# Benzene, 4-pentenyl-

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|---|---|
| **Other names:** | 1-Pentene, 5-phenyl- |
| | 1-Phenyl-4-pentene |
| | 4-Pentenylbenzene |
| | 5-Phenyl-1-pentene |
| **Inchi:** | InChI=1S/C11H14/c1-2-3-5-8-11-9-6-4-7-10-11/h2,4,6-7,9-10H,1,3,5,8H2 |
| **InchiKey:** | RURREWSZSUQSNB-UHFFFAOYSA-N |
| **Formula:** | C11H14 |
| **SMILES:** | C=CCCCc1ccccc1 |
| **Mol. weight [g/mol]:** | 146.23 |
| **CAS:** | 1075-74-7 |

# Physical Properties

| Property code | Value | Unit | Source |
|---|---|---|---|
| gf | 241.99 | kJ/mol | Joback Method |
| hf | 91.59 | kJ/mol | Joback Method |
| hfus | 17.01 | kJ/mol | Joback Method |
| hvap | 41.69 | kJ/mol | Joback Method |
| log10ws | -3.38 | | Crippen Method |
| logp | 3.195 | | Crippen Method |
| mcvol | 137.790 | ml/mol | McGowan Method |
| pc | 2767.17 | kPa | Joback Method |
| rinpol | 1140.00 | | NIST Webbook |
| rinpol | 1140.00 | | NIST Webbook |
| tb | 471.15 ± 2.00 | K | NIST Webbook |
| tc | 680.80 | K | Joback Method |
| tf | 238.39 | K | Joback Method |
| vc | 0.524 | m3/kmol | Joback Method |

# Temperature Dependent Properties

| Property code | Value | Unit | Temperature [K] | Source |
|---|---|---|---|---|
| cpg | 282.51 | J/mol×K | 474.44 | Joback Method |
| cpg | 297.98 | J/mol×K | 508.83 | Joback Method |
| cpg | 312.54 | J/mol×K | 543.23 | Joback Method |

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|---|---|---|---|---|
| cpg | 326.25 | J/mol×K | 577.62 | Joback Method |
| cpg | 339.13 | J/mol×K | 612.02 | Joback Method |
| cpg | 351.24 | J/mol×K | 646.41 | Joback Method |
| cpg | 362.60 | J/mol×K | 680.80 | Joback Method |
| dvisc | 0.0034173 | Pa×s | 238.39 | Joback Method |
| dvisc | 0.0015649 | Pa×s | 277.73 | Joback Method |
| dvisc | 0.0008698 | Pa×s | 317.07 | Joback Method |
| dvisc | 0.0005504 | Pa×s | 356.41 | Joback Method |
| dvisc | 0.0003815 | Pa×s | 395.76 | Joback Method |
| dvisc | 0.0002825 | Pa×s | 435.10 | Joback Method |
| dvisc | 0.0002199 | Pa×s | 474.44 | Joback Method |

# Correlations

| Information | Value |
|---|---|
| Property code | pvap |
| Equation | ln(Pvp) = A + B/(T + C) |
| Coeff. A | 1.46783e+01 |
| Coeff. B | -4.00574e+03 |
| Coeff. C | -7.29640e+01 |
| Temperature range (K), min. | 351.32 |
| Temperature range (K), max. | 500.62 |

# Sources

**Crippen Method:** https://www.chemeo.com/doc/models/crippen_log10ws

**Joback Method:** https://en.wikipedia.org/wiki/Joback_method

**McGowan Method:** http://link.springer.com/article/10.1007/BF02311772

**NIST Webbook:** http://webbook.nist.gov/cgi/cbook.cgi?ID=C1075747&Units=SI

**The Yaws Handbook of Vapor Pressure:** https://www.sciencedirect.com/book/9780128029992/the-yaws-handbook-of-vapor-pressure

**Crippen Method:** http://pubs.acs.org/doi/abs/10.1021/ci990307l

# Legend

**cpg:** Ideal gas heat capacity

**dvisc:** Dynamic viscosity

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|---|---|
| **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 |
| **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 |