Ethane, 1,2-dichloro-1,1-difluoro-

Other names:	1,1-Difluoro-1,2-dichloroethane
	1,2-DICHLORO-1,1-DIFLUOROETHANE
	CF2ClCH2Cl
	Hcfc-132b
Inchi:	InChI=1S/C2H2Cl2F2/c3-1-2(4,5)6/h1H2
InchiKey:	SKDFWEPBABSFMG-UHFFFAOYSA-N
Formula:	C2H2Cl2F2
SMILES:	FC(F)(Cl)CCl
Mol. weight [g/mol]:	134.94
CAS:	1649-08-7

Physical Properties

Property code	Value	Unit	Source
gf	-444.68	kJ/mol	Joback Method
hf	-517.06	kJ/mol	Joback Method
hfus	8.08	kJ/mol	Joback Method
hvap	25.89	kJ/mol	Joback Method
ie	11.80	eV	NIST Webbook
log10ws	-1.77		Crippen Method
logp	2.057		Crippen Method
mcvol	67.060	ml/mol	McGowan Method
pc	4135.61	kPa	Joback Method
tb	319.79	K	KDB
tb	319.50 ± 0.50	K	NIST Webbook
tb	320.00	K	NIST Webbook
tc	488.39	K	Joback Method
tf	175.74	K	Joback Method
vc	0.271	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	97.78	J/mol×K	315.33	Joback Method
cpg	102.86	J/mol×K	344.17	Joback Method

cpg	107.58	J/mol×K	373.02	Joback Method
cpg	111.97	J/mol×K	401.86	Joback Method
cpg	116.03	J/mol×K	430.70	Joback Method
cpg	119.79	J/mol×K	459.54	Joback Method
cpg	123.25	J/mol×K	488.39	Joback Method
hvapt	27.80	kJ/mol	408.00	NIST Webbook

Correlations

Information	Value
Property code	pvap
Equation	ln(Pvp) = A + B/(T + C)
Coeff. A	1.43411e+01
Coeff. B	-2.63124e+03
Coeff. C	-4.88720e+01
Temperature range (K), min.	236.10
Temperature range (K), max.	340.66

Information	Value
Property code	pvap
Equation	ln(Pvp) = A + B/T + C*ln(T) + D*T^2
Coeff. A	4.84808e+01
Coeff. B	-4.93682e+03
Coeff. C	-4.98451e+00
Coeff. D	3.21309e-06
Temperature range (K), min.	273.15
Temperature range (K), max.	493.15

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

KDB: https://www.cheric.org/files/research/kdb/mol/mol1561.mol

McGowan Method: http://link.springer.com/article/10.1007/BF02311772

NIST Webbook: http://webbook.nist.gov/cgi/cbook.cgi?ID=C1649087&Units=SI

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

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
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
tb:	Normal Boiling Point Temperature
tc:	Critical Temperature
tf:	Normal melting (fusion) point
vc:	Critical Volume