Bicyclo[3.3.2]decane

Inchi: InChI=1S/C10H18/c1-3-9-5-2-6-10(4-1)8-7-9/h9-10H,1-8H2
InchiKey: WMRPOCDOMSNXCQ-UHFFFAOYSA-N
Formula: C10H18
SMILES: C1CC2CCCC(C1)CC2
Mol. weight [g/mol]: 138.25
CAS: 283-50-1

Physical Properties

Property code	Value	Unit	Source
chs	-6343.40 ± 7.10	kJ/mol	NIST Webbook
gf	106.42	kJ/mol	Joback Method
hf	-106.00 ± 7.50	kJ/mol	NIST Webbook
hfs	-164.00 ± 7.10	kJ/mol	NIST Webbook
hfus	9.53	kJ/mol	Joback Method
hsub	58.00	kJ/mol	NIST Webbook
hsub	58.00 ± 2.00	kJ/mol	NIST Webbook
hvap	38.37	kJ/mol	Joback Method
log10ws	-3.31		Crippen Method
logp	3.367		Crippen Method
mcvol	130.040	ml/mol	McGowan Method
pc	3025.61	kPa	Joback Method
tb	458.76	K	Joback Method
tc	680.81	K	Joback Method
tf	224.26	K	Joback Method
vc	0.477	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	401.24	J/mol×K	680.81	Joback Method
cpg	385.09	J/mol×K	643.80	Joback Method
cpg	367.80	J/mol×K	606.79	Joback Method
cpg	349.32	J/mol×K	569.78	Joback Method
cpg	329.59	J/mol×K	532.78	Joback Method

cpg	308.56	J/mol×K	495.77	Joback Method
cpg	286.16	J/mol×K	458.76	Joback Method
dvisc	0.0046703	Pa×s	224.26	Joback Method
dvisc	0.0004040	Pa×s	458.76	Joback Method
dvisc	0.0005024	Pa×s	419.68	Joback Method
dvisc	0.0006533	Pa×s	380.59	Joback Method
dvisc	0.0009023	Pa×s	341.51	Joback Method
dvisc	0.0013547	Pa×s	302.43	Joback Method
dvisc	0.0022946	Pa×s	263.34	Joback Method
hsubt	58.00 ± 2.00	kJ/mol	290.00	NIST Webbook

Sources

NIST Webbook: http://webbook.nist.gov/cgi/cbook.cgi?ID=C283501&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

chs: Standard solid enthalpy of combustion
cpg: Ideal gas heat capacity
dvisc: Dynamic viscosity
gf: Standard Gibbs free energy of formation
hf: Enthalpy of formation at standard conditions
hfs: Solid phase enthalpy of formation at standard conditions
hfus: Enthalpy of fusion at standard conditions
hsub: Enthalpy of sublimation at standard conditions
hsubt: Enthalpy of sublimation at a given temperature
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
tc: Critical Temperature
tf: Normal melting (fusion) point

vc: Critical Volume