Naphthalene, decahydro-2,6-dimethyl-3-octyl-

Other names:	2,6-Dimethyl-3-n-octyldecahydronaphthalene
	3,8-Dimethyl-4-n-octylbicyclo(4.4.0)decane
	Decahydro-2,6-dimethyl-3-octylnaphthalene
	2,6-Dimethyl-3-octyldecahydronaphthalene
Inchi:	InChI=1S/C20H38/c1-4-5-6-7-8-9-10-18-15-20-13-16(2)11-12-19(20)14-17(18)3/h16-20H
InchiKey:	WYHUFBHZXGAZJH-UHFFFAOYSA-N
Formula:	C20H38
SMILES:	CCCCCCCCC1CC2CC(C)CCC2CC1C
Mol. weight [g/mol]:	278.52
CAS:	54964-85-1

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	968.49	J/mol×K	865.70	Joback Method
cpg	832.37	J/mol×K	673.55	Joback Method
cpg	858.42	J/mol×K	705.58	Joback Method
cpg	883.07	J/mol×K	737.60	Joback Method
cpg	906.36	J/mol×K	769.63	Joback Method

cpg	928.33	J/mol×K	801.65	Joback Method
cpg	949.03	J/mol×K	833.68	Joback Method
dvisc	0.0003462	Pa×s	673.55	Joback Method
dvisc	0.0026496	Pa×s	324.24	Joback Method
dvisc	0.0014580	Pa×s	382.46	Joback Method
dvisc	0.0009395	Pa×s	440.68	Joback Method
dvisc	0.0006707	Pa×s	498.89	Joback Method
dvisc	0.0005138	Pa×s	557.11	Joback Method
dvisc	0.0004140	Pa×s	615.33	Joback Method
hvapt	76.40	kJ/mol	437.50	NIST Webbook

Sources

McGowan Method: http://link.springer.com/article/10.1007/BF02311772
NIST Webbook: http://webbook.nist.gov/cgi/cbook.cgi?ID=C54964851&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

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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