tetrafluorosuccinic acid

Inchi: InChI=1S/C4H2F4O4/c5-3(6,1(9)10)4(7,8)2(11)12/h(H,9,10)(H,11,12)
InchiKey: YUDUFRYTKFGQCL-UHFFFAOYSA-N
Formula: C4H2F4O4
SMILES: O=C(O)C(F)(F)C(F)(F)C(=O)O
Mol. weight [g/mol]: 190.05
CAS: 377-38-8

Physical Properties

Property code	Value	Unit	Source
gf	-1322.24	kJ/mol	Joback Method
hf	-1457.45	kJ/mol	Joback Method
hfus	14.98	kJ/mol	Joback Method
hvap	65.49	kJ/mol	Joback Method
log10ws	-0.32		Crippen Method
logp	0.426		Crippen Method
mcvol	89.180	ml/mol	McGowan Method
pc	4862.97	kPa	Joback Method
tb	573.64	K	Joback Method
tc	738.65	K	Joback Method
tf	363.54	K	Joback Method
vc	0.359	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	230.83	J/mol×K	573.64	Joback Method
cpg	235.50	J/mol×K	601.14	Joback Method
cpg	239.79	J/mol×K	628.64	Joback Method
cpg	243.71	J/mol×K	656.14	Joback Method
cpg	247.29	J/mol×K	683.65	Joback Method
cpg	250.55	J/mol×K	711.15	Joback Method
cpg	253.53	J/mol×K	738.65	Joback Method

Pressure Dependent Properties

Property code	Value	Unit	Pressure [kPa]	Source
tbrp	423.00	K	2.00	NIST Webbook

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=C377388&Units=SI
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
tb:	Normal Boiling Point Temperature
tbrp:	Boiling point at reduced pressure
tc:	Critical Temperature
tf:	Normal melting (fusion) point
vc:	Critical Volume