Naphthalene, 5-butyl-1,2,3,4-tetrahydro-

Other names: 5-Butyl-tetralin
Inchi: InChI=1S/C14H20/c1-2-3-7-12-9-6-10-13-8-4-5-11-14(12)13/h6,9-10H,2-5,7-8,11H2,1H3
InchiKey: HLZHYZXDXDQGEB-UHFFFAOYSA-N
Formula: C14H20
SMILES: CCCCc1cccc2c1CCCC2
Mol. weight [g/mol]: 188.31
CAS: 66325-42-6

Physical Properties

Property code	Value	Unit	Source
chl	-7782.00	kJ/mol	NIST Webbook
gf	216.51	kJ/mol	Joback Method
hf	-31.72	kJ/mol	Joback Method
hfus	20.24	kJ/mol	Joback Method
hvap	50.75	kJ/mol	Joback Method
log10ws	-4.61		Crippen Method
logp	3.908		Crippen Method
mcvol	173.500	ml/mol	McGowan Method
pc	2327.03	kPa	Joback Method
rinpol	1536.00		NIST Webbook
rinpol	1536.00		NIST Webbook
tb	553.06 ± 0.30	K	NIST Webbook
tc	789.82	K	Joback Method
tf	224.00 ± 2.00	K	NIST Webbook
vc	0.661	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	429.38	J/mol×K	572.04	Joback Method
cpg	448.35	J/mol×K	608.34	Joback Method
cpg	466.15	J/mol×K	644.63	Joback Method
cpg	482.84	J/mol×K	680.93	Joback Method
cpg	498.48	J/mol×K	717.22	Joback Method

cpg	513.14	J/mol×K	753.52	Joback Method
cpg	526.89	J/mol×K	789.82	Joback Method
dvisc	0.0022322	Pa×s	317.66	Joback Method
dvisc	0.0012779	Pa×s	360.06	Joback Method
dvisc	0.0008228	Pa×s	402.45	Joback Method
dvisc	0.0005761	Pa×s	444.85	Joback Method
dvisc	0.0004292	Pa×s	487.25	Joback Method
dvisc	0.0003352	Pa×s	529.64	Joback Method
dvisc	0.0002716	Pa×s	572.04	Joback Method

Sources

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=C66325426&Units=SI
Crippen Method: http://pubs.acs.org/doi/abs/10.1021/ci990307l

Legend

chl: Standard liquid enthalpy of combustion
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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