# Benzene, 1-methyl-4-pentyl

**Other names:** 1-Methyl-4-n-Pentylbenzene
**Inchi:** InChI=1S/C12H18/c1-3-4-5-6-12-9-7-11(2)8-10-12/h7-10H,3-6H2,1-2H3
**InchiKey:** LGKMWHPZOZYYTQ-UHFFFAOYSA-N
**Formula:** C12H18
**SMILES:** CCCCCc1ccc(C)cc1
**Mol. weight [g/mol]:** 162.27

# Physical Properties

| Property code | Value | Unit | Source |
|---|---|---|---|
| gf | 152.94 | kJ/mol | Joback Method |
| hf | -65.95 | kJ/mol | Joback Method |
| hfus | 20.49 | kJ/mol | Joback Method |
| hvap | 45.24 | kJ/mol | Joback Method |
| log10ws | -4.01 | | Crippen Method |
| logp | 3.728 | | Crippen Method |
| mcvol | 156.180 | ml/mol | McGowan Method |
| pc | 2370.28 | kPa | Joback Method |
| rinpol | 1255.00 | | NIST Webbook |
| rinpol | 1242.00 | | NIST Webbook |
| rinpol | 1242.00 | | NIST Webbook |
| rinpol | 1256.00 | | NIST Webbook |
| rinpol | 1255.00 | | NIST Webbook |
| rinpol | 1241.70 | | NIST Webbook |
| rinpol | 1236.00 | | NIST Webbook |
| rinpol | 1236.00 | | NIST Webbook |
| rinpol | 1242.00 | | NIST Webbook |
| ripol | 1494.00 | | NIST Webbook |
| ripol | 1470.00 | | NIST Webbook |
| ripol | 1470.00 | | NIST Webbook |
| ripol | 1484.90 | | NIST Webbook |
| ripol | 1505.00 | | NIST Webbook |
| ripol | 1494.00 | | NIST Webbook |
| ripol | 1546.00 | | NIST Webbook |
| ripol | 1531.00 | | NIST Webbook |
| ripol | 1518.00 | | NIST Webbook |
| ripol | 1506.00 | | NIST Webbook |
| ripol | 1505.00 | | NIST Webbook |

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|---|---|---|---|
| ripol | 1469.70 | | NIST Webbook |
| ripol | 1484.90 | | NIST Webbook |
| tb | 505.62 | K | Joback Method |
| tc | 706.05 | K | Joback Method |
| tf | 263.94 | K | Joback Method |
| vc | 0.600 | m3/kmol | Joback Method |

# Temperature Dependent Properties

| Property code | Value | Unit | Temperature [K] | Source |
|---|---|---|---|---|
| cpg | 346.19 | J/mol×K | 505.62 | Joback Method |
| cpg | 362.69 | J/mol×K | 539.02 | Joback Method |
| cpg | 378.35 | J/mol×K | 572.43 | Joback Method |
| cpg | 393.19 | J/mol×K | 605.83 | Joback Method |
| cpg | 407.24 | J/mol×K | 639.24 | Joback Method |
| cpg | 420.54 | J/mol×K | 672.64 | Joback Method |
| cpg | 433.10 | J/mol×K | 706.05 | Joback Method |
| dvisc | 0.0026290 | Pa×s | 263.94 | Joback Method |
| dvisc | 0.0012879 | Pa×s | 304.22 | Joback Method |
| dvisc | 0.0007455 | Pa×s | 344.50 | Joback Method |
| dvisc | 0.0004839 | Pa×s | 384.78 | Joback Method |
| dvisc | 0.0003409 | Pa×s | 425.06 | Joback Method |
| dvisc | 0.0002551 | Pa×s | 465.34 | Joback Method |
| dvisc | 0.0002000 | Pa×s | 505.62 | Joback Method |

# Sources

**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=R12444&Units=SI
**Crippen Method:** http://pubs.acs.org/doi/abs/10.1021/ci990307l
**Crippen Method:** https://www.chemeo.com/doc/models/crippen_log10ws

# Legend

**cpg:** Ideal gas heat capacity

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|---|---|
| **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 |
| **log10ws:** | Log10 of Water solubility in mol/l |
| **logp:** | Octanol/Water partition coefficient |
| **mcvol:** | McGowan's characteristic volume |
| **pc:** | Critical Pressure |
| **rinpol:** | Non-polar retention indices |
| **ripol:** | Polar retention indices |
| **tb:** | Normal Boiling Point Temperature |
| **tc:** | Critical Temperature |
| **tf:** | Normal melting (fusion) point |
| **vc:** | Critical Volume |