Perfluoro-1,1-dimethylcyclopentane

Other names: Cyclopentane, octafluoro-1,1-bis(trifluoromethyl)-
Inchi: InChI=1S/C7F14/c8-2(9)1(6(16,17)18,7(19,20)21)3(10,11)5(14,15)4(2,12)13
InchiKey: CIWUYWQUYMZILR-UHFFFAOYSA-N
Formula: C7F14
SMILES: FC(F)(F)C1(C(F)(F)F)C(F)(F)C(F)(F)C(F)(F)C1(F)F
Mol. weight [g/mol]: 350.05
CAS: 20471-99-2

Physical Properties

Property code	Value	Unit	Source
gf	-2735.34	kJ/mol	Joback Method
hf	-2895.53	kJ/mol	Joback Method
hfus	8.91	kJ/mol	Joback Method
hvap	10.41	kJ/mol	Joback Method
log10ws	-4.99		Crippen Method
logp	4.652		Crippen Method
mcvol	123.410	ml/mol	McGowan Method
pc	2049.31	kPa	Joback Method
tb	340.68	K	Joback Method
tc	465.96	K	Joback Method
tf	295.19	K	Joback Method
vc	0.585	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	283.54	J/mol×K	340.68	Joback Method
cpg	299.13	J/mol×K	361.56	Joback Method
cpg	313.29	J/mol×K	382.44	Joback Method
cpg	326.11	J/mol×K	403.32	Joback Method
cpg	337.68	J/mol×K	424.20	Joback Method
cpg	348.10	J/mol×K	445.08	Joback Method
cpg	357.46	J/mol×K	465.96	Joback Method

Sources

NIST Webbook:	http://webbook.nist.gov/cgi/cbook.cgi?ID=C20471992&Units=SI
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

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
tb:	Normal Boiling Point Temperature
tc:	Critical Temperature
tf:	Normal melting (fusion) point
vc:	Critical Volume