Decane, 1,1-diethoxy-

Other names:	Decanal diethyl acetal
	1,1-Bis(ethyloxy)decane
	n-Decanal diethyl acetal
	1,1-diethoxydecane
Inchi:	InChI=1S/C14H30O2/c1-4-7-8-9-10-11-12-13-14(15-5-2)16-6-3/h14H,4-13H2,1-3H3
InchiKey:	GDDPLWAEEWIQKZ-UHFFFAOYSA-N
Formula:	C14H30O2
SMILES:	CCCCCCCCCC(OCC)OCC
Mol. weight [g/mol]:	230.39
CAS:	34764-02-8

Physical Properties

Property code	Value	Unit	Source
gf	-145.44	kJ/mol	Joback Method
hf	-602.01	kJ/mol	Joback Method
hfus	30.87	kJ/mol	Joback Method
hvap	51.19	kJ/mol	Joback Method
log10ws	-4.46		Crippen Method
logp	4.526		Crippen Method
mcvol	219.860	ml/mol	McGowan Method
pc	1493.04	kPa	Joback Method
rinpol	1473.00		NIST Webbook
ripol	1613.00		NIST Webbook
ripol	1622.00		NIST Webbook
ripol	1622.00		NIST Webbook
tb	564.12	K	Joback Method
tc	726.65	K	Joback Method
tf	277.00	K	Joback Method
vc	0.850	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	566.93	J/mol×K	564.12	Joback Method

cpg	584.79	J/mol×K	591.21	Joback Method
cpg	602.00	J/mol×K	618.30	Joback Method
cpg	618.57	J/mol×K	645.39	Joback Method
cpg	634.51	J/mol×K	672.48	Joback Method
cpg	649.82	J/mol×K	699.57	Joback Method
cpg	664.51	J/mol×K	726.65	Joback Method
dvisc	0.0037110	Pa×s	277.00	Joback Method
dvisc	0.0013434	Pa×s	324.85	Joback Method
dvisc	0.0006313	Pa×s	372.71	Joback Method
dvisc	0.0003523	Pa×s	420.56	Joback Method
dvisc	0.0002215	Pa×s	468.41	Joback Method
dvisc	0.0001518	Pa×s	516.27	Joback Method
dvisc	0.0001109	Pa×s	564.12	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=C34764028&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
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
ripol: Polar retention indices
tb: Normal Boiling Point Temperature
tc: Critical Temperature

tf: Normal melting (fusion) point

vc: Critical Volume