1-Fluoropentane

Other names: N-AMYL FLUORIDE
N-PENTYL FLUORIDE
Inchi: InChI=1S/C5H11F/c1-2-3-4-5-6/h2-5H2,1H3
InchiKey: OEPRBXUJOQLYID-UHFFFAOYSA-N
Formula: C5H11F
SMILES: CCCCCF
Mol. weight [g/mol]: 90.14
CAS: 592-50-7

Physical Properties

Property code	Value	Unit	Source
gf	-203.59	kJ/mol	Joback Method
hf	-342.64	kJ/mol	Joback Method
hfus	11.79	kJ/mol	Joback Method
hvap	25.91	kJ/mol	Joback Method
log10ws	-1.77		Crippen Method
logp	2.146		Crippen Method
mcvol	83.080	ml/mol	McGowan Method
pc	3291.59	kPa	Joback Method
rinpol	555.90		NIST Webbook
rinpol	557.10		NIST Webbook
tb	335.95	K	KDB
tb	336.00	K	NIST Webbook
tc	466.49	K	Joback Method
tf	146.70	K	Joback Method
vc	0.334	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	173.94	J/mol×K	440.92	Joback Method
cpg	133.75	J/mol×K	313.07	Joback Method
cpg	142.33	J/mol×K	338.64	Joback Method
cpg	150.63	J/mol×K	364.21	Joback Method

cpg	158.66	J/mol×K	389.78	Joback Method
cpg	166.43	J/mol×K	415.35	Joback Method
cpg	181.20	J/mol×K	466.49	Joback Method
hvapt	33.70	kJ/mol	309.00	NIST Webbook

Correlations

Information	Value
Property code	pvap
Equation	ln(Pvp) = A + B/(T + C)
Coeff. A	1.43660e+01
Coeff. B	-2.87621e+03
Coeff. C	-4.09330e+01
Temperature range (K), min.	245.23
Temperature range (K), max.	358.59

Information	Value
Property code	pvap
Equation	ln(Pvp) = A + B/T + C*ln(T) + D*T^2
Coeff. A	8.33407e+01
Coeff. B	-6.39824e+03
Coeff. C	-1.04622e+01
Coeff. D	1.04626e-05
Temperature range (K), min.	245.15
Temperature range (K), max.	373.15

Sources

The Yaws Handbook of Vapor Pressure: https://www.sciencedirect.com/book/9780128029992/the-yaws-handbook-of-vapor-pressure

KDB Vapor Pressure Data: https://www.cheric.org/research/kdb/hcprop/showprop.php?cmpid=1624

Crippen Method: http://pubs.acs.org/doi/abs/10.1021/ci990307l

Crippen Method: https://www.chemeo.com/doc/models/crippen_log10ws

Joback Method: https://en.wikipedia.org/wiki/Joback_method

KDB: https://www.cheric.org/files/research/kdb/mol/mol1624.mol

McGowan Method: http://link.springer.com/article/10.1007/BF02311772

NIST Webbook: http://webbook.nist.gov/cgi/cbook.cgi?ID=C592507&Units=SI

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
rinpol:	Non-polar retention indices
tb:	Normal Boiling Point Temperature
tc:	Critical Temperature
tf:	Normal melting (fusion) point
vc:	Critical Volume