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

Other names: 1,1-Dichloro-2,2-difluoroethane
1,1-Difluoro-2,2-dichloro ethane
1,1-Difluoro-2,2-dichloroethane
Inchi: InChI=1S/C2H2Cl2F2/c3-1(4)2(5)6/h1-2H
InchiKey: VLIDBBNDBSNADN-UHFFFAOYSA-N
Formula: C2H2Cl2F2
SMILES: FC(F)C(Cl)Cl
Mol. weight [g/mol]: 134.94
CAS: 471-43-2

Physical Properties

Property code	Value	Unit	Source
gf	-452.40	kJ/mol	Joback Method
hf	-518.87	kJ/mol	Joback Method
hfus	8.44	kJ/mol	Joback Method
hvap	26.41	kJ/mol	Joback Method
log10ws	-1.89		Crippen Method
logp	2.055		Crippen Method
mcvol	67.060	ml/mol	McGowan Method
pc	4119.70	kPa	Joback Method
tb	317.68	K	Joback Method
tc	487.57	K	Joback Method
tf	143.32	K	Joback Method
vc	0.270	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	97.46	J/mol×K	317.68	Joback Method
cpg	101.61	J/mol×K	345.99	Joback Method
cpg	105.57	J/mol×K	374.31	Joback Method
cpg	109.34	J/mol×K	402.62	Joback Method
cpg	112.93	J/mol×K	430.94	Joback Method
cpg	116.33	J/mol×K	459.25	Joback Method

cpg	119.56	J/mol×K	487.57	Joback Method

Correlations

Information	Value
Property code	pvap
Equation	ln(Pvp) = A + B/(T + C)
Coeff. A	2.26677e+01
Coeff. B	-4.66919e+03
Coeff. C	-3.24180e+01
Temperature range (K), min.	241.05
Temperature range (K), max.	301.44

Sources

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/mol1556.mol
McGowan Method:	http://link.springer.com/article/10.1007/BF02311772
NIST Webbook:	http://webbook.nist.gov/cgi/cbook.cgi?ID=C471432&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

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