Propane, 2-fluoro-

Other names:	2-Fluoropropane
	ISOPROPYL FLUORIDE
	iso-C3H7F
Inchi:	InChI=1S/C3H7F/c1-3(2)4/h3H,1-2H3
InchiKey:	PRNZBCYBKGCOFI-UHFFFAOYSA-N
Formula:	C3H7F
SMILES:	CC(C)F
Mol. weight [g/mol]:	62.09
CAS:	420-26-8

Physical Properties

Property code	Value	Unit	Source
af	0.2040		KDB
gf	-222.87	kJ/mol	Joback Method
hf	-306.64	kJ/mol	Joback Method
hfus	3.08	kJ/mol	Joback Method
hvap	21.07	kJ/mol	Joback Method
ie	11.08 ± 0.02	eV	NIST Webbook
log10ws	-1.04		Crippen Method
logp	1.364		Crippen Method
mcvol	54.900	ml/mol	McGowan Method
pc	4200.00	kPa	KDB
rinpol	370.00		NIST Webbook
rinpol	370.00		NIST Webbook
tb	263.00	K	NIST Webbook
tb	263.80	K	KDB
tb	263.05 ± 1.00	K	NIST Webbook
tb	263.20 ± 1.00	K	NIST Webbook
tc	415.70	K	KDB
tf	140.00	K	KDB
vc	0.215	m3/kmol	KDB
zc	0.2618660		KDB

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	75.62	J/mol×K	266.87	Joback Method
cpg	81.36	J/mol×K	292.48	Joback Method
cpg	86.94	J/mol×K	318.08	Joback Method
cpg	92.34	J/mol×K	343.69	Joback Method
cpg	97.58	J/mol×K	369.29	Joback Method
cpg	102.65	J/mol×K	394.90	Joback Method
cpg	107.56	J/mol×K	420.50	Joback Method
hvapt	23.70	kJ/mol	227.00	NIST Webbook

Correlations

Information	Value
Property code	pvap
Equation	ln(Pvp) = A + B/(T + C)
Coeff. A	1.38020e+01
Coeff. B	-1.99738e+03
Coeff. C	-4.55080e+01
Temperature range (K), min.	193.30
Temperature range (K), max.	281.86

Information	Value
Property code	pvap
Equation	ln(Pvp) = A + B/T + C*ln(T) + D*T^2
Coeff. A	4.34958e+01
Coeff. B	-3.84470e+03
Coeff. C	-4.40734e+00
Coeff. D	3.80005e-06
Temperature range (K), min.	190.15
Temperature range (K), max.	415.68

Sources

Joback Method:	https://en.wikipedia.org/wiki/Joback_method
KDB:	https://www.cheric.org/files/research/kdb/mol/mol1597.mol
McGowan Method:	http://link.springer.com/article/10.1007/BF02311772
NIST Webbook:	http://webbook.nist.gov/cgi/cbook.cgi?ID=C420268&Units=SI
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=1597
Crippen Method:	http://pubs.acs.org/doi/abs/10.1021/ci990307l
Crippen Method:	https://www.chemeo.com/doc/models/crippen_log10ws

Legend

af:	Acentric Factor
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
ie:	Ionization energy
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
zc:	Critical Compressibility