# 1(2H)-Naphthalenone, 3,4-dihydro-5,7-dimethyl-

**Other names:** 5,7-Dimethyl-1-tetralone
5,7-Dimethyl-3,4-dihydro-1(2H)-naphthalenone
3,4-dihydro-5,7-dimethylnaphthalen-1(2H)-one
**Inchi:** InChI=1S/C12H14O/c1-8-6-9(2)10-4-3-5-12(13)11(10)7-8/h6-7H,3-5H2,1-2H3
**InchiKey:** UYJCNOMEGPDXMV-UHFFFAOYSA-N
**Formula:** C12H14O
**SMILES:** Cc1cc(C)c2c(c1)C(=O)CCC2
**Mol. weight [g/mol]:** 174.24
**CAS:** 13621-25-5

## Physical Properties

| Property code | Value | Unit | Source |
|---|---|---|---|
| gf | 67.45 | kJ/mol | Joback Method |
| hf | -139.61 | kJ/mol | Joback Method |
| hfus | 14.18 | kJ/mol | Joback Method |
| hvap | 51.21 | kJ/mol | Joback Method |
| log10ws | -3.78 | | Crippen Method |
| logp | 2.822 | | Crippen Method |
| mcvol | 146.890 | ml/mol | McGowan Method |
| pc | 2887.40 | kPa | Joback Method |
| tb | 599.08 | K | Joback Method |
| tc | 840.31 | K | Joback Method |
| tf | 375.86 | K | Joback Method |
| vc | 0.556 | m3/kmol | Joback Method |

## Temperature Dependent Properties

| Property code | Value | Unit | Temperature [K] | Source |
|---|---|---|---|---|
| cpg | 361.80 | J/mol×K | 599.08 | Joback Method |
| cpg | 378.40 | J/mol×K | 639.28 | Joback Method |
| cpg | 393.98 | J/mol×K | 679.49 | Joback Method |
| cpg | 408.56 | J/mol×K | 719.69 | Joback Method |
| cpg | 422.18 | J/mol×K | 759.90 | Joback Method |
| cpg | 434.85 | J/mol×K | 800.10 | Joback Method |

| | | | | |
|---|---|---|---|---|
| cpg | 446.60 | J/mol×K | 840.31 | Joback Method |

# Pressure Dependent Properties

| Property code | Value | Unit | Pressure [kPa] | Source |
|---|---|---|---|---|
| tbrp | 372.20 | K | 0.03 | NIST Webbook |

# Sources

| | |
|---|---|
| **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=C13621255&Units=SI |
| **Crippen Method:** | http://pubs.acs.org/doi/abs/10.1021/ci990307l |

# Legend

| | |
|---|---|
| **cpg:** | Ideal gas heat capacity |
| **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 |
| **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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