# Dodecane, 4-methyl-

**Other names:** 4-Methyldodecane
**Inchi:** InChI=1S/C13H28/c1-4-6-7-8-9-10-12-13(3)11-5-2/h13H,4-12H2,1-3H3
**InchiKey:** UZTXSMATBUWDDZ-UHFFFAOYSA-N
**Formula:** C13H28
**SMILES:** CCCCCCCCC(C)CCC
**Mol. weight [g/mol]:** 184.36
**CAS:** 6117-97-1

# Physical Properties

| Property code | Value | Unit | Source |
|---|---|---|---|
| gf | 56.14 | kJ/mol | Joback Method |
| hf | -316.93 | kJ/mol | Joback Method |
| hfus | 25.90 | kJ/mol | Joback Method |
| hvap | 44.14 | kJ/mol | Joback Method |
| log10ws | -5.02 | | Crippen Method |
| logp | 5.173 | | Crippen Method |
| mcvol | 194.030 | ml/mol | McGowan Method |
| pc | 1655.15 | kPa | Joback Method |
| rinpol | 1258.00 | | NIST Webbook |
| rinpol | 1256.00 | | NIST Webbook |
| rinpol | 1259.00 | | NIST Webbook |
| rinpol | 1261.00 | | NIST Webbook |
| rinpol | 1260.48 | | NIST Webbook |
| rinpol | 1260.29 | | NIST Webbook |
| rinpol | 1260.60 | | NIST Webbook |
| rinpol | 1259.69 | | NIST Webbook |
| rinpol | 1259.00 | | NIST Webbook |
| rinpol | 1259.86 | | NIST Webbook |
| rinpol | 1260.00 | | NIST Webbook |
| rinpol | 1257.00 | | NIST Webbook |
| rinpol | 1255.00 | | NIST Webbook |
| rinpol | 1259.00 | | NIST Webbook |
| rinpol | 1260.80 | | NIST Webbook |
| rinpol | 1260.00 | | NIST Webbook |
| rinpol | 1258.00 | | NIST Webbook |
| rinpol | 1259.00 | | NIST Webbook |
| rinpol | 1256.00 | | NIST Webbook |

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|---|---|---|---|
| rinpol | 1259.75 | | NIST Webbook |
| tb | 496.40 | K | Joback Method |
| tc | 659.72 | K | Joback Method |
| tf | 223.70 ± 2.00 | K | NIST Webbook |
| vc | 0.757 | m3/kmol | Joback Method |

# Temperature Dependent Properties

| Property code | Value | Unit | Temperature [K] | Source |
|---|---|---|---|---|
| cpg | 552.81 | J/mol×K | 659.72 | Joback Method |
| cpg | 455.59 | J/mol×K | 496.40 | Joback Method |
| cpg | 473.45 | J/mol×K | 523.62 | Joback Method |
| cpg | 490.62 | J/mol×K | 550.84 | Joback Method |
| cpg | 507.13 | J/mol×K | 578.06 | Joback Method |
| cpg | 522.98 | J/mol×K | 605.28 | Joback Method |
| cpg | 538.20 | J/mol×K | 632.50 | Joback Method |
| dvisc | 0.0001881 | Pa×s | 496.40 | Joback Method |
| dvisc | 0.0096568 | Pa×s | 221.27 | Joback Method |
| dvisc | 0.0028515 | Pa×s | 267.12 | Joback Method |
| dvisc | 0.0012038 | Pa×s | 312.98 | Joback Method |
| dvisc | 0.0006335 | Pa×s | 358.83 | Joback Method |
| dvisc | 0.0003856 | Pa×s | 404.69 | Joback Method |
| dvisc | 0.0002596 | Pa×s | 450.54 | Joback Method |
| hvapt | 52.00 | kJ/mol | 436.50 | NIST Webbook |

# Correlations

| Information | Value |
|---|---|
| Property code | pvap |
| Equation | ln(Pvp) = A + B/(T + C) |
| Coeff. A | 1.72811e+01 |
| Coeff. B | -6.35981e+03 |
| Coeff. C | 1.42600e+00 |
| Temperature range (K), min. | 372.82 |
| Temperature range (K), max. | 529.90 |

# Sources

| | |
|---|---|
| **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 |
| **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=C6117971&Units=SI |

# Legend

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