

Ethane, 1-chloro-2-fluoro-

Other names:	1-Chloro-2-fluoroethane TL 936
Inchi:	InChI=1S/C2H4ClF/c3-1-2-4/h1-2H2
InchiKey:	VEZJSKSPVQQGIS-UHFFFAOYSA-N
Formula:	C2H4ClF
SMILES:	FCCCl
Mol. weight [g/mol]:	82.50
CAS:	762-50-5

Physical Properties

Property code	Value	Unit	Source
gf	-240.78	kJ/mol	Joback Method
hf	-296.46	kJ/mol	Joback Method
hfus	8.21	kJ/mol	Joback Method
hvap	23.61	kJ/mol	Joback Method
log10ws	-0.67		Crippen Method
logp	1.195		Crippen Method
mvol	53.050	ml/mol	McGowan Method
pc	4492.23	kPa	Joback Method
rinpol	545.00		NIST Webbook
tb	326.40 ± 1.50	K	NIST Webbook
tb	326.30	K	NIST Webbook
tb	325.00 ± 3.00	K	NIST Webbook
tb	326.40 ± 2.00	K	NIST Webbook
tc	441.93	K	Joback Method
tf	142.81	K	Joback Method
vc	0.214	m ³ /kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	89.20	J/mol×K	415.25	Joback Method
cpg	70.85	J/mol×K	281.86	Joback Method
cpg	74.79	J/mol×K	308.54	Joback Method

cpg	78.59	J/mol×K	335.22	Joback Method
cpg	82.26	J/mol×K	361.90	Joback Method
cpg	85.79	J/mol×K	388.57	Joback Method
cpg	92.48	J/mol×K	441.93	Joback Method
hvapt	32.10	kJ/mol	307.50	NIST Webbook

Correlations

Information	Value
Property code	pvap
Equation	$\ln(P_{vp}) = A + B/(T + C)$
Coeff. A	1.34552e+01
Coeff. B	-2.18234e+03
Coeff. C	-7.93410e+01
Temperature range (K), min.	245.08
Temperature range (K), max.	347.32

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=C762505&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/ci9903071

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
hvapt:	Enthalpy of vaporization at a given temperature
log10ws:	Log10 of Water solubility in mol/l

logp:	Octanol/Water partition coefficient
mcvol:	McGowan's characteristic volume
pc:	Critical Pressure
pvap:	Vapor pressure
rinpola:	Non-polar retention indices
tb:	Normal Boiling Point Temperature
tc:	Critical Temperature
tf:	Normal melting (fusion) point
vc:	Critical Volume

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