9-Octadecene, 1,1-dimethoxy-, (Z)-

Other names: Olealdehyde, dimethyl acetal
Inchi: InChI=1S/C20H40O2/c1-4-5-6-7-8-9-10-11-12-13-14-15-16-17-18-19-20(21-2)22-3/h11-1
InchiKey: WBNMCUYSZJIEFY-QXMHVHEDSA-N
Formula: C20H40O2
SMILES: CCCCCCCCC=CCCCCCCCC(OC)OC
Mol. weight [g/mol]: 312.53
CAS: 15677-71-1

Physical Properties

Property code	Value	Unit	Source
gf	-14.70	kJ/mol	Joback Method
hf	-608.63	kJ/mol	Joback Method
hfus	46.61	kJ/mol	Joback Method
hvap	64.50	kJ/mol	Joback Method
log10ws	-6.83		Crippen Method
logp	6.643		Crippen Method
mcvol	300.100	ml/mol	McGowan Method
pc	1032.57	kPa	Joback Method
rinpol	2374.00		NIST Webbook
rinpol	2374.00		NIST Webbook
tb	705.56	K	Joback Method
tc	874.47	K	Joback Method
tf	339.54	K	Joback Method
vc	1.165	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	887.29	J/mol×K	705.56	Joback Method
cpg	907.59	J/mol×K	733.71	Joback Method
cpg	926.98	J/mol×K	761.86	Joback Method
cpg	945.50	J/mol×K	790.01	Joback Method
cpg	963.16	J/mol×K	818.16	Joback Method
cpg	979.99	J/mol×K	846.32	Joback Method

cpg	996.00	J/mol×K	874.47	Joback Method
dvisc	0.0019341	Pa×s	339.54	Joback Method
dvisc	0.0006440	Pa×s	400.54	Joback Method
dvisc	0.0002867	Pa×s	461.55	Joback Method
dvisc	0.0001542	Pa×s	522.55	Joback Method
dvisc	0.0000944	Pa×s	583.55	Joback Method
dvisc	0.0000634	Pa×s	644.56	Joback Method
dvisc	0.0000457	Pa×s	705.56	Joback Method

Sources

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
NIST Webbook:	http://webbook.nist.gov/cgi/cbook.cgi?ID=C15677711&Units=SI

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

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