Ethyne, fluoro-

Other names:	Fluoroacetylene
	Acetylene, fluoro-
	Monofluoroacetylene
	HC«equiv»CF
	Fluoroethyne
	C2HF
Inchi:	InChI=1S/C2HF/c1-2-3/h1H
InchiKey:	IAWCIZWLKMTPLL-UHFFFAOYSA-N
Formula:	C2HF
SMILES:	C#CF
Mol. weight [g/mol]:	44.03
CAS:	2713-09-9

Physical Properties

Property code	Value	Unit	Source
affp	686.00	kJ/mol	NIST Webbook
basg	661.30	kJ/mol	NIST Webbook
gf	-5.78	kJ/mol	Joback Method
hf	11.18	kJ/mol	Joback Method
hfus	6.99	kJ/mol	Joback Method
hvap	19.09	kJ/mol	Joback Method
ie	11.50 ± 0.10	eV	NIST Webbook
ie	11.26	eV	NIST Webbook
ie	11.26	eV	NIST Webbook
ie	11.26	eV	NIST Webbook
log10ws	-0.80		Crippen Method
logp	0.547		Crippen Method
mcvol	32.210	ml/mol	McGowan Method
pc	5853.95	kPa	Joback Method
tb	234.55	K	Joback Method
tc	391.57	K	Joback Method
tf	159.86	K	Joback Method
vc	0.128	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	42.26	J/mol×K	234.55	Joback Method
cpg	44.09	J/mol×K	260.72	Joback Method
cpg	45.84	J/mol×K	286.89	Joback Method
cpg	47.49	J/mol×K	313.06	Joback Method
cpg	49.06	J/mol×K	339.23	Joback Method
cpg	50.55	J/mol×K	365.40	Joback Method
cpg	51.95	J/mol×K	391.57	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=C2713099&Units=SI

Legend

affp: Proton affinity
basg: Gas basicity
cpg: Ideal gas heat capacity
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