1-Methyldecahydronaphthalene

Other names:	1-Methyldecalin
	«alpha»-Methyldecalin
	1-Methyldecalin, isomer 3
	1-Methyldecalin, isomer 2
	1-Methyldecalin, isomer 1
	1-Methyldecalin, isomer 4
Inchi:	InChI=1S/C11H20/c1-9-5-4-7-10-6-2-3-8-11(9)10/h9-11H,2-8H2,1H3
InchiKey:	NHCREQREVZBOCH-UHFFFAOYSA-N
Formula:	C11H20
SMILES:	CC1CCCC2CCCCC12
Mol. weight [g/mol]:	152.28
CAS:	2958-75-0

Physical Properties

Property code	Value	Unit	Source
chl	-6850.66	kJ/mol	NIST Webbook
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
log10ws	-3.49		Crippen Method
logp	3.613		Crippen Method
mcvol	144.130	ml/mol	McGowan Method
pc	2637.96	kPa	Joback Method
rinpol	1176.00		NIST Webbook
rinpol	1147.00		NIST Webbook
rinpol	1159.00		NIST Webbook
rinpol	1163.00		NIST Webbook
rinpol	1134.00		NIST Webbook
rinpol	1190.00		NIST Webbook
rinpol	1168.00		NIST Webbook
rinpol	1182.00		NIST Webbook
rinpol	1196.00		NIST Webbook
rinpol	1174.00		NIST Webbook
rinpol	1188.00		NIST Webbook
rinpol	1178.00		NIST Webbook
rinpol	1159.00		NIST Webbook

rinpol	1159.00		NIST Webbook
tb	478.00 ± 4.00	K	NIST Webbook
tc	695.39	K	Joback Method
tf	231.29	K	Joback Method
vc	0.532	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	454.99	J/mol×K	695.39	Joback Method
cpg	356.99	J/mol×K	513.37	Joback Method
cpg	379.11	J/mol×K	549.78	Joback Method
cpg	399.91	J/mol×K	586.18	Joback Method
cpg	419.46	J/mol×K	622.58	Joback Method
cpg	437.80	J/mol×K	658.98	Joback Method
cpg	333.53	J/mol×K	476.97	Joback Method
cpl	253.10	J/mol×K	311.00	NIST Webbook
cpl	266.50	J/mol×K	313.00	NIST Webbook
cpl	258.60	J/mol×K	313.00	NIST Webbook
cpl	269.00	J/mol×K	311.00	NIST Webbook
dvisc	0.0031852	Pa×s	231.29	Joback Method
dvisc	0.0017507	Pa×s	272.24	Joback Method
dvisc	0.0011253	Pa×s	313.18	Joback Method
dvisc	0.0008011	Pa×s	354.13	Joback Method
dvisc	0.0006120	Pa×s	395.08	Joback Method
dvisc	0.0004917	Pa×s	436.02	Joback Method
dvisc	0.0004102	Pa×s	476.97	Joback Method

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=C2958750&Units=SI

Crippen Method: http://pubs.acs.org/doi/abs/10.1021/ci990307l

Crippen Method: https://www.chemeo.com/doc/models/crippen_log10ws

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