1,3-Pentadiene

Other names:	Penta-1,3-diene
	Piperylene
	1-Methylbutadiene
	CH2=CHCH=CHCH3
	Rcra waste number U186
Inchi:	InChI=1S/C5H8/c1-3-5-4-2/h3-5H,1H2,2H3
InchiKey:	PMJHHCWVYXUKFD-UHFFFAOYSA-N
Formula:	C5H8
SMILES:	C=CC=CC
Mol. weight [g/mol]:	68.12
CAS:	504-60-9

Physical Properties

Property code	Value	Unit	Source
gf	159.28	kJ/mol	Joback Method
hf	96.12	kJ/mol	Joback Method
hfus	7.63	kJ/mol	Joback Method
hvap	26.01	kJ/mol	Joback Method
ie	8.60	eV	NIST Webbook
log10ws	-1.62		Crippen Method
logp	1.748		Crippen Method
mcvol	72.710	ml/mol	McGowan Method
pc	3886.79	kPa	Joback Method
rinpol	525.00		NIST Webbook
rinpol	526.00		NIST Webbook
rinpol	515.00		NIST Webbook
rinpol	516.00		NIST Webbook
rinpol	515.00		NIST Webbook
rinpol	515.00		NIST Webbook
rinpol	542.00		NIST Webbook
rinpol	515.00		NIST Webbook
rinpol	526.00		NIST Webbook
rinpol	521.00		NIST Webbook
ripol	689.00		NIST Webbook
ripol	689.00		NIST Webbook
tb	314.00 ± 2.00	K	NIST Webbook
tb	315.30 ± 2.00	K	NIST Webbook

tb	315.00 ± 3.00	K	NIST Webbook
tb	315.60 ± 2.00	K	NIST Webbook
tb	315.00 ± 3.00	K	NIST Webbook
tb	315.70 ± 2.00	K	NIST Webbook
tb	314.40 ± 2.00	K	NIST Webbook
tb	316.00 ± 4.00	K	NIST Webbook
tb	314.90 ± 1.50	K	NIST Webbook
tb	315.70 ± 2.00	K	NIST Webbook
tb	315.00	K	NIST Webbook
tb	315.20	K	NIST Webbook
tc	490.29	K	Joback Method
tf	139.27	K	Joback Method
vc	0.277	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	100.21	J/mol×K	314.64	Joback Method
cpg	108.47	J/mol×K	343.91	Joback Method
cpg	116.31	J/mol×K	373.19	Joback Method
cpg	123.76	J/mol×K	402.46	Joback Method
cpg	130.84	J/mol×K	431.74	Joback Method
cpg	137.57	J/mol×K	461.01	Joback Method
cpg	143.95	J/mol×K	490.29	Joback Method
dvisc	0.0024945	Pa×s	139.27	Joback Method
dvisc	0.0010531	Pa×s	168.50	Joback Method
dvisc	0.0005737	Pa×s	197.73	Joback Method
dvisc	0.0003655	Pa×s	226.95	Joback Method
dvisc	0.0002581	Pa×s	256.18	Joback Method
dvisc	0.0001957	Pa×s	285.41	Joback Method
dvisc	0.0001562	Pa×s	314.64	Joback Method

Sources

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=C504609&Units=SI

Crippen Method: http://pubs.acs.org/doi/abs/10.1021/ci990307l

Legend

cpg:	Ideal gas heat capacity
dvisc:	Dynamic viscosity
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
rinpol:	Non-polar retention indices
ripol:	Polar retention indices
tb:	Normal Boiling Point Temperature
tc:	Critical Temperature
tf:	Normal melting (fusion) point
vc:	Critical Volume