Tetraethylenepentamine

Other names:	1,11-DIAMINO-3,6,9-TRIAZAUNDECANE 1,2-Ethanediamine, N-(2-aminoethyl)-N'-[2-[(2-aminoethyl)amino]ethyl]- 1,2-Ethanediamine, N1-(2-aminoethyl)-N2-[2-[(2-aminoethyl)amino]ethyl]- 1,4,7,10,13-Pentaazatridecane 3,6,9-Triazaundecamethylenediamine 3,6,9-Triazaundecane-1,11-diamine D.E.H. 26 DEH 26 N-(2-Aminoethyl)-N'-(2-((2-aminoethyl)amino)ethyl)-1,2-ethanediamine NSC 88603 TEPA TETREN Tetraethylenpentamine Texlin 400 UN 2320
Inchi:	InChI=1S/C8H23N5/c9-1-3-11-5-7-13-8-6-12-4-2-10/h11-13H,1-10H2
InchiKey:	FAGUFWYHJQFNRV-UHFFFAOYSA-N
Formula:	C8H23N5
SMILES:	NCCNCCNCCNCCN
Mol. weight [g/mol]:	189.30
CAS:	112-57-2

Physical Properties

Property code	Value	Unit	Source
gf	417.55	kJ/mol	Joback Method
hf	19.54	kJ/mol	Joback Method
hfus	42.17	kJ/mol	Joback Method
hvap	73.99	kJ/mol	Joback Method
log10ws	0.39		Crippen Method
logp	-2.327		Crippen Method
mcvol	173.480	ml/mol	McGowan Method
pc	2976.29	kPa	Joback Method
tb	613.15	K	NIST Webbook
tb	613.20	K	NIST Webbook
tc	870.26	K	Joback Method
tf	243.15	K	NIST Webbook
vc	0.646	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	569.08	J/mol×K	838.21	Joback Method
cpg	508.57	J/mol×K	678.01	Joback Method
cpg	522.06	J/mol×K	710.05	Joback Method
cpg	534.83	J/mol×K	742.09	Joback Method
cpg	546.91	J/mol×K	774.13	Joback Method
cpg	558.32	J/mol×K	806.17	Joback Method
cpg	579.24	J/mol×K	870.26	Joback Method
cpl	460.00	J/mol×K	333.00	NIST Webbook
hvapt	71.30	kJ/mol	539.50	NIST Webbook

Correlations

Information	Value
Property code	pvap
Equation	ln(Pvp) = A + B/(T + C)
Coeff. A	1.69792e+01
Coeff. B	-6.42262e+03
Coeff. C	-9.36070e+01
Temperature range (K), min.	478.39
Temperature range (K), max.	644.07

Information	Value
Property code	pvap
Equation	ln(Pvp) = A + B/T + C*ln(T) + D*T^2
Coeff. A	1.66550e+02
Coeff. B	-1.98757e+04
Coeff. C	-2.04173e+01
Coeff. D	4.55318e-06
Temperature range (K), min.	243.00
Temperature range (K), max.	774.00

Sources

NIST Webbook:	http://webbook.nist.gov/cgi/cbook.cgi?ID=C112572&Units=SI
The Yaws Handbook of Vapor Pressure:	https://www.sciencedirect.com/book/9780128029992/the-yaws-handbook-of-vapor-pressure
KDB Vapor Pressure Data:	https://www.cheric.org/research/kdb/hcprop/showprop.php?cmpid=1332
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
KDB:	https://www.cheric.org/files/research/kdb/mol/mol1332.mol
McGowan Method:	http://link.springer.com/article/10.1007/BF02311772

Legend

cpg:	Ideal gas heat capacity
cpl:	Liquid phase heat capacity
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
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
pvap:	Vapor pressure
tb:	Normal Boiling Point Temperature
tc:	Critical Temperature
tf:	Normal melting (fusion) point
vc:	Critical Volume