# Naphthalene, 2,3,6,7-tetramethyl-

**Other names:** 2,3,6,7-tetramethylnaphthalene
**Inchi:** InChI=1S/C14H16/c1-9-5-13-7-11(3)12(4)8-14(13)6-10(9)2/h5-8H,1-4H3
**InchiKey:** QYEOHOUFXNEWEI-UHFFFAOYSA-N
**Formula:** C14H16
**SMILES:** Cc1cc2cc(C)c(C)cc2cc1C
**Mol. weight [g/mol]:** 184.28
**CAS:** 1134-40-3

## Physical Properties

| Property code | Value | Unit | Source |
|---|---|---|---|
| gf | 247.54 | kJ/mol | Joback Method |
| hf | 49.43 | kJ/mol | Joback Method |
| hfus | 21.52 | kJ/mol | Joback Method |
| hvap | 53.32 | kJ/mol | Joback Method |
| ie | 7.60 ± 0.03 | eV | NIST Webbook |
| log10ws | -5.18 | | Crippen Method |
| logp | 4.073 | | Crippen Method |
| mcvol | 164.900 | ml/mol | McGowan Method |
| pc | 2388.85 | kPa | Joback Method |
| rinpol | 287.67 | | NIST Webbook |
| rinpol | 1698.00 | | NIST Webbook |
| rinpol | 290.08 | | NIST Webbook |
| rinpol | 287.30 | | NIST Webbook |
| rinpol | 1656.80 | | NIST Webbook |
| tb | 585.30 | K | Joback Method |
| tc | 810.38 | K | Joback Method |
| tf | 356.74 | K | Joback Method |
| vc | 0.633 | m3/kmol | Joback Method |

## Temperature Dependent Properties

| Property code | Value | Unit | Temperature [K] | Source |
|---|---|---|---|---|
| cpg | 389.23 | J/mol×K | 585.30 | Joback Method |
| cpg | 405.02 | J/mol×K | 622.81 | Joback Method |

| | | | | |
|---|---|---|---|---|
| cpg | 419.87 | J/mol×K | 660.33 | Joback Method |
| cpg | 433.83 | J/mol×K | 697.84 | Joback Method |
| cpg | 446.95 | J/mol×K | 735.36 | Joback Method |
| cpg | 459.28 | J/mol×K | 772.87 | Joback Method |
| cpg | 470.88 | J/mol×K | 810.38 | Joback Method |
| dvisc | 0.0009613 | Pa×s | 356.74 | Joback Method |
| dvisc | 0.0007025 | Pa×s | 394.83 | Joback Method |
| dvisc | 0.0005425 | Pa×s | 432.93 | Joback Method |
| dvisc | 0.0004369 | Pa×s | 471.02 | Joback Method |
| dvisc | 0.0003634 | Pa×s | 509.11 | Joback Method |
| dvisc | 0.0003101 | Pa×s | 547.21 | Joback Method |
| dvisc | 0.0002702 | Pa×s | 585.30 | Joback Method |

# Correlations

| Information | Value |
|---|---|
| Property code | pvap |
| Equation | ln(Pvp) = A + B/(T + C) |
| Coeff. A | 1.68971e+01 |
| Coeff. B | -5.61760e+03 |
| Coeff. C | -1.03895e+02 |
| Temperature range (K), min. | 442.11 |
| Temperature range (K), max. | 588.77 |

# 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=C1134403&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 |
| **ie:** | Ionization energy |
| **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 |