Formyl cation

Other names:	Formyl, unipositive ion
	Methylium, oxo-
	HCO
	HCO+
Inchi:	InChI=1S/CHO/c1-2/h1H/q+1
InchiKey:	XPRMKTHGXOVKEH-UHFFFAOYSA-N
Formula:	CHO+
SMILES:	[CH3+]=O
Mol. weight [g/mol]:	29.02
CAS:	17030-74-9

Physical Properties

Property code	Value	Unit	Source
gf	-240.91	kJ/mol	Joback Method
hf	-255.77	kJ/mol	Joback Method
hfus	3.65	kJ/mol	Joback Method
hvap	23.58	kJ/mol	Joback Method
log10ws	-4.21		Crippen Method
logp	-0.028		Crippen Method
mcvol	28.670	ml/mol	McGowan Method
pc	6932.88	kPa	Joback Method
tb	211.08	K	Joback Method
tc	345.69	K	Joback Method
tf	119.48	K	Joback Method
vc	0.118	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	25.97	J/mol×K	211.08	Joback Method
cpg	29.00	J/mol×K	233.52	Joback Method
cpg	31.86	J/mol×K	255.95	Joback Method
cpg	34.57	J/mol×K	278.39	Joback Method
cpg	37.13	J/mol×K	300.82	Joback Method

cpg	39.55	J/mol×K	323.26	Joback Method
cpg	41.82	J/mol×K	345.69	Joback Method
dvisc	0.0037389	Pa×s	119.48	Joback Method
dvisc	0.0020656	Pa×s	134.75	Joback Method
dvisc	0.0012877	Pa×s	150.01	Joback Method
dvisc	0.0008760	Pa×s	165.28	Joback Method
dvisc	0.0006360	Pa×s	180.55	Joback Method
dvisc	0.0004854	Pa×s	195.81	Joback Method
dvisc	0.0003853	Pa×s	211.08	Joback Method

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=C17030749&Units=SI

Legend

cpg: Ideal gas heat capacity
dvisc: Dynamic viscosity
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

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