

# Butane, 1-fluoro-

<b>Other names:</b>	1-Fluorobutane Butyl fluoride
<b>Inchi:</b>	InChI=1S/C4H9F/c1-2-3-4-5/h2-4H2,1H3
<b>InchiKey:</b>	FCBJLBCGHCTPAQ-UHFFFAOYSA-N
<b>Formula:</b>	C4H9F
<b>SMILES:</b>	CCCCF
<b>Mol. weight [g/mol]:</b>	76.11
<b>CAS:</b>	2366-52-1

## Physical Properties

Property code	Value	Unit	Source
gf	-212.01	kJ/mol	Joback Method
hf	-322.00	kJ/mol	Joback Method
hfus	9.20	kJ/mol	Joback Method
hvap	23.68	kJ/mol	Joback Method
log10ws	-1.35		Crippen Method
logp	1.756		Crippen Method
mvol	68.990	ml/mol	McGowan Method
pc	3686.49	kPa	Joback Method
rinpol	495.00		NIST Webbook
rinpol	495.00		NIST Webbook
tb	290.19	K	Joback Method
tc	442.14	K	Joback Method
tf	135.43	K	Joback Method
vc	0.278	m3/kmol	Joback Method

## Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	103.47	J/molxK	290.19	Joback Method
cpg	110.56	J/molxK	315.52	Joback Method
cpg	117.43	J/molxK	340.84	Joback Method
cpg	124.08	J/molxK	366.17	Joback Method
cpg	130.53	J/molxK	391.49	Joback Method

cpg	136.77	J/mol×K	416.82	Joback Method
cpg	142.80	J/mol×K	442.14	Joback Method
hvapt	30.10	kJ/mol	274.00	NIST Webbook

## Correlations

Information	Value
Property code	pvap
Equation	$\ln(P_{vp}) = A + B/(T + C)$
Coeff. A	1.68668e+01
Coeff. B	-3.10218e+03
Coeff. C	-3.53450e+01
Temperature range (K), min.	222.46
Temperature range (K), max.	303.81

## Sources

<b>Crippen Method:</b>	<a href="http://pubs.acs.org/doi/abs/10.1021/ci9903071">http://pubs.acs.org/doi/abs/10.1021/ci9903071</a>
<b>Crippen Method:</b>	<a href="https://www.chemeo.com/doc/models/crippen_log10ws">https://www.chemeo.com/doc/models/crippen_log10ws</a>
<b>Joback Method:</b>	<a href="https://en.wikipedia.org/wiki/Joback_method">https://en.wikipedia.org/wiki/Joback_method</a>
<b>McGowan Method:</b>	<a href="http://link.springer.com/article/10.1007/BF02311772">http://link.springer.com/article/10.1007/BF02311772</a>
<b>NIST Webbook:</b>	<a href="http://webbook.nist.gov/cgi/cbook.cgi?ID=C2366521&amp;Units=SI">http://webbook.nist.gov/cgi/cbook.cgi?ID=C2366521&amp;Units=SI</a>
<b>The Yaws Handbook of Vapor Pressure:</b>	<a href="https://www.sciencedirect.com/book/9780128029992/the-yaws-handbook-of-vapor-pressure">https://www.sciencedirect.com/book/9780128029992/the-yaws-handbook-of-vapor-pressure</a>

## Legend

<b>cpg:</b>	Ideal gas heat capacity
<b>gf:</b>	Standard Gibbs free energy of formation
<b>hf:</b>	Enthalpy of formation at standard conditions
<b>hfus:</b>	Enthalpy of fusion at standard conditions
<b>hvap:</b>	Enthalpy of vaporization at standard conditions
<b>hvapt:</b>	Enthalpy of vaporization at a given temperature
<b>log10ws:</b>	Log10 of Water solubility in mol/l
<b>logp:</b>	Octanol/Water partition coefficient
<b>mcvol:</b>	McGowan's characteristic volume

<b>pc:</b>	Critical Pressure
<b>pvap:</b>	Vapor pressure
<b>rinpol:</b>	Non-polar retention indices
<b>tb:</b>	Normal Boiling Point Temperature
<b>tc:</b>	Critical Temperature
<b>tf:</b>	Normal melting (fusion) point
<b>vc:</b>	Critical Volume

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