

Naphthalene, 1,2-dihydro-

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|-----------------------------|--|
| Other names: | 1,2-Dialin 1,2-Dihydronaphthalene Dialin Diolin «delta»1-Dialin Â«deltaÂ»1-Dialin |
| Inchi: | InChI=1S/C10H10/c1-2-6-10-8-4-3-7-9(10)5-1/h1-3,5-7H,4,8H2 |
| InchiKey: | KEIFWROAQVVDBN-UHFFFAOYSA-N |
| Formula: | C10H10 |
| SMILES: | C1=Cc2cccc2CC1 |
| Mol. weight [g/mol]: | 130.19 |
| CAS: | 447-53-0 |

Physical Properties

| Property code | Value | Unit | Source |
|---------------|--------------|--------|---|
| gf | 222.42 | kJ/mol | Joback Method |
| hf | 120.09 | kJ/mol | Joback Method |
| hfus | 10.54 | kJ/mol | Thermodynamic properties of 1,2-dihydronaphthalene: Glassy crystals and missing entropy |
| hvap | 54.80 ± 0.10 | kJ/mol | NIST Webbook |
| hvap | 51.90 ± 0.40 | kJ/mol | NIST Webbook |
| ie | 8.00 | eV | NIST Webbook |
| ie | 8.14 | eV | NIST Webbook |
| log10ws | -2.99 | | Crippen Method |
| logp | 2.646 | | Crippen Method |
| mccvol | 112.840 | ml/mol | McGowan Method |
| pc | 3727.11 | kPa | Joback Method |
| rinpol | 1127.90 | | NIST Webbook |
| rinpol | 1183.20 | | NIST Webbook |
| rinpol | 1148.00 | | NIST Webbook |
| rinpol | 1127.90 | | NIST Webbook |
| rinpol | 1133.20 | | NIST Webbook |
| rinpol | 1137.00 | | NIST Webbook |
| rinpol | 1115.00 | | NIST Webbook |
| rinpol | 1165.00 | | NIST Webbook |
| rinpol | 1171.40 | | NIST Webbook |

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|-------|---------|----------------------|---------------|
| rmpol | 1166.00 | | NIST Webbook |
| rmpol | 195.20 | | NIST Webbook |
| rmpol | 196.19 | | NIST Webbook |
| rmpol | 195.85 | | NIST Webbook |
| rmpol | 197.01 | | NIST Webbook |
| rmpol | 195.50 | | NIST Webbook |
| rmpol | 195.50 | | NIST Webbook |
| rmpol | 209.43 | | NIST Webbook |
| rmpol | 1141.00 | | NIST Webbook |
| rmpol | 1133.20 | | NIST Webbook |
| rmpol | 1114.40 | | NIST Webbook |
| rmpol | 1141.00 | | NIST Webbook |
| rmpol | 1148.00 | | NIST Webbook |
| tb | 474.70 | K | Joback Method |
| tc | 709.77 | K | Joback Method |
| tf | 260.82 | K | Joback Method |
| vc | 0.423 | m ³ /kmol | Joback Method |

Temperature Dependent Properties

| Property code | Value | Unit | Temperature [K] | Source |
|---------------|--------------|---------|-----------------|---------------|
| cpg | 254.65 | J/molxK | 553.06 | Joback Method |
| cpg | 300.86 | J/molxK | 709.77 | Joback Method |
| cpg | 290.67 | J/molxK | 670.59 | Joback Method |
| cpg | 279.62 | J/molxK | 631.41 | Joback Method |
| cpg | 267.64 | J/molxK | 592.23 | Joback Method |
| cpg | 225.37 | J/molxK | 474.70 | Joback Method |
| cpg | 240.59 | J/molxK | 513.88 | Joback Method |
| dvisc | 0.0008639 | Paxs | 332.11 | Joback Method |
| dvisc | 0.0006296 | Paxs | 367.76 | Joback Method |
| dvisc | 0.0004853 | Paxs | 403.41 | Joback Method |
| dvisc | 0.0003902 | Paxs | 439.05 | Joback Method |
| dvisc | 0.0003242 | Paxs | 474.70 | Joback Method |
| dvisc | 0.0021076 | Paxs | 260.82 | Joback Method |
| dvisc | 0.0012789 | Paxs | 296.47 | Joback Method |
| hfust | 10.53 | kJ/mol | 224.50 | NIST Webbook |
| hvapt | 51.90 ± 0.40 | kJ/mol | 296.50 | NIST Webbook |
| hvapt | 45.90 ± 0.10 | kJ/mol | 440.00 | NIST Webbook |
| hvapt | 48.40 ± 0.10 | kJ/mol | 400.00 | NIST Webbook |
| hvapt | 50.80 ± 0.10 | kJ/mol | 360.00 | NIST Webbook |
| hvapt | 53.40 ± 0.10 | kJ/mol | 320.00 | NIST Webbook |

Pressure Dependent Properties

| Property code | Value | Unit | Pressure [kPa] | Source |
|---------------|--------|------|----------------|--------------|
| tbrp | 362.20 | K | 2.10 | NIST Webbook |

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=C447530&Units=SI |
| Crippen Method: | http://pubs.acs.org/doi/abs/10.1021/ci9903071 |
| Crippen Method: | https://www.chemeo.com/doc/models/crippen_log10ws |
| Thermodynamic properties of 1,2-dihydronaphthalene: Glassy crystals and missing entropy: | https://www.doi.org/10.1016/j.jct.2008.01.009 |

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 |
| hfust: | Enthalpy of fusion at a given temperature |
| hvap: | Enthalpy of vaporization at standard conditions |
| hvapt: | Enthalpy of vaporization at a given temperature |
| ie: | Ionization energy |
| log10ws: | Log10 of Water solubility in mol/l |
| logp: | Octanol/Water partition coefficient |
| mccvol: | McGowan's characteristic volume |
| pc: | Critical Pressure |
| rinpol: | Non-polar retention indices |
| tb: | Normal Boiling Point Temperature |
| tbrp: | Boiling point at reduced pressure |
| tc: | Critical Temperature |
| tf: | Normal melting (fusion) point |

vc: Critical Volume

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