

Ethane, 1,1,2-trichloro-2-fluoro-

Other names:	1,1,2-TRICHLORO-2-FLUOROETHANE 1-FLUORO-1,2,2-TRICHLOROETHANE 2-Fluoro-1,1,2-trichloroethane FC-131 HCFC 131
Inchi:	InChI=1S/C2H2Cl3F/c3-1(4)2(5)6/h1-2H
InchiKey:	ORMSTDJYMPIZAO-UHFFFAOYSA-N
Formula:	C2H2Cl3F
SMILES:	FC(Cl)C(Cl)Cl
Mol. weight [g/mol]:	151.40
CAS:	359-28-4

Physical Properties

Property code	Value	Unit	Source
gf	-269.52	kJ/mol	Joback Method
hf	-338.50	kJ/mol	Joback Method
hfus	9.56	kJ/mol	Joback Method
hvap	31.61	kJ/mol	Joback Method
log10ws	-2.19		Crippen Method
logp	2.325		Crippen Method
mcvol	77.530	ml/mol	McGowan Method
pc	4162.33	kPa	Joback Method
tb	355.84	K	Joback Method
tc	546.54	K	Joback Method
tf	172.65	K	Joback Method
vc	0.300	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	107.68	J/molxK	355.84	Joback Method
cpg	111.83	J/molxK	387.62	Joback Method
cpg	115.74	J/molxK	419.41	Joback Method
cpg	119.42	J/molxK	451.19	Joback Method

cpg	122.88	J/mol×K	482.97	Joback Method
cpg	126.13	J/mol×K	514.76	Joback Method
cpg	129.17	J/mol×K	546.54	Joback Method

Correlations

Information	Value
Property code	pvap
Equation	$\ln(P_{vp}) = A + B/(T + C)$
Coeff. A	1.54573e+01
Coeff. B	-3.72823e+03
Coeff. C	-3.16340e+01
Temperature range (K), min.	277.40
Temperature range (K), max.	399.10

Sources

Crippen Method:	http://pubs.acs.org/doi/abs/10.1021/ci9903071
Crippen Method:	https://www.chemeo.com/doc/models/crippen_log10ws
Joback Method:	https://en.wikipedia.org/wiki/Joback_method
KDB:	https://www.cheric.org/research/kdb/hcprop/showprop.php?cmpid=1557
McGowan Method:	http://link.springer.com/article/10.1007/BF02311772
NIST Webbook:	http://webbook.nist.gov/cgi/cbook.cgi?ID=C359284&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
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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