# DECANE, 1,2-DIBROMO-

**Other names:** 1,2-Dibromodecane
**Inchi:** InChI=1S/C10H20Br2/c1-2-3-4-5-6-7-8-10(12)9-11/h10H,2-9H2,1H3
**InchiKey:** XBRBOTTWTQOCJH-UHFFFAOYSA-N
**Formula:** C10H20Br2
**SMILES:** CCCCCCCCC(Br)CBr
**Mol. weight [g/mol]:** 300.08
**CAS:** 28467-71-2

## Physical Properties

| Property code | Value | Unit | Source |
|---|---|---|---|
| af | 0.6574 | | Cheméo Relay (1.0) |
| gf | 59.52 | kJ/mol | Joback Method |
| hf | -225.92 | kJ/mol | Cheméo Relay (1.0) |
| hfus | 28.70 | kJ/mol | Joback Method |
| hvap | 68.44 | kJ/mol | Cheméo Relay (1.0) |
| ie | 9.93 | eV | Cheméo Relay (1.0) |
| log10ws | -5.93 | | Cheméo Relay (1.0) |
| logp | 4.895 | | Crippen Method |
| mcvol | 186.760 | ml/mol | McGowan Method |
| pc | 2421.88 | kPa | Joback Method |
| tb | 530.92 | K | Cheméo Relay (1.0) |
| tc | 733.18 | K | Cheméo Relay (1.0) |
| tf | 266.04 | K | Cheméo Relay (1.0) |
| vc | 0.684 | m3/kmol | Cheméo Relay (1.0) |

## Temperature Dependent Properties

| Property code | Value | Unit | Temperature [K] | Source |
|---|---|---|---|---|
| cpg | 410.66 | J/mol×K | 560.08 | Joback Method |
| cpg | 486.62 | J/mol×K | 755.21 | Joback Method |
| cpg | 475.59 | J/mol×K | 722.69 | Joback Method |
| cpg | 463.96 | J/mol×K | 690.17 | Joback Method |
| cpg | 451.69 | J/mol×K | 657.65 | Joback Method |
| cpg | 438.74 | J/mol×K | 625.12 | Joback Method |

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|---|---|---|---|---|
| cpg | 425.07 | J/mol×K | 592.60 | Joback Method |
| dvisc | 0.0006056 | Pa×s | 433.57 | Joback Method |
| dvisc | 0.0002299 | Pa×s | 560.08 | Joback Method |
| dvisc | 0.0003012 | Pa×s | 517.91 | Joback Method |
| dvisc | 0.0004141 | Pa×s | 475.74 | Joback Method |
| dvisc | 0.0035444 | Pa×s | 307.06 | Joback Method |
| dvisc | 0.0009613 | Pa×s | 391.40 | Joback Method |
| dvisc | 0.0017060 | Pa×s | 349.23 | Joback Method |
| hvapt | 67.00 | kJ/mol | 446.00 | NIST Webbook |

# Correlations

| Information | Value |
|---|---|
| Property code | pvap |
| Equation | ln(Pvp) = A + B/(T + C) |
| Coeff. A | 1.54516e+01 |
| Coeff. B | -4.73524e+03 |
| Coeff. C | -8.67640e+01 |
| Temperature range (K), min. | 399.03 |
| Temperature range (K), max. | 553.74 |

# Sources

**NIST Webbook:** http://webbook.nist.gov/cgi/cbook.cgi?ID=C28467712&Units=SI

**Joback Method:** https://en.wikipedia.org/wiki/Joback_method

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

**Crippen Method:** http://pubs.acs.org/doi/abs/10.1021/ci990307l

**Crippen Method:** https://www.chemeo.com/doc/models/crippen_log10ws

**Cheméo Relay (1.0):**

**Cheméo Relay (1.0, beta):**

**The Yaws Handbook of Vapor Pressure:** https://www.sciencedirect.com/book/9780128029992/the-yaws-handbook-of-vapor-pressure

# Legend

**af:** Acentric Factor

**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 |
| **hvapt:** | Enthalpy of vaporization at a given temperature |
| **ie:** | Ionization energy |
| **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 |
| **tc:** | Critical Temperature |
| **tf:** | Normal melting (fusion) point |
| **vc:** | Critical Volume |