Ethyl radical

Inchi: InChI=1S/C2H5/c1-2/h1H2,2H3
InchiKey: QUPDWYMUPZLYJZ-UHFFFAOYSA-N
Formula: C2H5
SMILES: [CH2]C
Mol. weight [g/mol]: 29.06
CAS: 2025-56-1

Physical Properties

Property code	Value	Unit	Source
affp	616.00	kJ/mol	NIST Webbook
basg	583.50	kJ/mol	NIST Webbook
ea	0.95	eV	NIST Webbook
ea	0.89	eV	NIST Webbook
ea	-0.26 ± 0.09	eV	NIST Webbook
gf	18.34	kJ/mol	Joback Method
hf	119.00 ± 2.00	kJ/mol	NIST Webbook
hfus	2.62	kJ/mol	Joback Method
hvap	19.90	kJ/mol	Joback Method
ie	8.38 ± 0.05	eV	NIST Webbook
ie	8.39 ± 0.02	eV	NIST Webbook
ie	8.30 ± 0.02	eV	NIST Webbook
ie	8.26 ± 0.02	eV	NIST Webbook
ie	8.34 ± 0.05	eV	NIST Webbook
ie	8.13	eV	NIST Webbook
ie	8.51 ± 0.01	eV	NIST Webbook
ie	8.53 ± 0.02	eV	NIST Webbook
ie	8.12 ± 0.01	eV	NIST Webbook
ie	8.32 ± 0.04	eV	NIST Webbook
ie	8.40	eV	NIST Webbook
log10ws	-0.27		Crippen Method
logp	0.840		Crippen Method
mcvol	36.890	ml/mol	McGowan Method
pc	5359.18	kPa	Joback Method
tb	244.46	K	Joback Method
tc	397.65	K	Joback Method
tf	128.67	K	Joback Method
vc	0.139	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	37.54	J/mol×K	244.46	Joback Method
cpg	56.91	J/mol×K	372.12	Joback Method
cpg	53.49	J/mol×K	346.59	Joback Method
cpg	49.86	J/mol×K	321.06	Joback Method
cpg	46.00	J/mol×K	295.52	Joback Method
cpg	41.90	J/mol×K	269.99	Joback Method
cpg	60.12	J/mol×K	397.65	Joback Method
dvisc	0.0000699	Pa×s	244.46	Joback Method
dvisc	0.0000710	Pa×s	225.16	Joback Method
dvisc	0.0000724	Pa×s	205.86	Joback Method
dvisc	0.0000740	Pa×s	186.56	Joback Method
dvisc	0.0000761	Pa×s	167.27	Joback Method
dvisc	0.0000788	Pa×s	147.97	Joback Method
dvisc	0.0000824	Pa×s	128.67	Joback Method

Sources

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=C2025561&Units=SI
Crippen Method: http://pubs.acs.org/doi/abs/10.1021/ci990307l

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