

Naphthalene, decahydro-1-methyl-(1 «alpha», 4a «beta»)

Inchi:	InChI=1S/C11H20/c1-9-5-4-7-10-6-2-3-8-11(9)10/h9-11H,2-8H2,1H3/t9-,10+,11+/m1/s1
InchiKey:	NHCREQREVZBOCH-VWYCJHECSA-N
Formula:	C11H20
SMILES:	CC1CCCC2CCCCC12
Mol. weight [g/mol]:	152.28
CAS:	14398-67-5

Physical Properties

Property code	Value	Unit	Source
gf	107.13	kJ/mol	Joback Method
hf	-169.75	kJ/mol	Joback Method
hfus	13.19	kJ/mol	Joback Method
hvap	40.29	kJ/mol	Joback Method
ie	9.26 ± 0.01	eV	NIST Webbook
log10ws	-3.49		Crippen Method
logp	3.613		Crippen Method
mcvol	144.130	ml/mol	McGowan Method
pc	2637.96	kPa	Joback Method
tb	476.97	K	Joback Method
tc	695.39	K	Joback Method
tf	231.29	K	Joback Method
vc	0.532	m ³ /kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	333.53	J/mol×K	476.97	Joback Method
cpg	437.80	J/mol×K	658.98	Joback Method
cpg	419.46	J/mol×K	622.58	Joback Method
cpg	399.91	J/mol×K	586.18	Joback Method
cpg	379.11	J/mol×K	549.78	Joback Method
cpg	356.99	J/mol×K	513.37	Joback Method
cpg	454.99	J/mol×K	695.39	Joback Method
dvisc	0.0004102	Paxs	476.97	Joback Method

dvisc	0.0004917	Paxs	436.02	Joback Method
dvisc	0.0006120	Paxs	395.08	Joback Method
dvisc	0.0008011	Paxs	354.13	Joback Method
dvisc	0.0011253	Paxs	313.18	Joback Method
dvisc	0.0017507	Paxs	272.24	Joback Method
dvisc	0.0031852	Paxs	231.29	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=C14398675&Units=SI
Crippen Method:	http://pubs.acs.org/doi/abs/10.1021/ci9903071

Legend

cp_g:	Ideal gas heat capacity
dvisc:	Dynamic viscosity
g_f:	Standard Gibbs free energy of formation
h_f:	Enthalpy of formation at standard conditions
h_{fus}:	Enthalpy of fusion at standard conditions
h_{vap}:	Enthalpy of vaporization at standard conditions
ie:	Ionization energy
log₁₀ws:	Log ₁₀ of Water solubility in mol/l
log_p:	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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