# 3-Decyn-1-ol

**Inchi:** InChI=1S/C10H18O/c1-2-3-4-5-6-7-8-9-10-11/h11H,2-6,9-10H2,1H3
**InchiKey:** YGEQBZUDPQQIFI-UHFFFAOYSA-N
**Formula:** C10H18O
**SMILES:** CCCCCCC#CCCO
**Mol. weight [g/mol]:** 154.25
**CAS:** 51721-39-2

## Physical Properties

| Property code | Value | Unit | Source |
|---|---|---|---|
| gf | 99.30 | kJ/mol | Joback Method |
| hf | -129.66 | kJ/mol | Joback Method |
| hfus | 28.87 | kJ/mol | Joback Method |
| hvap | 56.69 | kJ/mol | Joback Method |
| log10ws | -3.07 | | Crippen Method |
| logp | 2.343 | | Crippen Method |
| mcvol | 149.030 | ml/mol | McGowan Method |
| pc | 2695.80 | kPa | Joback Method |
| tb | 529.38 | K | Joback Method |
| tc | 705.61 | K | Joback Method |
| tf | 369.38 | K | Joback Method |
| vc | 0.577 | m3/kmol | Joback Method |

## Temperature Dependent Properties

| Property code | Value | Unit | Temperature [K] | Source |
|---|---|---|---|---|
| cpg | 346.13 | J/mol×K | 529.38 | Joback Method |
| cpg | 358.61 | J/mol×K | 558.75 | Joback Method |
| cpg | 370.58 | J/mol×K | 588.12 | Joback Method |
| cpg | 382.05 | J/mol×K | 617.50 | Joback Method |
| cpg | 393.04 | J/mol×K | 646.87 | Joback Method |
| cpg | 403.56 | J/mol×K | 676.24 | Joback Method |
| cpg | 413.63 | J/mol×K | 705.61 | Joback Method |

# Pressure Dependent Properties

| Property code | Value | Unit | Pressure [kPa] | Source |
|---|---|---|---|---|
| tbrp | 403.50 ± 0.50 | K | 2.90 | NIST Webbook |

# Correlations

| Information | Value |
|---|---|
| Property code | pvap |
| Equation | ln(Pvp) = A + B/(T + C) |
| Coeff. A | 1.63622e+01 |
| Coeff. B | -5.10696e+03 |
| Coeff. C | -8.59310e+01 |
| Temperature range (K), min. | 403.15 |
| Temperature range (K), max. | 548.15 |

# Sources

**McGowan Method:** http://link.springer.com/article/10.1007/BF02311772

**NIST Webbook:** http://webbook.nist.gov/cgi/cbook.cgi?ID=C51721392&Units=SI

**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

# 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 |
| **pvap:** | Vapor pressure |
| **tb:** | Normal Boiling Point Temperature |
| **tbrp:** | Boiling point at reduced pressure |
| **tc:** | Critical Temperature |
| **tf:** | Normal melting (fusion) point |
| **vc:** | Critical Volume |