Cyclopropane, ethyl-

Other names: Ethylcyclopropane
Inchi: InChI=1S/C5H10/c1-2-5-3-4-5/h5H,2-4H2,1H3
InchiKey: FOTXAJDDGPYIFU-UHFFFAOYSA-N
Formula: C5H10
SMILES: CCC1CC1
Mol. weight [g/mol]: 70.13
CAS: 1191-96-4

Physical Properties

Property code	Value	Unit	Source
chl	-3371.90 ± 0.75	kJ/mol	NIST Webbook
chl	-3384.00	kJ/mol	NIST Webbook
gf	51.97	kJ/mol	Joback Method
hf	-73.73	kJ/mol	Joback Method
hfl	-24.80 ± 0.79	kJ/mol	NIST Webbook
hfus	6.84	kJ/mol	Joback Method
hvap	26.64	kJ/mol	Joback Method
ie	8.96 ± 0.05	eV	NIST Webbook
ie	9.50	eV	NIST Webbook
log10ws	-1.57		Crippen Method
logp	1.806		Crippen Method
mcvol	70.450	ml/mol	McGowan Method
pc	4067.32	kPa	Joback Method
rinpol	512.00		NIST Webbook
rinpol	515.00		NIST Webbook
rinpol	516.00		NIST Webbook
rinpol	510.00		NIST Webbook
rinpol	510.00		NIST Webbook
rinpol	508.30		NIST Webbook
rinpol	511.00		NIST Webbook
rinpol	512.00		NIST Webbook
rinpol	512.00		NIST Webbook
rinpol	509.00		NIST Webbook
rinpol	510.00		NIST Webbook
rinpol	512.00		NIST Webbook
rinpol	515.00		NIST Webbook
rinpol	509.00		NIST Webbook

rinpol	508.00		NIST Webbook
rinpol	508.00		NIST Webbook
rinpol	510.00		NIST Webbook
rinpol	506.00		NIST Webbook
rinpol	510.00		NIST Webbook
rinpol	511.00		NIST Webbook
rinpol	508.00		NIST Webbook
rinpol	512.00		NIST Webbook
rinpol	550.00		NIST Webbook
tb	309.80 ± 0.30	K	NIST Webbook
tb	309.10	K	NIST Webbook
tb	309.00 ± 0.60	K	NIST Webbook
tb	309.08 ± 0.20	K	NIST Webbook
tb	309.22 ± 0.30	K	NIST Webbook
tb	309.11 ± 0.30	K	NIST Webbook
tb	309.40 ± 0.40	K	NIST Webbook
tb	309.09 ± 0.30	K	NIST Webbook
tb	309.05 ± 0.50	K	NIST Webbook
tb	309.15 ± 1.00	K	NIST Webbook
tb	307.90 ± 1.00	K	NIST Webbook
tc	498.77	K	Joback Method
tf	123.74 ± 0.20	K	NIST Webbook
tf	123.88 ± 0.03	K	NIST Webbook
tf	123.87 ± 0.06	K	NIST Webbook
tf	123.75 ± 0.20	K	NIST Webbook
tt	123.55 ± 0.20	K	NIST Webbook
vc	0.273	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	106.69	J/mol×K	320.54	Joback Method
cpg	155.65	J/mol×K	469.06	Joback Method
cpg	146.87	J/mol×K	439.36	Joback Method
cpg	137.61	J/mol×K	409.65	Joback Method
cpg	127.84	J/mol×K	379.95	Joback Method
cpg	117.54	J/mol×K	350.24	Joback Method
cpg	163.97	J/mol×K	498.77	Joback Method
dvisc	0.0002279	Pa×s	320.54	Joback Method
dvisc	0.0002452	Pa×s	294.46	Joback Method
dvisc	0.0002677	Pa×s	268.38	Joback Method

dvisc	0.0002978	Pa×s	242.29	Joback Method
dvisc	0.0003398	Pa×s	216.21	Joback Method
dvisc	0.0004021	Pa×s	190.13	Joback Method
dvisc	0.0005021	Pa×s	164.05	Joback Method

Correlations

Information	Value
Property code	pvap
Equation	ln(Pvp) = A + B/(T + C)
Coeff. A	1.52123e+01
Coeff. B	-2.98777e+03
Coeff. C	-2.70740e+01
Temperature range (K), min.	227.26
Temperature range (K), max.	328.84

Sources

Joback Method:	https://en.wikipedia.org/wiki/Joback_method
KDB:	https://www.cheric.org/files/research/kdb/mol/mol449.mol
McGowan Method:	http://link.springer.com/article/10.1007/BF02311772
NIST Webbook:	http://webbook.nist.gov/cgi/cbook.cgi?ID=C1191964&Units=SI
The Yaws Handbook of Vapor Pressure:	https://www.sciencedirect.com/book/9780128029992/the-yaws-handbook-of-vapor-pressure
Crippen Method:	http://pubs.acs.org/doi/abs/10.1021/ci990307l
Crippen Method:	https://www.chemeo.com/doc/models/crippen_log10ws

Legend

chl:	Standard liquid enthalpy of combustion
cpg:	Ideal gas heat capacity
dvisc:	Dynamic viscosity
gf:	Standard Gibbs free energy of formation
hf:	Enthalpy of formation at standard conditions
hfl:	Liquid phase 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
pvap:	Vapor pressure
rinpol:	Non-polar retention indices
tb:	Normal Boiling Point Temperature
tc:	Critical Temperature
tf:	Normal melting (fusion) point
tt:	Triple Point Temperature
vc:	Critical Volume