Propane, 1,1,3,3-tetramethoxy-

Other names:	Malonaldehyde, bis(dimethyl acetal)
	Malonaldehyde tetramethyl acetal
	Tetramethoxypropane
	1,1,3,3-Tetramethoxypropane
	Malondialdehyde bis(dimethylacetal)
Inchi:	InChI=1S/C7H16O4/c1-8-6(9-2)5-7(10-3)11-4/h6-7H,5H2,1-4H3
InchiKey:	XHTYQFMRBQUCPX-UHFFFAOYSA-N
Formula:	C7H16O4
SMILES:	COC(CC(OC)OC)OC
Mol. weight [g/mol]:	164.20
CAS:	102-52-3

Physical Properties

Property code	Value	Unit	Source
gf	-416.82	kJ/mol	Joback Method
hf	-727.25	kJ/mol	Joback Method
hfus	11.59	kJ/mol	Joback Method
hvap	40.04	kJ/mol	Joback Method
log10ws	-0.32		Crippen Method
logp	0.614		Crippen Method
mcvol	132.970	ml/mol	McGowan Method
pc	2651.56	kPa	Joback Method
rinpol	883.00		NIST Webbook
rinpol	883.00		NIST Webbook
tb	456.20	K	NIST Webbook
tc	620.62	K	Joback Method
tf	227.57	K	Joback Method
vc	0.487	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	289.86	J/mol×K	448.36	Joback Method
cpg	301.55	J/mol×K	477.07	Joback Method

cpg	313.03	J/mol×K	505.78	Joback Method
cpg	324.27	J/mol×K	534.49	Joback Method
cpg	335.25	J/mol×K	563.20	Joback Method
cpg	345.95	J/mol×K	591.91	Joback Method
cpg	356.36	J/mol×K	620.62	Joback Method
dvisc	0.0036719	Pa×s	227.57	Joback Method
dvisc	0.0014372	Pa×s	264.37	Joback Method
dvisc	0.0007074	Pa×s	301.17	Joback Method
dvisc	0.0004064	Pa×s	337.97	Joback Method
dvisc	0.0002603	Pa×s	374.76	Joback Method
dvisc	0.0001805	Pa×s	411.56	Joback Method
dvisc	0.0001330	Pa×s	448.36	Joback Method

Sources

McGowan Method:	http://link.springer.com/article/10.1007/BF02311772
NIST Webbook:	http://webbook.nist.gov/cgi/cbook.cgi?ID=C102523&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

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