeff. B | -3.07332e+03 |
| Coeff. C | -5.30930e+01 |
| Temperature range (K), min. | 275.02 |
| Temperature range (K), max. | 401.36 |

# Sources

| | |
|---|---|
| **Crippen Method:** | http://pubs.acs.org/doi/abs/10.1021/ci990307l |
| **Crippen Method:** | https://www.chemeo.com/doc/models/crippen_log10ws |
| **Joback Method:** | https://en.wikipedia.org/wiki/Joback_method |
| **KDB:** | https://www.cheric.org/files/research/kdb/mol/mol619.mol |
| **McGowan Method:** | http://link.springer.com/article/10.1007/BF02311772 |
| **NIST Webbook:** | http://webbook.nist.gov/cgi/cbook.cgi?ID=C765479&Units=SI |
| **The Yaws Handbook of Vapor Pressure:** | https://www.sciencedirect.com/book/9780128029992/the-yaws-handbook-of-vapor-pressure |

# Legend

| | |
|---|---|
| **affp:** | Proton affinity |
| **basg:** | Gas basicity |
| **cpg:** | Ideal gas heat capacity |
| **dvisc:** | Dynamic viscosity |
| **gf:** | Standard Gibbs free energy of formation |
| **hf:** | Enthalpy of formation at standard conditions |
| **hfus:** | Enthalpy of fusion at standard conditions |
| **hvap:** | Enthalpy of vaporization at standard conditions |
| **hvapt:** | Enthalpy of vaporization at a given temperature |
| **log10ws:** | Log10 of Water solubility in mol/l |
| **logp:** | Octanol/Water partition coefficient |
| **mcvol:** | McGowan's characteristic volume |
| **pc:** | Critical Pressure |
| **pvap:** | Vapor pressure |
| **rinpol:** | Non-polar retention indices |
| **tb:** | Normal Boiling Point Temperature |
| **tc:** | Critical Temperature |
| **tf:** | Normal melting (fusion) point |
| **vc:** | Critical Volume |