Ethene, 1,1-dichloro-2,2-difluoro-

Other names:	1,1-Dichloro-2,2-difluoroethene
	1,1-Dichloro-2,2-difluoroethylene
	1,1-Dichlorodifluoroethylene
	1,1-Difluoro-2,2-dichloroethylene
	CF2=CCl2
	CFC 1112a
	Ethylene, 1,1-dichloro-2,2-difluoro-
	Ethylene, 1,2-dichloro-1,2-difluoro-
	F 1112a
	Genetron 1112a
	Genetrone 1112a
	R 1112a
Inchi:	InChI=1S/C2Cl2F2/c3-1(4)2(5)6
InchiKey:	QDGONURINHVBEW-UHFFFAOYSA-N
Formula:	C2Cl2F2
SMILES:	FC(F)=C(Cl)Cl
Mol. weight [g/mol]:	132.92
CAS:	79-35-6

Physical Properties

Property code	Value	Unit	Source
gf	-384.40	kJ/mol	Joback Method
hf	-410.67	kJ/mol	Joback Method
hfus	13.07	kJ/mol	Joback Method
hvap	27.30	kJ/mol	Joback Method
ie	9.69 ± 0.01	eV	NIST Webbook
ie	9.62	eV	NIST Webbook
ie	9.65 ± 0.03	eV	NIST Webbook
ie	9.65	eV	NIST Webbook
ie	9.82 ± 0.02	eV	NIST Webbook
log10ws	-2.51		Crippen Method
logp	2.530		Crippen Method
mcvol	62.760	ml/mol	McGowan Method
pc	4374.18	kPa	Joback Method
rinpol	428.00		NIST Webbook
rinpol	454.00		NIST Webbook
rinpol	454.00		NIST Webbook

rinpol	428.00		NIST Webbook
tb	292.00	K	NIST Webbook
tc	500.87	K	Joback Method
tf	140.32	K	Joback Method
vc	0.264	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	83.77	J/mol×K	322.48	Joback Method
cpg	87.22	J/mol×K	352.21	Joback Method
cpg	90.40	J/mol×K	381.94	Joback Method
cpg	93.33	J/mol×K	411.68	Joback Method
cpg	96.03	J/mol×K	441.41	Joback Method
cpg	98.51	J/mol×K	471.14	Joback Method
cpg	100.78	J/mol×K	500.87	Joback Method

Correlations

Information	Value
Property code	pvap
Equation	ln(Pvp) = A + B/(T + C)
Coeff. A	1.43328e+01
Coeff. B	-2.43687e+03
Coeff. C	-4.11500e+01
Temperature range (K), min.	214.65
Temperature range (K), max.	311.44

Sources

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
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
rinpol:	Non-polar retention indices
tb:	Normal Boiling Point Temperature
tc:	Critical Temperature
tf:	Normal melting (fusion) point
vc:	Critical Volume