1,3-Cyclopentadiene, 1,2,3,4,5-pentamethyl-

Other names: 1,2,3,4,5-Pentamethyl-1,3-cyclopentadiene
1,2,3,4,5-Pentamethylcyclopentadiene
Cyclopentadiene, 1,2,3,4,5-pentamethyl-
Pentamethylcyclopentadiene
Inchi: InChI=1S/C10H16/c1-6-7(2)9(4)10(5)8(6)3/h6H,1-5H3
InchiKey: WQIQNKQYEUMPBM-UHFFFAOYSA-N
Formula: C10H16
SMILES: CC1=C(C)C(C)C(C)=C1C
Mol. weight [g/mol]: 136.23
CAS: 4045-44-7

Physical Properties

Property code	Value	Unit	Source
gf	91.27	kJ/mol	Joback Method
hf	-25.00	kJ/mol	NIST Webbook
hfus	16.48	kJ/mol	Joback Method
hvap	41.34	kJ/mol	Joback Method
ie	7.35	eV	NIST Webbook
ie	7.17	eV	NIST Webbook
log10ws	-3.37		Crippen Method
logp	3.309		Crippen Method
mcvol	132.300	ml/mol	McGowan Method
pc	2535.37	kPa	Joback Method
tb	461.72	K	Joback Method
tc	660.14	K	Joback Method
tf	264.96	K	Joback Method
vc	0.508	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	275.77	J/mol×K	461.72	Joback Method
cpg	290.17	J/mol×K	494.79	Joback Method
cpg	303.98	J/mol×K	527.86	Joback Method

cpg	317.21	J/mol×K	560.93	Joback Method
cpg	329.87	J/mol×K	594.00	Joback Method
cpg	341.98	J/mol×K	627.07	Joback Method
cpg	353.54	J/mol×K	660.14	Joback Method
dvisc	0.0008324	Pa×s	264.96	Joback Method
dvisc	0.0006053	Pa×s	297.75	Joback Method
dvisc	0.0004689	Pa×s	330.55	Joback Method
dvisc	0.0003804	Pa×s	363.34	Joback Method
dvisc	0.0003194	Pa×s	396.13	Joback Method
dvisc	0.0002755	Pa×s	428.93	Joback Method
dvisc	0.0002427	Pa×s	461.72	Joback Method

Pressure Dependent Properties

Property code	Value	Unit	Pressure [kPa]	Source
tbrp	331.20	K	1.70	NIST Webbook

Correlations

Information	Value
Property code	pvap
Equation	ln(Pvp) = A + B/(T + C)
Coeff. A	8.68794e+00
Coeff. B	-1.71123e+03
Coeff. C	-3.32100e+01
Temperature range (K), min.	236.92
Temperature range (K), max.	540.02

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=C4045447&Units=SI

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
pvap:	Vapor pressure
tb:	Normal Boiling Point Temperature
tbrp:	Boiling point at reduced pressure
tc:	Critical Temperature
tf:	Normal melting (fusion) point
vc:	Critical Volume