

trans-1-Fluoro-1-propene

Inchi:	InChI=1S/C3H5F/c1-2-3-4/h2-3H,1H3/b3-2+
InchiKey:	VJGCZWVJDRIHNC-NSCUHMNNSA-N
Formula:	C3H5F
SMILES:	CC=CF
Mol. weight [g/mol]:	60.07
CAS:	20327-65-5

Physical Properties

Property code	Value	Unit	Source
gf	-140.21	kJ/mol	Joback Method
hf	-173.00	kJ/mol	NIST Webbook
hfus	6.81	kJ/mol	Joback Method
hvap	21.41	kJ/mol	Joback Method
log10ws	-1.28		Crippen Method
logp	1.490		Crippen Method
mcvol	50.600	ml/mol	McGowan Method
pc	4450.38	kPa	Joback Method
tb	271.47	K	Joback Method
tc	430.49	K	Joback Method
tf	119.08	K	Joback Method
vc	0.202	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	63.00	J/mol×K	271.47	Joback Method
cpg	68.38	J/mol×K	297.97	Joback Method
cpg	73.52	J/mol×K	324.48	Joback Method
cpg	78.44	J/mol×K	350.98	Joback Method
cpg	83.13	J/mol×K	377.48	Joback Method
cpg	87.60	J/mol×K	403.98	Joback Method
cpg	91.87	J/mol×K	430.49	Joback Method

Correlations

Information	Value
Property code	pvap
Equation	$\ln(P_{vp}) = A + B/(T + C)$
Coeff. A	1.46968e+01
Coeff. B	-2.44821e+03
Coeff. C	-1.04140e+01
Temperature range (K), min.	180.32
Temperature range (K), max.	271.27

Sources

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
McGowan Method:	http://link.springer.com/article/10.1007/BF02311772
NIST Webbook:	http://webbook.nist.gov/cgi/cbook.cgi?ID=C20327655&Units=SI
The Yaws Handbook of Vapor Pressure:	https://www.sciencedirect.com/book/9780128029992/the-yaws-handbook-of-vapor-pressure

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
log10ws:	Log10 of Water solubility in mol/l
logp:	Octanol/Water partition coefficient
mcvol:	McGowan's characteristic volume
pc:	Critical Pressure
pvap:	Vapor pressure
tb:	Normal Boiling Point Temperature
tc:	Critical Temperature
tf:	Normal melting (fusion) point
vc:	Critical Volume

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