# 1,5-Cyclodecadiene, (E,Z)-

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|---|---|
| **Other names:** | cis,trans-1,5-Cyclodecadiene |
| | trans,cis-1,5-Cyclodecadiene |
| | 1,5-Cyclodecadiene, (Z,E)- |
| | (E,Z)-1,5-Cyclodecadiene |
| | c,t-cyclodeca-1,5-diene |
| | cyclodeca-1,5-diene |
| **Inchi:** | InChI=1S/C10H16/c1-2-4-6-8-10-9-7-5-3-1/h1-2,7,9H,3-6,8,10H2/b2-1-,9-7+ |
| **InchiKey:** | RDAFFINKUCJOJK-UYIJSCIWSA-N |
| **Formula:** | C10H16 |
| **SMILES:** | C1=CCCCCC=CCC1 |
| **Mol. weight [g/mol]:** | 136.23 |
| **CAS:** | 1124-78-3 |

## Physical Properties

| Property code | Value | Unit | Source |
|---|---|---|---|
| gf | 77.00 | kJ/mol | Joback Method |
| hf | -84.15 | kJ/mol | Joback Method |
| hfus | 6.46 | kJ/mol | Joback Method |
| hvap | 39.86 | kJ/mol | Joback Method |
| ie | 8.90 | eV | NIST Webbook |
| log10ws | -3.61 | | Crippen Method |
| logp | 3.453 | | Crippen Method |
| mcvol | 132.300 | ml/mol | McGowan Method |
| pc | 3199.16 | kPa | Joback Method |
| rinpol | 1099.80 | | NIST Webbook |
| rinpol | 1099.80 | | NIST Webbook |
| tb | 467.82 | K | Joback Method |
| tc | 703.55 | K | Joback Method |
| tf | 201.52 | K | Joback Method |
| vc | 0.469 | m3/kmol | Joback Method |

## Temperature Dependent Properties

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

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|---|---|---|---|---|
| cpg | 268.70 | J/mol×K | 467.82 | Joback Method |
| cpg | 290.00 | J/mol×K | 507.11 | Joback Method |
| cpg | 310.09 | J/mol×K | 546.40 | Joback Method |
| cpg | 328.97 | J/mol×K | 585.69 | Joback Method |
| cpg | 346.67 | J/mol×K | 624.97 | Joback Method |
| cpg | 363.19 | J/mol×K | 664.26 | Joback Method |
| cpg | 378.55 | J/mol×K | 703.55 | Joback Method |
| dvisc | 0.0788658 | Pa×s | 201.52 | Joback Method |
| dvisc | 0.0101791 | Pa×s | 245.90 | Joback Method |
| dvisc | 0.0024571 | Pa×s | 290.29 | Joback Method |
| dvisc | 0.0008647 | Pa×s | 334.67 | Joback Method |
| dvisc | 0.0003886 | Pa×s | 379.05 | Joback Method |
| dvisc | 0.0002065 | Pa×s | 423.44 | Joback Method |
| dvisc | 0.0001238 | Pa×s | 467.82 | Joback Method |

# Sources

**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=C1124783&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
**rinpol:** Non-polar retention indices
**tb:** Normal Boiling Point Temperature

| | |
|---|---|
| **tc:** | Critical Temperature |
| **tf:** | Normal melting (fusion) point |
| **vc:** | Critical Volume |