Urea, tetraethyl-

Other names:	Tetraethylurea
	1,1,3,3-Tetraethylurea
	Urea, 1,1,3,3-tetraethyl-
	N,N,N',N'-Tetraethylurea
Inchi:	InChI=1S/C9H20N2O/c1-5-10(6-2)9(12)11(7-3)8-4/h5-8H2,1-4H3
InchiKey:	UWHSPZZUAYSGTB-UHFFFAOYSA-N
Formula:	C9H20N2O
SMILES:	CCN(CC)C(=O)N(CC)CC
Mol. weight [g/mol]:	172.27
CAS:	1187-03-7

Physical Properties

Property code	Value	Unit	Source
chl	-6019.90 ± 4.80	kJ/mol	NIST Webbook
chl	-5845.90 ± 5.90	kJ/mol	NIST Webbook
gf	117.54	kJ/mol	Joback Method
hf	-316.40 ± 5.00	kJ/mol	NIST Webbook
hfl	-380.00 ± 5.00	kJ/mol	NIST Webbook
hfl	-554.00 ± 5.90	kJ/mol	NIST Webbook
hfus	26.71	kJ/mol	Joback Method
hvap	46.46	kJ/mol	Joback Method
log10ws	-1.48		Crippen Method
logp	1.790		Crippen Method
mcvol	159.200	ml/mol	McGowan Method
pc	2443.48	kPa	Joback Method
tb	482.00 ± 0.00	K	NIST Webbook
tc	654.92	K	Joback Method
tf	306.06	K	Joback Method
tt	239.70 ± 0.10	K	NIST Webbook
vc	0.582	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source

cpg	393.09	J/mol×K	541.02	Joback Method
cpg	406.80	J/mol×K	569.49	Joback Method
cpg	419.87	J/mol×K	597.97	Joback Method
cpg	432.33	J/mol×K	626.44	Joback Method
cpg	363.64	J/mol×K	484.07	Joback Method
cpg	378.71	J/mol×K	512.54	Joback Method
cpg	444.18	J/mol×K	654.92	Joback Method
cpl	355.60	J/mol×K	298.15	NIST Webbook
hfust	20.55	kJ/mol	253.00	NIST Webbook
hfust	20.55	kJ/mol	253.00	NIST Webbook
hvapt	63.61 ± 0.55	kJ/mol	323.30	NIST Webbook

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=C1187037&Units=SI
Crippen Method: http://pubs.acs.org/doi/abs/10.1021/ci990307l
Crippen Method: https://www.chemeo.com/doc/models/crippen_log10ws

Legend

chl: Standard liquid enthalpy of combustion
cpg: Ideal gas heat capacity
cpl: Liquid phase heat capacity
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
hfust: Enthalpy of fusion at a given temperature
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
tb: Normal Boiling Point Temperature
tc: Critical Temperature

tf:	Normal melting (fusion) point
tt:	Triple Point Temperature
vc:	Critical Volume