Naphthalene, 1,2,3,4-tetrahydro-1,8-dimethyl-

Other names: 1,8-Dimethyl-[1,2,3,4-tetrahydronaphthalene]
1,8-Dimethyltetralin
Inchi: InChI=1S/C12H16/c1-9-5-3-7-11-8-4-6-10(2)12(9)11/h3,5,7,10H,4,6,8H2,1-2H3
InchiKey: KVNZVXVZQFTXNA-UHFFFAOYSA-N
Formula: C12H16
SMILES: Cc1cccc2c1C(C)CCC2
Mol. weight [g/mol]: 160.26
CAS: 25419-33-4

Physical Properties

Property code	Value	Unit	Source
gf	191.96	kJ/mol	Joback Method
hf	-10.78	kJ/mol	Joback Method
hfus	16.13	kJ/mol	Joback Method
hvap	45.99	kJ/mol	Joback Method
log10ws	-3.83		Crippen Method
logp	3.435		Crippen Method
mcvol	145.320	ml/mol	McGowan Method
pc	2729.71	kPa	Joback Method
rinpol	1318.00		NIST Webbook
tb	521.61	K	Joback Method
tc	747.23	K	Joback Method
tf	290.88	K	Joback Method
vc	0.548	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	333.07	J/mol×K	521.61	Joback Method
cpg	351.33	J/mol×K	559.21	Joback Method
cpg	368.45	J/mol×K	596.82	Joback Method
cpg	384.49	J/mol×K	634.42	Joback Method
cpg	399.49	J/mol×K	672.02	Joback Method
cpg	413.53	J/mol×K	709.63	Joback Method

cpg	426.65	J/mol×K	747.23	Joback Method
dvisc	0.0016585	Pa×s	290.88	Joback Method
dvisc	0.0010799	Pa×s	329.33	Joback Method
dvisc	0.0007692	Pa×s	367.79	Joback Method
dvisc	0.0005842	Pa×s	406.25	Joback Method
dvisc	0.0004653	Pa×s	444.70	Joback Method
dvisc	0.0003843	Pa×s	483.16	Joback Method
dvisc	0.0003265	Pa×s	521.61	Joback Method

Sources

McGowan Method: http://link.springer.com/article/10.1007/BF02311772
NIST Webbook: http://webbook.nist.gov/cgi/cbook.cgi?ID=C25419334&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
log10ws: Log10 of Water solubility in mol/l
logp: Octanol/Water partition coefficient
mcvol: McGowan's characteristic volume
pc: Critical Pressure
rinpol: Non-polar retention indices
tb: Normal Boiling Point Temperature
tc: Critical Temperature
tf: Normal melting (fusion) point
vc: Critical Volume

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