1,1,1',1'-Tetrafluorodimethyl ether

Other names:	(Difluoromethoxy)(difluoro)methane
	R E 134
	Methane, oxybis(difluoro-
Inchi:	InChI=1S/C2H2F4O/c3-1(4)7-2(5)6/h1-2H
InchiKey:	IOCGMLSHRBHNCM-UHFFFAOYSA-N
Formula:	C2H2F4O
SMILES:	FC(F)OC(F)F
Mol. weight [g/mol]:	118.03
CAS:	1691-17-4

Physical Properties

Property code	Value	Unit	Source
gf	-923.16	kJ/mol	Joback Method
hf	-1011.83	kJ/mol	Joback Method
hfus	7.40	kJ/mol	Joback Method
hvap	18.41	kJ/mol	Joback Method
log10ws	-1.36		Crippen Method
logp	1.448		Crippen Method
mcvol	51.990	ml/mol	McGowan Method
pc	4228.00 ± 80.00	kPa	NIST Webbook
rhoc	528.78 ± 11.80	kg/m3	NIST Webbook
tb	263.78	K	Joback Method
tc	420.25 ± 0.20	K	NIST Webbook
tc	420.70 ± 1.00	K	NIST Webbook
tf	106.89	K	Joback Method
vc	0.226	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	94.00	J/mol×K	263.78	Joback Method
cpg	97.52	J/mol×K	285.84	Joback Method
cpg	100.98	J/mol×K	307.90	Joback Method
cpg	104.38	J/mol×K	329.96	Joback Method

cpg	107.71	J/mol×K	352.02	Joback Method
cpg	110.97	J/mol×K	374.08	Joback Method
cpg	114.17	J/mol×K	396.14	Joback Method

Sources

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=C1691174&Units=SI
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
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
rhoc:	Critical density
tb:	Normal Boiling Point Temperature
tc:	Critical Temperature
tf:	Normal melting (fusion) point
vc:	Critical Volume