Propane, 1,3-difluoro-

Other names: 1,3-difluoropropane
Inchi: InChI=1S/C3H6F2/c4-2-1-3-5/h1-3H2
InchiKey: OOLOYCGJRJFTPM-UHFFFAOYSA-N
Formula: C3H6F2
SMILES: FCCCF
Mol. weight [g/mol]: 80.08
CAS: 462-39-5

Physical Properties

Property code	Value	Unit	Source
gf	-415.24	kJ/mol	Joback Method
hf	-497.47	kJ/mol	Joback Method
hfus	9.69	kJ/mol	Joback Method
hvap	20.64	kJ/mol	Joback Method
log10ws	-0.79		Crippen Method
logp	1.316		Crippen Method
mcvol	56.670	ml/mol	McGowan Method
pc	3925.85	kPa	Joback Method
rinpol	481.00		NIST Webbook
rinpol	481.00		NIST Webbook
tb	266.58	K	Joback Method
tc	407.67	K	Joback Method
tf	124.75	K	Joback Method
vc	0.239	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	84.06	J/mol×K	266.58	Joback Method
cpg	89.35	J/mol×K	290.09	Joback Method
cpg	94.48	J/mol×K	313.61	Joback Method
cpg	99.46	J/mol×K	337.12	Joback Method
cpg	104.28	J/mol×K	360.64	Joback Method
cpg	108.96	J/mol×K	384.15	Joback Method

cpg	113.50	J/mol×K	407.67	Joback Method

Correlations

Information	Value
Property code	pvap
Equation	ln(Pvp) = A + B/(T + C)
Coeff. A	1.76428e+01
Coeff. B	-2.81663e+03
Coeff. C	-7.36170e+01
Temperature range (K), min.	235.91
Temperature range (K), max.	334.67

Sources

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

NIST Webbook: http://webbook.nist.gov/cgi/cbook.cgi?ID=C462395&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/ci990307l

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
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

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