1,4-Dihydronaphthalene

Other names: Naphthalene, 1,4-dihydro-
Inchi: InChI=1S/C10H10/c1-2-6-10-8-4-3-7-9(10)5-1/h1-6H,7-8H2
InchiKey: FUPIVZHYVSCYLX-UHFFFAOYSA-N
Formula: C10H10
SMILES: C1=CCc2ccccc2C1
Mol. weight [g/mol]: 130.19
CAS: 612-17-9

Physical Properties

Property code	Value	Unit	Source
gf	222.42	kJ/mol	Joback Method
hf	120.09	kJ/mol	Joback Method
hfus	11.49	kJ/mol	Joback Method
hsub	63.60 ± 1.60	kJ/mol	NIST Webbook
hvap	54.20 ± 0.40	kJ/mol	NIST Webbook
log10ws	-2.83		Crippen Method
logp	2.341		Crippen Method
mcvol	112.840	ml/mol	McGowan Method
pc	3727.11	kPa	Joback Method
rinpol	193.80		NIST Webbook
rinpol	193.80		NIST Webbook
rinpol	197.01		NIST Webbook
rinpol	196.19		NIST Webbook
rinpol	1167.00		NIST Webbook
rinpol	195.50		NIST Webbook
rinpol	196.19		NIST Webbook
tb	481.90 ± 2.00	K	NIST Webbook
tb	485.00 ± 4.00	K	NIST Webbook
tb	485.00 ± 4.00	K	NIST Webbook
tc	709.77	K	Joback Method
tf	301.20 ± 4.00	K	NIST Webbook
tf	298.00 ± 2.00	K	NIST Webbook
tf	300.00 ± 2.00	K	NIST Webbook
tf	298.70 ± 2.00	K	NIST Webbook
tf	288.70 ± 10.00	K	NIST Webbook
tf	297.90 ± 3.00	K	NIST Webbook
tf	298.20 ± 4.00	K	NIST Webbook

tf	297.65 ± 0.60	K	NIST Webbook
vc	0.423	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	300.86	J/mol×K	709.77	Joback Method
cpg	225.37	J/mol×K	474.70	Joback Method
cpg	240.59	J/mol×K	513.88	Joback Method
cpg	254.65	J/mol×K	553.06	Joback Method
cpg	267.64	J/mol×K	592.23	Joback Method
cpg	279.62	J/mol×K	631.41	Joback Method
cpg	290.67	J/mol×K	670.59	Joback Method
dvisc	0.0003242	Pa×s	474.70	Joback Method
dvisc	0.0021076	Pa×s	260.82	Joback Method
dvisc	0.0012789	Pa×s	296.47	Joback Method
dvisc	0.0008639	Pa×s	332.11	Joback Method
dvisc	0.0006296	Pa×s	367.76	Joback Method
dvisc	0.0004853	Pa×s	403.41	Joback Method
dvisc	0.0003902	Pa×s	439.05	Joback Method
hfust	9.35	kJ/mol	298.10	NIST Webbook
hvapt	53.20 ± 0.40	kJ/mol	316.50	NIST Webbook

Sources

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=C612179&Units=SI
Crippen Method: http://pubs.acs.org/doi/abs/10.1021/ci990307l
Crippen Method: https://www.chemeo.com/doc/models/crippen_log10ws

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
hfust:	Enthalpy of fusion at a given temperature
hsub:	Enthalpy of sublimation 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
rinpol:	Non-polar retention indices
tb:	Normal Boiling Point Temperature
tc:	Critical Temperature
tf:	Normal melting (fusion) point
vc:	Critical Volume