

Butane, 2-fluoro-

Other names:	2-Fluorobutane
Inchi:	InChI=1S/C4H9F/c1-3-4(2)5/h4H,3H2,1-2H3
InchiKey:	IXHWZHLJJPXIS-UHFFFAOYSA-N
Formula:	C4H9F
SMILES:	CCC(C)F
Mol. weight [g/mol]:	76.11
CAS:	359-01-3

Physical Properties

Property code	Value	Unit	Source
gf	-214.45	kJ/mol	Joback Method
hf	-327.28	kJ/mol	Joback Method
hfus	5.67	kJ/mol	Joback Method
hvap	23.29	kJ/mol	Joback Method
log10ws	-1.46		Crippen Method
logp	1.754		Crippen Method
mcvol	68.990	ml/mol	McGowan Method
pc	3722.56	kPa	Joback Method
rinpol	469.00		NIST Webbook
rinpol	469.00		NIST Webbook
tb	289.75	K	Joback Method
tc	445.48	K	Joback Method
tf	120.43	K	Joback Method
vc	0.272	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	103.10	J/molxK	289.75	Joback Method
cpg	110.47	J/molxK	315.70	Joback Method
cpg	117.60	J/molxK	341.66	Joback Method
cpg	124.50	J/molxK	367.61	Joback Method
cpg	131.17	J/molxK	393.57	Joback Method
cpg	137.62	J/molxK	419.52	Joback Method

cpg	143.86	J/mol×K	445.48	Joback Method
hvapt	29.20	kJ/mol	281.00	NIST Webbook

Correlations

Information	Value
Property code	pvap
Equation	$\ln(P_{vp}) = A + B/(T + C)$
Coeff. A	1.52867e+01
Coeff. B	-2.65021e+03
Coeff. C	-4.01980e+01
Temperature range (K), min.	216.89
Temperature range (K), max.	305.88

Sources

McGowan Method:	http://link.springer.com/article/10.1007/BF02311772
NIST Webbook:	http://webbook.nist.gov/cgi/cbook.cgi?ID=C359013&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
Crippen Method:	https://www.chemeo.com/doc/models/crippen_log10ws
Joback Method:	https://en.wikipedia.org/wiki/Joback_method

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
mvol:	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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