Pentafluorodimethyl ether

Inchi: InChI=1S/C2HF5O/c3-1(4)8-2(5,6)7/h1H
InchiKey: ACYQYBAHTSKBLM-UHFFFAOYSA-N
Formula: C2HF5O
SMILES: FC(F)OC(F)(F)F
Mol. weight [g/mol]: 136.02
CAS: 3822-68-2

Physical Properties

Property code	Value	Unit	Source
gf	-1112.69	kJ/mol	Joback Method
hf	-1211.41	kJ/mol	Joback Method
hfus	6.59	kJ/mol	Joback Method
hvap	16.69	kJ/mol	Joback Method
log10ws	-1.71		Crippen Method
logp	1.745		Crippen Method
mcvol	53.760	ml/mol	McGowan Method
pc	3326.00 ± 12.00	kPa	NIST Webbook
tb	238.60 ± 0.50	K	NIST Webbook
tc	353.85 ± 0.30	K	NIST Webbook
tf	116.00 ± 2.00	K	NIST Webbook
vc	0.238	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	104.37	J/mol×K	281.92	Joback Method
cpg	108.72	J/mol×K	303.58	Joback Method
cpg	112.90	J/mol×K	325.24	Joback Method
cpg	116.92	J/mol×K	346.90	Joback Method
cpg	120.77	J/mol×K	368.56	Joback Method
cpg	99.85	J/mol×K	260.26	Joback Method
cpg	124.47	J/mol×K	390.22	Joback Method
hvapt	22.30	kJ/mol	227.00	NIST Webbook
hvapt	19.30	kJ/mol	280.00	NIST Webbook

hvapt	17.60	kJ/mol	280.00	NIST Webbook
hvapt	15.60	kJ/mol	280.00	NIST Webbook
hvapt	20.40	kJ/mol	276.50	NIST Webbook

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=C3822682&Units=SI

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
hvapt:	Enthalpy of vaporization at a given temperature
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