Methyl radical

Inchi: InChI=1S/CH3/h1H3
InchiKey: WCYWZMWISLQXQU-UHFFFAOYSA-N
Formula: CH3
SMILES: [CH3]
Mol. weight [g/mol]: 15.03
CAS: 2229-07-4

Physical Properties

Property code	Value	Unit	Source
ea	1.08	eV	NIST Webbook
ea	1.13	eV	NIST Webbook
ea	0.13	eV	NIST Webbook
ea	0.62 ± 0.01	eV	NIST Webbook
ea	0.50	eV	NIST Webbook
ea	0.08 ± 0.03	eV	NIST Webbook
ea	1.00 ± 1.10	eV	NIST Webbook
gf	9.92	kJ/mol	Joback Method
hf	147.00 ± 1.00	kJ/mol	NIST Webbook
hfpi	1095.00	kJ/mol	NIST Webbook
hfpiz	1099.00	kJ/mol	NIST Webbook
hfus	0.03	kJ/mol	Joback Method
hvap	17.67	kJ/mol	Joback Method
ie	9.84 ± 0.00	eV	NIST Webbook
ie	9.82 ± 0.02	eV	NIST Webbook
ie	9.84 ± 0.01	eV	NIST Webbook
ie	9.84 ± 0.00	eV	NIST Webbook
ie	9.84	eV	NIST Webbook
ie	9.84 ± 0.02	eV	NIST Webbook
ie	9.86 ± 0.04	eV	NIST Webbook
ie	9.60 ± 0.30	eV	NIST Webbook
ie	9.84 ± 0.01	eV	NIST Webbook
ie	9.86 ± 0.04	eV	NIST Webbook
ie	9.81 ± 0.02	eV	NIST Webbook
ie	9.84 ± 0.03	eV	NIST Webbook
ie	9.87 ± 0.05	eV	NIST Webbook
ie	9.83 ± 0.01	eV	NIST Webbook
ie	9.82 ± 0.04	eV	NIST Webbook

ie	9.84 ± 0.05	eV	NIST Webbook
ie	9.84 ± 0.01	eV	NIST Webbook
log10ws	0.15		Crippen Method
logp	0.450		Crippen Method
mcvol	22.800	ml/mol	McGowan Method
pc	6200.01	kPa	Joback Method
tb	221.58	K	Joback Method
tc	370.90	K	Joback Method
tf	117.40	K	Joback Method
vc	0.083	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	15.82	J/mol×K	221.58	Joback Method
cpg	18.52	J/mol×K	246.47	Joback Method
cpg	21.02	J/mol×K	271.35	Joback Method
cpg	23.34	J/mol×K	296.24	Joback Method
cpg	25.49	J/mol×K	321.13	Joback Method
cpg	27.47	J/mol×K	346.02	Joback Method
cpg	29.30	J/mol×K	370.90	Joback Method
dvisc	0.0000241	Pa×s	117.40	Joback Method
dvisc	0.0000255	Pa×s	134.76	Joback Method
dvisc	0.0000266	Pa×s	152.13	Joback Method
dvisc	0.0000275	Pa×s	169.49	Joback Method
dvisc	0.0000282	Pa×s	186.85	Joback Method
dvisc	0.0000289	Pa×s	204.22	Joback Method
dvisc	0.0000294	Pa×s	221.58	Joback Method

Sources

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

NIST Webbook: http://webbook.nist.gov/cgi/cbook.cgi?ID=C2229074&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
dvisc:	Dynamic viscosity
ea:	Electron affinity
gf:	Standard Gibbs free energy of formation
hf:	Enthalpy of formation at standard conditions
hfpi:	Enthalpy of formation of positive ion at standard conditions
hfpiz:	Enthalpy of formation of positive ion at 0K
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