

Cyclopentene, perfluoro

Other names:	Cyclopentene, 1,2,3,3,4,4,5,5-octafluoro- 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
hf	-1506.74	kJ/mol	Cheméo Relay (1.0)
hfus	10.97	kJ/mol	Joback Method
hvap	28.82	kJ/mol	Cheméo Relay (1.0)
ie	11.18	eV	Cheméo Relay (1.0)
logp	3.057		Crippen Method
mcvol	80.310	ml/mol	McGowan Method
tb	300.00	K	NIST Webbook
tb	300.00 ± 4.00	K	NIST Webbook
tb	298.40 ± 0.80	K	NIST Webbook
tb	307.00 ± 4.00	K	NIST Webbook

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	$\ln(P_{vp}) = A + B/(T + C)$
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

Cheméo Relay (1.0):

Cheméo Relay (1.0, beta):

The Yaws Handbook of Vapor
Pressure:
NIST Webbook:

<https://www.sciencedirect.com/book/9780128029992/the-yaws-handbook-of-vapor-pressure>

<http://webbook.nist.gov/cgi/cbook.cgi?ID=C559400&Units=SI>

Joback Method:

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

McGowan Method:

<http://link.springer.com/article/10.1007/BF02311772>

Crippen Method:

<http://pubs.acs.org/doi/abs/10.1021/ci990307l>

Crippen Method:

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

Legend

cpg:	Ideal gas heat capacity
hf:	Enthalpy of formation at standard conditions
hfus:	Enthalpy of fusion at standard conditions
hvap:	Enthalpy of vaporization at standard conditions
ie:	Ionization energy
logp:	Octanol/Water partition coefficient
mcvol:	McGowan's characteristic volume
pvap:	Vapor pressure
tb:	Normal Boiling Point Temperature

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