Naphthalene, 1-(1-decylundecyl)decahydro-

Other names: 11-(1'-Decahydronaphthyl)-heneicosane
1-(1-Decylundecyl)decahydronaphthalene
Inchi: InChI=1S/C31H60/c1-3-5-7-9-11-13-15-17-22-28(23-18-16-14-12-10-8-6-4-2)31-27-21-25
InchiKey: LUUFSZIGZJTRPM-UHFFFAOYSA-N
Formula: C31H60
SMILES: CCCCCCCCCCC(CCCCCCCCCC)C1CCCC2CCCCC21
Mol. weight [g/mol]: 432.81
CAS: 55320-00-8

Physical Properties

Property code	Value	Unit	Source
gf	273.09	kJ/mol	Joback Method
hf	-587.83	kJ/mol	Joback Method
hfus	61.46	kJ/mol	Joback Method
hvap	84.42	kJ/mol	Joback Method
log10ws	-11.62		Crippen Method
logp	11.271		Crippen Method
mcvol	425.930	ml/mol	McGowan Method
pc	671.51	kPa	Joback Method
tb	934.13	K	Joback Method
tc	1143.75	K	Joback Method
tf	441.69	K	Joback Method
vc	1.647	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	1678.90	J/mol×K	1143.75	Joback Method
cpg	1659.93	J/mol×K	1108.81	Joback Method
cpg	1639.73	J/mol×K	1073.88	Joback Method
cpg	1618.17	J/mol×K	1038.94	Joback Method
cpg	1595.17	J/mol×K	1004.00	Joback Method
cpg	1570.62	J/mol×K	969.07	Joback Method
cpg	1544.40	J/mol×K	934.13	Joback Method

dvisc	0.0017211	Pa×s	441.69	Joback Method
dvisc	0.0000579	Pa×s	934.13	Joback Method
dvisc	0.0000777	Pa×s	852.06	Joback Method
dvisc	0.0001108	Pa×s	769.98	Joback Method
dvisc	0.0001721	Pa×s	687.91	Joback Method
dvisc	0.0003012	Pa×s	605.84	Joback Method
dvisc	0.0006281	Pa×s	523.76	Joback Method
hvapt	107.00	kJ/mol	541.50	NIST Webbook

Sources

NIST Webbook: http://webbook.nist.gov/cgi/cbook.cgi?ID=C55320008&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
McGowan Method: http://link.springer.com/article/10.1007/BF02311772

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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