Vinyl radical

Inchi: InChI=1S/C2H3/c1-2/h1H,2H2
InchiKey: ORGHESHFQPYLAO-UHFFFAOYSA-N
Formula: C2H3
SMILES: [CH]=C
Mol. weight [g/mol]: 27.05
CAS: 2669-89-8

Physical Properties

Property code	Value	Unit	Source
affp	755.20	kJ/mol	NIST Webbook
basg	719.80	kJ/mol	NIST Webbook
ea	0.40	eV	NIST Webbook
ea	0.67 ± 0.02	eV	NIST Webbook
gf	106.18	kJ/mol	Joback Method
hf	299.00 ± 5.00	kJ/mol	NIST Webbook
hfpi	1100.00 ± 10.00	kJ/mol	NIST Webbook
hfpiz	1100.00 ± 10.00	kJ/mol	NIST Webbook
hfus	1.34	kJ/mol	Joback Method
hvap	19.23	kJ/mol	Joback Method
ie	8.95	eV	NIST Webbook
ie	8.25	eV	NIST Webbook
ie	8.70 ± 0.10	eV	NIST Webbook
ie	8.59 ± 0.03	eV	NIST Webbook
log10ws	-0.14		Crippen Method
logp	0.605		Crippen Method
mcvol	32.590	ml/mol	McGowan Method
pc	5704.58	kPa	Joback Method
tb	241.14	K	Joback Method
tc	397.42	K	Joback Method
tf	126.91	K	Joback Method
vc	0.119	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	28.05	J/mol×K	241.14	Joback Method
cpg	31.79	J/mol×K	267.19	Joback Method
cpg	35.25	J/mol×K	293.23	Joback Method
cpg	38.45	J/mol×K	319.28	Joback Method
cpg	41.40	J/mol×K	345.33	Joback Method
cpg	44.12	J/mol×K	371.37	Joback Method
cpg	46.62	J/mol×K	397.42	Joback Method
dvisc	0.0000529	Pa×s	126.91	Joback Method
dvisc	0.0000540	Pa×s	145.95	Joback Method
dvisc	0.0000549	Pa×s	164.99	Joback Method
dvisc	0.0000556	Pa×s	184.02	Joback Method
dvisc	0.0000562	Pa×s	203.06	Joback Method
dvisc	0.0000567	Pa×s	222.10	Joback Method
dvisc	0.0000571	Pa×s	241.14	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=C2669898&Units=SI

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
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

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