# Cyclohexane, 1,2,4,5-tetramethyl

**Other names:** 1,2,4,5-tetramethylcyclohexane
**Inchi:** InChI=1S/C10H20/c1-7-5-9(3)10(4)6-8(7)2/h7-10H,5-6H2,1-4H3
**InchiKey:** VWWAILZUSKHANH-UHFFFAOYSA-N
**Formula:** C10H20
**SMILES:** CC1CC(C)C(C)CC1C
**Mol. weight [g/mol]:** 140.27
**CAS:** 2090-38-2

# Physical Properties

| Property code | Value | Unit | Source |
|---|---|---|---|
| gf | 34.64 | kJ/mol | Joback Method |
| hf | -256.43 | kJ/mol | Joback Method |
| hfus | 16.70 | kJ/mol | Joback Method |
| hvap | 37.36 | kJ/mol | Joback Method |
| log10ws | -2.94 | | Crippen Method |
| logp | 3.325 | | Crippen Method |
| mcvol | 140.900 | ml/mol | McGowan Method |
| pc | 2329.27 | kPa | Joback Method |
| rinpol | 1036.00 | | NIST Webbook |
| rinpol | 1054.00 | | NIST Webbook |
| rinpol | 1036.00 | | NIST Webbook |
| rinpol | 1036.00 | | NIST Webbook |
| rinpol | 1054.00 | | NIST Webbook |
| tb | 440.00 ± 5.00 | K | NIST Webbook |
| tb | 446.00 ± 5.00 | K | NIST Webbook |
| tb | 434.20 ± 2.00 | K | NIST Webbook |
| tb | 446.15 ± 2.00 | K | NIST Webbook |
| tc | 629.39 | K | Joback Method |
| tf | 197.12 | K | Joback Method |
| vc | 0.525 | m3/kmol | Joback Method |

# Temperature Dependent Properties

| Property code | Value | Unit | Temperature [K] | Source |
|---|---|---|---|---|

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|---|---|---|---|---|
| cpg | 299.06 | J/mol×K | 433.74 | Joback Method |
| cpg | 319.44 | J/mol×K | 466.35 | Joback Method |
| cpg | 338.99 | J/mol×K | 498.96 | Joback Method |
| cpg | 357.72 | J/mol×K | 531.57 | Joback Method |
| cpg | 375.63 | J/mol×K | 564.17 | Joback Method |
| cpg | 392.74 | J/mol×K | 596.78 | Joback Method |
| cpg | 409.05 | J/mol×K | 629.39 | Joback Method |
| dvisc | 0.0014826 | Pa×s | 197.12 | Joback Method |
| dvisc | 0.0008678 | Pa×s | 236.56 | Joback Method |
| dvisc | 0.0005920 | Pa×s | 275.99 | Joback Method |
| dvisc | 0.0004444 | Pa×s | 315.43 | Joback Method |
| dvisc | 0.0003555 | Pa×s | 354.87 | Joback Method |
| dvisc | 0.0002974 | Pa×s | 394.30 | Joback Method |
| dvisc | 0.0002570 | Pa×s | 433.74 | Joback Method |

# Sources

**NIST Webbook:** http://webbook.nist.gov/cgi/cbook.cgi?ID=C2090382&Units=SI
**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

# 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
**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
**tb:** Normal Boiling Point Temperature
**tc:** Critical Temperature

**tf:** Normal melting (fusion) point

**vc:** Critical Volume