Ethane, 1,2-dichloro-1-fluoro-

Other names:	1,2-Dichloro-1-fluoroethane
	1,2-Dichlorofluoroethane
	1-Fluoro-1,2-dichloro-ethane
	Freon 141
	Freon 141a
Inchi:	InChI=1S/C2H3Cl2F/c3-1-2(4)5/h2H,1H2
InchiKey:	NDKGUMMLYBINOC-UHFFFAOYSA-N
Formula:	C2H3Cl2F
SMILES:	FC(Cl)CCl
Mol. weight [g/mol]:	116.95
CAS:	430-57-9

Physical Properties

Property code	Value	Unit	Source
gf	-255.15	kJ/mol	Joback Method
hf	-317.48	kJ/mol	Joback Method
hfus	8.89	kJ/mol	Joback Method
hvap	27.61	kJ/mol	Joback Method
log10ws	-1.43		Crippen Method
logp	1.760		Crippen Method
mcvol	65.290	ml/mol	McGowan Method
pc	4322.57	kPa	Joback Method
tb	349.00	K	NIST Webbook
tb	346.95 ± 0.50	K	NIST Webbook
tc	494.73	K	Joback Method
tf	157.73	K	Joback Method
vc	0.258	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	89.41	J/mol×K	318.85	Joback Method
cpg	93.51	J/mol×K	348.16	Joback Method
cpg	97.43	J/mol×K	377.48	Joback Method

cpg	101.17	J/mol×K	406.79	Joback Method
cpg	104.74	J/mol×K	436.10	Joback Method
cpg	108.13	J/mol×K	465.41	Joback Method
cpg	111.36	J/mol×K	494.73	Joback Method

Correlations

Information	Value
Property code	pvap
Equation	ln(Pvp) = A + B/(T + C)
Coeff. A	1.41405e+01
Coeff. B	-2.92848e+03
Coeff. C	-4.14570e+01
Temperature range (K), min.	252.86
Temperature range (K), max.	373.14

Sources

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
NIST Webbook:	http://webbook.nist.gov/cgi/cbook.cgi?ID=C430579&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

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