Naphthalene, 1,1'-(1,2-ethanediyl)bis[decahydro-

Other names: 1,2-Di(decahydro-1-naphthyl)ethane
1,2-Di(1'-decahydronaphthyl)ethane
Naphthalene, 1,1'-(1,2-ethanediyl)bis*decahydro-
1,2-bis(decahydro-1-naphthyl)ethane
Inchi: InChI=1S/C22H38/c1-3-13-21-17(7-1)9-5-11-19(21)15-16-20-12-6-10-18-8-2-4-14-22(18)
InchiKey: HMDCHOYMNYXBBN-UHFFFAOYSA-N
Formula: C22H38
SMILES: C1CCC2C(C1)CCCC2CCC1CCCC2CCCCC21
Mol. weight [g/mol]: 302.54
CAS: 54934-69-9

Physical Properties

Property code	Value	Unit	Source
gf	265.14	kJ/mol	Joback Method
hf	-296.17	kJ/mol	Joback Method
hfus	30.62	kJ/mol	Joback Method
hvap	64.98	kJ/mol	Joback Method
log10ws	-7.16		Crippen Method
logp	6.980		Crippen Method
mcvol	277.400	ml/mol	McGowan Method
pc	1396.46	kPa	Joback Method
tb	754.54	K	Joback Method
tc	988.63	K	Joback Method
tf	372.82	K	Joback Method
vc	1.030	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	946.61	J/mol×K	754.54	Joback Method
cpg	976.56	J/mol×K	793.56	Joback Method
cpg	1004.27	J/mol×K	832.57	Joback Method
cpg	1029.88	J/mol×K	871.59	Joback Method
cpg	1053.50	J/mol×K	910.60	Joback Method

cpg	1075.27	J/mol×K	949.62	Joback Method
cpg	1095.30	J/mol×K	988.63	Joback Method
dvisc	0.0042988	Pa×s	372.82	Joback Method
dvisc	0.0023632	Pa×s	436.44	Joback Method
dvisc	0.0015128	Pa×s	500.06	Joback Method
dvisc	0.0010710	Pa×s	563.68	Joback Method
dvisc	0.0008133	Pa×s	627.30	Joback Method
dvisc	0.0006497	Pa×s	690.92	Joback Method
dvisc	0.0005390	Pa×s	754.54	Joback Method
hvapt	89.30	kJ/mol	473.50	NIST Webbook

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=C54934699&Units=SI

Legend

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
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

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