

Naphthalene, 1,2,3,4-tetrahydro-5,8-dimethyl-

Other names:	1,2,3,4-tetrahydro-5,8-dimethylnaphthalene 5,8-Dimethyltetralin
Inchi:	InChI=1S/C12H16/c1-9-7-8-10(2)12-6-4-3-5-11(9)12/h7-8H,3-6H2,1-2H3
InchiKey:	ZNUCGPFMUNDULY-UHFFFAOYSA-N
Formula:	C12H16
SMILES:	Cc1ccc(C)c2c1CCCC2
Mol. weight [g/mol]:	160.26
CAS:	14108-88-4

Physical Properties

Property code	Value	Unit	Source
gf	190.04	kJ/mol	Joback Method
hf	-1.91	kJ/mol	Joback Method
hfus	14.67	kJ/mol	Joback Method
hvap	46.96	kJ/mol	Joback Method
log10ws	-3.92		Crippen Method
logp	3.182		Crippen Method
mcvol	145.320	ml/mol	McGowan Method
pc	2781.78	kPa	Joback Method
rinpol	1403.00		NIST Webbook
rinpol	1413.00		NIST Webbook
tb	531.26	K	Joback Method
tc	758.15	K	Joback Method
tf	307.64	K	Joback Method
vc	0.549	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	332.48	J/mol×K	531.26	Joback Method
cpg	349.89	J/mol×K	569.08	Joback Method
cpg	366.21	J/mol×K	606.89	Joback Method
cpg	381.50	J/mol×K	644.71	Joback Method
cpg	395.82	J/mol×K	682.52	Joback Method

cpg	409.22	J/mol×K	720.34	Joback Method
cpg	421.77	J/mol×K	758.15	Joback Method
dvisc	0.0016640	Pa×s	307.64	Joback Method
dvisc	0.0010670	Pa×s	344.91	Joback Method
dvisc	0.0007461	Pa×s	382.18	Joback Method
dvisc	0.0005560	Pa×s	419.45	Joback Method
dvisc	0.0004346	Pa×s	456.72	Joback Method
dvisc	0.0003527	Pa×s	493.99	Joback Method
dvisc	0.0002947	Pa×s	531.26	Joback Method

Correlations

Information	Value
Property code	pvap
Equation	$\ln(P_{vp}) = A + B/(T + C)$
Coeff. A	1.46764e+01
Coeff. B	-4.34143e+03
Coeff. C	-8.76980e+01
Temperature range (K), min.	389.42
Temperature range (K), max.	551.28

Sources

NIST Webbook:	http://webbook.nist.gov/cgi/cbook.cgi?ID=C14108884&Units=SI
The Yaws Handbook of Vapor Pressure:	https://www.sciencedirect.com/book/9780128029992/the-yaws-handbook-of-vapor-pressure
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
log10ws:	Log10 of Water solubility in mol/l
logp:	Octanol/Water partition coefficient
mcvol:	McGowan's characteristic volume
pc:	Critical Pressure
pvap:	Vapor 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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