Formyl fluoride

Other names: HFCO
Inchi: InChI=1S/CHFO/c2-1-3/h1H
InchiKey: NHGVZTMBVDFPHJ-UHFFFAOYSA-N
Formula: CHFO
SMILES: O=CF
Mol. weight [g/mol]: 48.02
CAS: 1493-02-3

Physical Properties

Property code	Value	Unit	Source
gf	-336.79	kJ/mol	Joback Method
hf	-345.66	kJ/mol	Joback Method
hfus	3.71	kJ/mol	Joback Method
hvap	23.72	kJ/mol	Joback Method
ie	12.37 ± 0.02	eV	NIST Webbook
log10ws	-4.51		Crippen Method
logp	0.146		Crippen Method
mcvol	28.290	ml/mol	McGowan Method
pc	6056.11	kPa	Joback Method
tb	270.21	K	Joback Method
tc	429.67	K	Joback Method
tf	143.62	K	Joback Method
vc	0.127	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	39.63	J/mol×K	270.21	Joback Method
cpg	41.31	J/mol×K	296.79	Joback Method
cpg	42.95	J/mol×K	323.36	Joback Method
cpg	44.53	J/mol×K	349.94	Joback Method
cpg	46.07	J/mol×K	376.51	Joback Method
cpg	47.55	J/mol×K	403.09	Joback Method
cpg	48.98	J/mol×K	429.67	Joback Method

hvapt	24.40	kJ/mol	206.50	NIST Webbook

Sources

KDB:	https://www.cheric.org/files/research/kdb/mol/mol1766.mol
McGowan Method:	http://link.springer.com/article/10.1007/BF02311772
NIST Webbook:	http://webbook.nist.gov/cgi/cbook.cgi?ID=C1493023&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

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
ie:	Ionization energy
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

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