Cyclopentene, octafluoro-

Other names:	Cyclopentene, 1,2,3,3,4,4,5,5-octafluoro-
	Cyclopentene, perfluoro
	Fc-c1418
	Flon C 1418
	Octafluorocyclopentene
	Perfluorocyclopentene
Inchi:	InChI=1S/C5F8/c6-1-2(7)4(10,11)5(12,13)3(1,8)9
InchiKey:	YBMDPYAEZDJWNY-UHFFFAOYSA-N
Formula:	C5F8
SMILES:	FC1=C(F)C(F)(F)C(F)(F)C1(F)F
Mol. weight [g/mol]:	212.04
CAS:	559-40-0

Physical Properties

Property code	Value	Unit	Source
gf	-1551.90	kJ/mol	Joback Method
hf	-1615.05	kJ/mol	Joback Method
hfus	10.97	kJ/mol	Joback Method
hvap	17.99	kJ/mol	Joback Method
log10ws	-3.30		Crippen Method
logp	3.057		Crippen Method
mcvol	80.310	ml/mol	McGowan Method
pc	3076.16	kPa	Joback Method
tb	300.00 ± 4.00	K	NIST Webbook
tb	300.00	K	NIST Webbook
tb	298.40 ± 0.80	K	NIST Webbook
tb	307.00 ± 4.00	K	NIST Webbook
tc	467.46	K	Joback Method
tf	250.75	K	Joback Method
vc	0.379	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source

cpg	160.55	J/mol×K	323.74	Joback Method
cpg	170.74	J/mol×K	347.69	Joback Method
cpg	179.91	J/mol×K	371.65	Joback Method
cpg	188.15	J/mol×K	395.60	Joback Method
cpg	195.52	J/mol×K	419.55	Joback Method
cpg	202.12	J/mol×K	443.51	Joback Method
cpg	208.00	J/mol×K	467.46	Joback Method

Correlations

Information	Value
Property code	pvap
Equation	ln(Pvp) = A + B/(T + C)
Coeff. A	1.22604e+01
Coeff. B	-1.57075e+03
Coeff. C	-9.44600e+01
Temperature range (K), min.	225.65
Temperature range (K), max.	320.50

Sources

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=C559400&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

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