

Ethane, 1-chloro-1-fluoro-

Other names:	1-Chloro-1-fluoroethane 1-Chlorofluoroethane Freon 151 Monochloromonofluoroethane
Inchi:	InChI=1S/C2H4ClF/c1-2(3)4/h2H,1H3
InchiKey:	YACLMMBHTUQON-UHFFFAOYSA-N
Formula:	C2H4ClF
SMILES:	CC(F)Cl
Mol. weight [g/mol]:	82.50
CAS:	1615-75-4

Physical Properties

Property code	Value	Unit	Source
chg	-1244.00 ± 3.00	kJ/mol	NIST Webbook
gf	-243.22	kJ/mol	Joback Method
hf	-313.40 ± 2.50	kJ/mol	NIST Webbook
hfus	4.69	kJ/mol	Joback Method
hvap	23.23	kJ/mol	Joback Method
log10ws	-1.27		Crippen Method
logp	1.541		Crippen Method
mcvol	53.050	ml/mol	McGowan Method
pc	4540.80	kPa	Joback Method
tb	289.30 ± 0.50	K	NIST Webbook
tc	445.59	K	Joback Method
tf	127.81	K	Joback Method
vc	0.208	m ³ /kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	70.51	J/mol×K	281.42	Joback Method
cpg	74.65	J/mol×K	308.78	Joback Method
cpg	78.65	J/mol×K	336.14	Joback Method
cpg	82.50	J/mol×K	363.51	Joback Method

cpg	86.20	J/mol×K	390.87	Joback Method
cpg	89.77	J/mol×K	418.23	Joback Method
cpg	93.20	J/mol×K	445.59	Joback Method

Correlations

Information	Value
Property code	pvap
Equation	$\ln(P_{vp}) = A + B/(T + C)$
Coeff. A	1.45669e+01
Coeff. B	-2.71379e+03
Coeff. C	-1.65190e+01
Temperature range (K), min.	206.57
Temperature range (K), max.	309.73

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/ci9903071
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=C1615754&Units=SI

Legend

chg:	Standard gas enthalpy of combustion
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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