Propane, 1,1,3,3-tetraethoxy-

Other names:	Malonaldehyde, bis(diethyl acetal)
	Malonaldehyde tetraethyl acetal
	Malonaldehyde tetraethyl diacetal
	Malondialdehyde tetraethyl acetal
	1,1,3,3-Tetraethoxypropane
	Tetraethyl malondialdehyde acetal
	Malondialdehyde bis(diethyl acetal)
	Malonaldehyde diethyl acetal
	Tetraethoxypropane
	USAF KF-26
	NSC 17068
Inchi:	InChI=1S/C11H24O4/c1-5-12-10(13-6-2)9-11(14-7-3)15-8-4/h10-11H,5-9H2,1-4H3
InchiKey:	KVJHGPAAOUGYJX-UHFFFAOYSA-N
Formula:	C11H24O4
SMILES:	CCOC(CC(OCC)OCC)OCC
Mol. weight [g/mol]:	220.31
CAS:	122-31-6

Physical Properties

Property code	Value	Unit	Source
gf	-383.14	kJ/mol	Joback Method
hf	-809.81	kJ/mol	Joback Method
hfus	21.95	kJ/mol	Joback Method
hvap	48.94	kJ/mol	Joback Method
log10ws	-1.99		Crippen Method
logp	2.175		Crippen Method
mcvol	189.330	ml/mol	McGowan Method
pc	1848.33	kPa	Joback Method
rinpol	1304.00		NIST Webbook
ripol	1347.00		NIST Webbook
tb	493.20	K	NIST Webbook
tc	707.42	K	Joback Method
tf	272.65	K	Joback Method
vc	0.712	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	471.94	J/mol×K	539.88	Joback Method
cpg	487.68	J/mol×K	567.80	Joback Method
cpg	502.93	J/mol×K	595.73	Joback Method
cpg	517.70	J/mol×K	623.65	Joback Method
cpg	531.95	J/mol×K	651.57	Joback Method
cpg	545.69	J/mol×K	679.50	Joback Method
cpg	558.90	J/mol×K	707.42	Joback Method
dvisc	0.0029033	Pa×s	272.65	Joback Method
dvisc	0.0010855	Pa×s	317.19	Joback Method
dvisc	0.0005171	Pa×s	361.73	Joback Method
dvisc	0.0002899	Pa×s	406.26	Joback Method
dvisc	0.0001822	Pa×s	450.80	Joback Method
dvisc	0.0001244	Pa×s	495.34	Joback Method
dvisc	0.0000905	Pa×s	539.88	Joback Method

Sources

NIST Webbook: http://webbook.nist.gov/cgi/cbook.cgi?ID=C122316&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

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