Naphthalene, decahydro-1,4-dimethyl-5-octyl-

Other names: 1,4-Dimethyl-5-n-octyldecahydronaphthalene
2,5-Dimethyl-7-n-octylbicyclo(4.4.0)decane
1,4-Dimethyl-5-octyldecahydronaphthalene
Inchi: InChI=1S/C20H38/c1-4-5-6-7-8-9-11-18-12-10-13-19-16(2)14-15-17(3)20(18)19/h16-20H
InchiKey: MOLLEMOFURMEID-UHFFFAOYSA-N
Formula: C20H38
SMILES: CCCCCCCCC1CCCC2C(C)CCC(C)C12
Mol. weight [g/mol]: 278.52
CAS: 54964-83-9

Physical Properties

Property code	Value	Unit	Source
gf	167.49	kJ/mol	Joback Method
hf	-396.19	kJ/mol	Joback Method
hfus	38.64	kJ/mol	Joback Method
hvap	59.70	kJ/mol	Joback Method
log10ws	-6.78		Crippen Method
logp	6.835		Crippen Method
mcvol	270.940	ml/mol	McGowan Method
pc	1208.15	kPa	Joback Method
tb	673.55	K	Joback Method
tc	865.70	K	Joback Method
tf	324.24	K	Joback Method
vc	1.034	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	832.37	J/mol×K	673.55	Joback Method
cpg	949.03	J/mol×K	833.68	Joback Method
cpg	928.33	J/mol×K	801.65	Joback Method
cpg	906.36	J/mol×K	769.63	Joback Method
cpg	883.07	J/mol×K	737.60	Joback Method
cpg	858.42	J/mol×K	705.58	Joback Method

cpg	968.49	J/mol×K	865.70	Joback Method
dvisc	0.0003462	Pa×s	673.55	Joback Method
dvisc	0.0004140	Pa×s	615.33	Joback Method
dvisc	0.0005138	Pa×s	557.11	Joback Method
dvisc	0.0006707	Pa×s	498.89	Joback Method
dvisc	0.0009395	Pa×s	440.68	Joback Method
dvisc	0.0014580	Pa×s	382.46	Joback Method
dvisc	0.0026496	Pa×s	324.24	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=C54964839&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
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