Methyl radical, methoxy-

Inchi: InChI=1S/C2H5O/c1-3-2/h1H2,2H3
InchiKey: AFGPRWUFPLEMTF-UHFFFAOYSA-N
Formula: C2H5O
SMILES: [CH2]OC
Mol. weight [g/mol]: 45.06
CAS: 16520-04-0

Physical Properties

Property code	Value	Unit	Source
affp	756.10	kJ/mol	NIST Webbook
basg	723.60	kJ/mol	NIST Webbook
ea	-0.02 ± 0.10	eV	NIST Webbook
gf	-86.66	kJ/mol	Joback Method
hf	-161.02	kJ/mol	Joback Method
hfus	3.81	kJ/mol	Joback Method
hvap	22.31	kJ/mol	Joback Method
ie	6.94	eV	NIST Webbook
ie	6.90	eV	NIST Webbook
log10ws	0.15		Crippen Method
logp	0.424		Crippen Method
mcvol	42.760	ml/mol	McGowan Method
pc	5228.24	kPa	Joback Method
tb	266.88	K	Joback Method
tc	423.90	K	Joback Method
tf	150.90	K	Joback Method
vc	0.157	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	56.88	J/mol×K	266.88	Joback Method
cpg	74.60	J/mol×K	397.73	Joback Method
cpg	71.36	J/mol×K	371.56	Joback Method
cpg	67.98	J/mol×K	345.39	Joback Method

cpg	64.44	J/mol×K	319.22	Joback Method
cpg	60.75	J/mol×K	293.05	Joback Method
cpg	77.70	J/mol×K	423.90	Joback Method
dvisc	0.0001147	Pa×s	266.88	Joback Method
dvisc	0.0001204	Pa×s	247.55	Joback Method
dvisc	0.0001275	Pa×s	228.22	Joback Method
dvisc	0.0001364	Pa×s	208.89	Joback Method
dvisc	0.0001480	Pa×s	189.56	Joback Method
dvisc	0.0001635	Pa×s	170.23	Joback Method
dvisc	0.0001854	Pa×s	150.90	Joback Method

Sources

NIST Webbook: http://webbook.nist.gov/cgi/cbook.cgi?ID=C16520040&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

McGowan Method: http://link.springer.com/article/10.1007/BF02311772

Legend

affp: Proton affinity

basg: Gas basicity

cpg: Ideal gas heat capacity

dvisc: Dynamic viscosity

ea: Electron affinity

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

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