Ethane, 1,1,2,2-tetrachloro-1-fluoro-

Other names:	1,1,2,2-Tetrachloro-1-fluoroethane
	1,1,2,2-Tetrachlorofluoroethane
	1-Fluoro-1,1,2,2-tetrachloroethane
	Freon 121
Inchi:	InChI=1S/C2HCl4F/c3-1(4)2(5,6)7/h1H
InchiKey:	LUBCGHUOCJOIJA-UHFFFAOYSA-N
Formula:	C2HCl4F
SMILES:	FC(Cl)(Cl)C(Cl)Cl
Mol. weight [g/mol]:	185.84
CAS:	354-14-3

Physical Properties

Property code	Value	Unit	Source
gf	-276.17	kJ/mol	Joback Method
hf	-357.71	kJ/mol	Joback Method
hfus	9.87	kJ/mol	Joback Method
hvap	35.09	kJ/mol	Joback Method
log10ws	-2.83		Crippen Method
logp	2.891		Crippen Method
mcvol	89.770	ml/mol	McGowan Method
pc	4026.13	kPa	Joback Method
tb	389.70	K	NIST Webbook
tc	599.15	K	Joback Method
tf	219.99	K	Joback Method
vc	0.344	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	127.79	J/mol×K	390.48	Joback Method
cpg	132.49	J/mol×K	425.26	Joback Method
cpg	136.72	J/mol×K	460.04	Joback Method
cpg	140.49	J/mol×K	494.81	Joback Method
cpg	143.85	J/mol×K	529.59	Joback Method

cpg	146.83	J/mol×K	564.37	Joback Method
cpg	149.46	J/mol×K	599.15	Joback Method

Correlations

Information	Value
Property code	pvap
Equation	ln(Pvp) = A + B/(T + C)
Coeff. A	1.34598e+01
Coeff. B	-2.57576e+03
Coeff. C	-9.83740e+01
Temperature range (K), min.	293.92
Temperature range (K), max.	414.55

Sources

NIST Webbook: http://webbook.nist.gov/cgi/cbook.cgi?ID=C354143&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

cpg: Ideal gas 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

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