Bicyclo[5.3.0]decane

Other names:	Decahydroazulene
	Perhydroazulene
Inchi:	InChI=1S/C10H18/c1-2-5-9-7-4-8-10(9)6-3-1/h9-10H,1-8H2
InchiKey:	ODJQFZXHKPCJMD-UHFFFAOYSA-N
Formula:	C10H18
SMILES:	C1CCC2CCCC2CC1
Mol. weight [g/mol]:	138.25
CAS:	5661-80-3

Physical Properties

Property code	Value	Unit	Source
chl	-6324.00 ± 3.00	kJ/mol	NIST Webbook
gf	106.42	kJ/mol	Joback Method
hf	-130.10 ± 3.80	kJ/mol	NIST Webbook
hfl	-183.90 ± 3.40	kJ/mol	NIST Webbook
hfus	9.53	kJ/mol	Joback Method
hvap	53.80	kJ/mol	NIST Webbook
hvap	53.60 ± 1.30	kJ/mol	NIST Webbook
log10ws	-3.31		Crippen Method
logp	3.367		Crippen Method
mcvol	130.040	ml/mol	McGowan Method
pc	3025.61	kPa	Joback Method
rinpol	1095.00		NIST Webbook
rinpol	1095.00		NIST Webbook
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	286.16	J/mol×K	458.76	Joback Method
cpg	308.56	J/mol×K	495.77	Joback Method

cpg	329.59	J/mol×K	532.78	Joback Method
cpg	349.32	J/mol×K	569.78	Joback Method
cpg	367.80	J/mol×K	606.79	Joback Method
cpg	385.09	J/mol×K	643.80	Joback Method
cpg	401.24	J/mol×K	680.81	Joback Method
dvisc	0.0046703	Pa×s	224.26	Joback Method
dvisc	0.0022946	Pa×s	263.34	Joback Method
dvisc	0.0013547	Pa×s	302.43	Joback Method
dvisc	0.0009023	Pa×s	341.51	Joback Method
dvisc	0.0006533	Pa×s	380.59	Joback Method
dvisc	0.0005024	Pa×s	419.68	Joback Method
dvisc	0.0004040	Pa×s	458.76	Joback Method

Sources

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
NIST Webbook: http://webbook.nist.gov/cgi/cbook.cgi?ID=C5661803&Units=SI

Legend

chl: Standard liquid 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
hfl: Liquid phase 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
rinpol: Non-polar retention indices
tb: Normal Boiling Point Temperature
tc: Critical Temperature

tf: Normal melting (fusion) point

vc: Critical Volume