Naphthalene, 1,1'-(1,10-decanediyl)bis[decahydro-

Other names: 1,10-Di-(1'-decahydronaphthyl)decane
1,10-Di-(decahydro-1-naphthyl)decane
1,10-bis(decahydro-1-naphthyl)decane
Naphthalene, 1,1'-(1,10-decanediyl)bis*decahydro-

Inchi: InChI=1S/C30H54/c1(3-5-7-15-25-19-13-21-27-17-9-11-23-29(25)27)2-4-6-8-16-26-20-14

InchiKey: SHLQESUQERMUMR-UHFFFAOYSA-N

Formula: C30H54

SMILES: C(CCCCCC1CCCC2CCCCC12)CCCCC1CCCC2CCCCC12

Mol. weight [g/mol]: 414.75

CAS: 55268-64-9

Physical Properties

Property code	Value	Unit	Source
gf	332.50	kJ/mol	Joback Method
hf	-461.29	kJ/mol	Joback Method
hfus	51.34	kJ/mol	Joback Method
hvap	82.78	kJ/mol	Joback Method
log10ws	-10.51		Crippen Method
logp	10.100		Crippen Method
mcvol	390.120	ml/mol	McGowan Method
pc	843.09	kPa	Joback Method
tb	937.58	K	Joback Method
tc	1156.99	K	Joback Method
tf	462.98	K	Joback Method
vc	1.478	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	1601.86	J/mol×K	1156.99	Joback Method
cpg	1583.68	J/mol×K	1120.43	Joback Method
cpg	1564.14	J/mol×K	1083.86	Joback Method
cpg	1543.13	J/mol×K	1047.29	Joback Method
cpg	1520.51	J/mol×K	1010.72	Joback Method

cpg	1496.15	J/mol×K	974.15	Joback Method
cpg	1469.93	J/mol×K	937.58	Joback Method
dvisc	0.0027444	Pa×s	462.98	Joback Method
dvisc	0.0002260	Pa×s	937.58	Joback Method
dvisc	0.0002829	Pa×s	858.48	Joback Method
dvisc	0.0003706	Pa×s	779.38	Joback Method
dvisc	0.0005159	Pa×s	700.28	Joback Method
dvisc	0.0007815	Pa×s	621.18	Joback Method
dvisc	0.0013362	Pa×s	542.08	Joback Method
hvapt	119.70	kJ/mol	551.50	NIST Webbook

Correlations

Information	Value
Property code	pvap
Equation	ln(Pvp) = A + B/(T + C)
Coeff. A	2.01695e+01
Coeff. B	-1.13167e+04
Coeff. C	-1.40010e+01
Temperature range (K), min.	583.19
Temperature range (K), max.	775.65

Sources

The Yaws Handbook of Vapor Pressure: https://www.sciencedirect.com/book/9780128029992/the-yaws-handbook-of-vapor-pressure
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=C55268649&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
pvap:	Vapor pressure
tb:	Normal Boiling Point Temperature
tc:	Critical Temperature
tf:	Normal melting (fusion) point
vc:	Critical Volume