Tetramethyl orthocarbonate

Other names:	Tetramethoxymethane
	Methane, tetramethoxy-
Inchi:	InChI=1S/C5H12O4/c1-6-5(7-2,8-3)9-4/h1-4H3
InchiKey:	AHJWSRRHTXRLAQ-UHFFFAOYSA-N
Formula:	C5H12O4
SMILES:	COC(OC)(OC)OC
Mol. weight [g/mol]:	136.15
CAS:	1850-14-2

Physical Properties

Property code	Value	Unit	Source
gf	-425.94	kJ/mol	Joback Method
hf	-727.20 ± 1.50	kJ/mol	NIST Webbook
hf	-727.60	kJ/mol	NIST Webbook
hfl	-767.30	kJ/mol	NIST Webbook
hfl	-767.10 ± 1.30	kJ/mol	NIST Webbook
hfus	6.04	kJ/mol	Joback Method
hvap	40.00	kJ/mol	NIST Webbook
hvap	39.99 ± 0.75	kJ/mol	NIST Webbook
hvap	39.90	kJ/mol	NIST Webbook
hvap	39.70	kJ/mol	NIST Webbook
log10ws	0.14		Crippen Method
logp	0.183		Crippen Method
mcvol	104.790	ml/mol	McGowan Method
pc	3276.53	kPa	Joback Method
rinpol	833.00		NIST Webbook
rinpol	826.00		NIST Webbook
tb	387.20	K	NIST Webbook
tc	577.76	K	Joback Method
tf	237.45	K	Joback Method
vc	0.377	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	214.21	J/mol×K	400.25	Joback Method
cpg	223.69	J/mol×K	429.84	Joback Method
cpg	233.00	J/mol×K	459.42	Joback Method
cpg	242.10	J/mol×K	489.01	Joback Method
cpg	251.00	J/mol×K	518.59	Joback Method
cpg	259.67	J/mol×K	548.18	Joback Method
cpg	268.09	J/mol×K	577.76	Joback Method
dvisc	0.0023781	Pa×s	237.45	Joback Method
dvisc	0.0012388	Pa×s	264.58	Joback Method
dvisc	0.0007285	Pa×s	291.72	Joback Method
dvisc	0.0004689	Pa×s	318.85	Joback Method
dvisc	0.0003234	Pa×s	345.98	Joback Method
dvisc	0.0002355	Pa×s	373.12	Joback Method
dvisc	0.0001790	Pa×s	400.25	Joback Method
hvapt	41.20	kJ/mol	345.50	NIST Webbook

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=C1850142&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
hfl: Liquid phase enthalpy of formation at standard conditions
hfus: Enthalpy of fusion at standard conditions
hvap: Enthalpy of vaporization at standard conditions
hvapt: Enthalpy of vaporization at a given temperature
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