Undecane, 1-(1-naphthyl)-

Other names:	1-(n-Undecyl)naphthalene
	1-Undecylnaphthalene
	1-«alpha»-Naphthylhendecane
	1-Â«alphaÂ»-Naphthylhendecane
	Naphthalene, undecyl-
Inchi:	InChI=1S/C21H30/c1-2-3-4-5-6-7-8-9-10-14-19-16-13-17-20-15-11-12-18-21(19)20/h11-1
InchiKey:	DDAIBSKPPVQJSU-UHFFFAOYSA-N
Formula:	C21H30
SMILES:	CCCCCCCCCCCc1cccc2ccccc12
Mol. weight [g/mol]:	282.46
CAS:	7225-71-0

Physical Properties

Property code	Value	Unit	Source
gf	335.37	kJ/mol	Joback Method
hf	-60.64	kJ/mol	Joback Method
hfus	40.82	kJ/mol	Joback Method
hvap	66.92	kJ/mol	Joback Method
log10ws	-7.85		Crippen Method
logp	6.913		Crippen Method
mcvol	263.530	ml/mol	McGowan Method
pc	1399.59	kPa	Joback Method
tb	730.52	K	Joback Method
tc	930.92	K	Joback Method
tf	398.07	K	Joback Method
vc	1.026	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	763.24	J/mol×K	730.52	Joback Method
cpg	782.31	J/mol×K	763.92	Joback Method
cpg	800.30	J/mol×K	797.32	Joback Method
cpg	817.28	J/mol×K	830.72	Joback Method

cpg	833.32	J/mol×K	864.12	Joback Method
cpg	848.50	J/mol×K	897.52	Joback Method
cpg	862.87	J/mol×K	930.92	Joback Method
dvisc	0.0015178	Pa×s	398.07	Joback Method
dvisc	0.0008285	Pa×s	453.48	Joback Method
dvisc	0.0005159	Pa×s	508.89	Joback Method
dvisc	0.0003526	Pa×s	564.29	Joback Method
dvisc	0.0002580	Pa×s	619.70	Joback Method
dvisc	0.0001987	Pa×s	675.11	Joback Method
dvisc	0.0001592	Pa×s	730.52	Joback Method
hvapt	84.30	kJ/mol	469.00	NIST Webbook

Correlations

Information	Value
Property code	pvap
Equation	ln(Pvp) = A + B/(T + C)
Coeff. A	1.40738e+01
Coeff. B	-5.12897e+03
Coeff. C	-1.25784e+02
Temperature range (K), min.	497.82
Temperature range (K), max.	711.13

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=C7225710&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

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
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
pvap:	Vapor pressure
tb:	Normal Boiling Point Temperature
tc:	Critical Temperature
tf:	Normal melting (fusion) point
vc:	Critical Volume