Naphthalene, 2-ethyldecahydro-

Other names: «beta»-Ethyldecalin
2-Ethyldecalin, isomer 4
2-Ethyldecalin, isomer 2
2-Ethyldecalin, isomer 3
2-Ethyldecalin, isomer 1
Inchi: InChI=1S/C12H22/c1-2-10-7-8-11-5-3-4-6-12(11)9-10/h10-12H,2-9H2,1H3
InchiKey: HLQZZLGOHWUHQM-UHFFFAOYSA-N
Formula: C12H22
SMILES: CCC1CCC2CCCCC2C1
Mol. weight [g/mol]: 166.30
CAS: 1618-23-1

Physical Properties

Property code	Value	Unit	Source
chl	-7495.00	kJ/mol	NIST Webbook
gf	115.55	kJ/mol	Joback Method
hf	-190.39	kJ/mol	Joback Method
hfus	15.78	kJ/mol	Joback Method
hvap	42.51	kJ/mol	Joback Method
log10ws	-3.91		Crippen Method
logp	4.003		Crippen Method
mcvol	158.220	ml/mol	McGowan Method
pc	2395.87	kPa	Joback Method
rinpol	1258.00		NIST Webbook
rinpol	1239.00		NIST Webbook
rinpol	1252.00		NIST Webbook
rinpol	1290.00		NIST Webbook
rinpol	1275.00		NIST Webbook
rinpol	1284.00		NIST Webbook
rinpol	1278.00		NIST Webbook
rinpol	1288.00		NIST Webbook
rinpol	1247.00		NIST Webbook
rinpol	1259.00		NIST Webbook
tb	494.00 ± 4.00	K	NIST Webbook
tb	495.00 ± 4.00	K	NIST Webbook
tc	714.86	K	Joback Method
tf	242.56	K	Joback Method

vc	0.589	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	507.27	J/mol×K	714.86	Joback Method
cpg	382.91	J/mol×K	499.85	Joback Method
cpg	489.65	J/mol×K	679.03	Joback Method
cpg	470.85	J/mol×K	643.19	Joback Method
cpg	450.82	J/mol×K	607.36	Joback Method
cpg	429.53	J/mol×K	571.52	Joback Method
cpg	406.90	J/mol×K	535.69	Joback Method
cpl	290.40	J/mol×K	311.00	NIST Webbook
cpl	292.50	J/mol×K	313.00	NIST Webbook
dvisc	0.0004910	Pa×s	456.97	Joback Method
dvisc	0.0006179	Pa×s	414.09	Joback Method
dvisc	0.0008200	Pa×s	371.20	Joback Method
dvisc	0.0011717	Pa×s	328.32	Joback Method
dvisc	0.0018638	Pa×s	285.44	Joback Method
dvisc	0.0034936	Pa×s	242.56	Joback Method
dvisc	0.0004058	Pa×s	499.85	Joback Method

Sources

NIST Webbook: http://webbook.nist.gov/cgi/cbook.cgi?ID=C1618231&Units=SI
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

chl: Standard liquid enthalpy of combustion
cpg: Ideal gas heat capacity
cpl: Liquid phase 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