# Cyclopentane, 1-bromo-2-fluoro-, trans-

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|---|---|
| **Other names:** | trans-1-Bromo-2-Fluorocyclopentane |
| | trans-2-Fluorocyclopentyl Bromide |
| | 1-Bromo-2-fluorocyclopentane, (E)- |
| **Inchi:** | InChI=1S/C5H8BrF/c6-4-2-1-3-5(4)7/h4-5H,1-3H2/t4-,5-/m0/s1 |
| **InchiKey:** | GITCXTAKUHIPRH-WHFBIAKZSA-N |
| **Formula:** | C5H8BrF |
| **SMILES:** | FC1CCCC1Br |
| **Mol. weight [g/mol]:** | 167.02 |
| **CAS:** | 51422-73-2 |

## Physical Properties

| Property code | Value | Unit | Source |
|---|---|---|---|
| gf | -160.43 | kJ/mol | Joback Method |
| hf | -276.17 | kJ/mol | Joback Method |
| hfus | 12.08 | kJ/mol | Joback Method |
| hvap | 32.29 | kJ/mol | Joback Method |
| ie | 10.25 ± 0.02 | eV | NIST Webbook |
| log10ws | -2.32 | | Crippen Method |
| logp | 2.272 | | Crippen Method |
| mcvol | 89.720 | ml/mol | McGowan Method |
| pc | 4288.66 | kPa | Joback Method |
| tb | 389.84 | K | Joback Method |
| tc | 596.24 | K | Joback Method |
| tf | 213.16 | K | Joback Method |
| vc | 0.336 | m3/kmol | Joback Method |

## Temperature Dependent Properties

| Property code | Value | Unit | Temperature [K] | Source |
|---|---|---|---|---|
| cpg | 149.12 | J/mol×K | 389.84 | Joback Method |
| cpg | 161.20 | J/mol×K | 424.24 | Joback Method |
| cpg | 172.61 | J/mol×K | 458.64 | Joback Method |
| cpg | 183.39 | J/mol×K | 493.04 | Joback Method |
| cpg | 193.54 | J/mol×K | 527.44 | Joback Method |

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|---|---|---|---|---|
| cpg | 203.11 | J/mol×K | 561.84 | Joback Method |
| cpg | 212.10 | J/mol×K | 596.24 | Joback Method |

# Sources

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|---|---|
| **NIST Webbook:** | http://webbook.nist.gov/cgi/cbook.cgi?ID=C51422732&Units=SI |
| **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 |

# Legend

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