Ethanamine, 1,1,2,2,2-pentafluoro-N,N-bis(pentafluoroethyl)-

Other names: Perfluorotriethylamine
Tris(pentafluoroethyl)amine
pentadecafluorotriethylamine

Inchi: InChI=1S/C6F15N/c7-1(8,9)4(16,17)22(5(18,19)2(10,11)12)6(20,21)3(13,14)15

InchiKey: CBEFDCMSEZEGCX-UHFFFAOYSA-N

Formula: C6F15N

SMILES: FC(F)(F)C(F)(F)N(C(F)(F)C(F)(F)F)C(F)(F)C(F)(F)F

Mol. weight [g/mol]: 371.05

CAS: 359-70-6

Physical Properties

Property code	Value	Unit	Source
chl	-1841.00 ± 5.40	kJ/mol	NIST Webbook
gf	-2794.69	kJ/mol	Joback Method
hf	-3138.00	kJ/mol	NIST Webbook
hfl	-3172.00	kJ/mol	NIST Webbook
hfus	16.03	kJ/mol	Joback Method
hvap	34.00 ± 0.40	kJ/mol	NIST Webbook
hvap	33.40 ± 0.50	kJ/mol	NIST Webbook
hvap	34.20 ± 0.10	kJ/mol	NIST Webbook
ie	11.70	eV	NIST Webbook
log10ws	-5.32		Crippen Method
logp	4.754		Crippen Method
mcvol	131.930	ml/mol	McGowan Method
pc	1800.03	kPa	Joback Method
sl	527.10	J/mol×K	NIST Webbook
tb	343.50	K	NIST Webbook
tc	425.18	K	Joback Method
tf	156.10 ± 0.20	K	NIST Webbook
tt	156.20 ± 0.20	K	NIST Webbook
vc	0.594	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	298.65	J/mol×K	318.79	Joback Method
cpg	355.78	J/mol×K	407.45	Joback Method
cpg	345.62	J/mol×K	389.72	Joback Method
cpg	334.85	J/mol×K	371.98	Joback Method
cpg	323.44	J/mol×K	354.25	Joback Method
cpg	311.38	J/mol×K	336.52	Joback Method
cpg	365.34	J/mol×K	425.18	Joback Method
cpl	379.49	J/mol×K	298.15	NIST Webbook
hfust	5.56	kJ/mol	156.20	NIST Webbook
hfust	4.65	kJ/mol	156.10	NIST Webbook
hvapt	32.90	kJ/mol	333.00	NIST Webbook
hvapt	32.80	kJ/mol	327.00	NIST Webbook
sfust	29.80	J/mol×K	156.10	NIST Webbook

Correlations

Information	Value
Property code	pvap
Equation	ln(Pvp) = A + B/(T + C)
Coeff. A	1.30190e+01
Coeff. B	-2.15847e+03
Coeff. C	-8.65100e+01
Temperature range (K), min.	256.05
Temperature range (K), max.	366.56

Sources

NIST Webbook: http://webbook.nist.gov/cgi/cbook.cgi?ID=C359706&Units=SI

The Yaws Handbook of Vapor Pressure: https://www.sciencedirect.com/book/9780128029992/the-yaws-handbook-of-vapor-pressure

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

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
ie:	Ionization energy
log10ws:	Log10 of Water solubility in mol/l
logp:	Octanol/Water partition coefficient
mcvol:	McGowan's characteristic volume
pc:	Critical Pressure
pvap:	Vapor pressure
sfust:	Entropy of fusion at a given temperature
sl:	Liquid phase molar entropy at standard conditions
tb:	Normal Boiling Point Temperature
tc:	Critical Temperature
tf:	Normal melting (fusion) point
tt:	Triple Point Temperature
vc:	Critical Volume