2,3-Pentadiene, 2,4-dimethyl-

Other names:	(CH3)2C=C=C(CH3)2
	1,1,3,3-Tetramethylallene
	2,4-Dimethyl-2,3-pentadiene
	2,4-dimethylpenta-2,3-diene
	Allene, tetramethyl-
	Tetramethylallene
Inchi:	InChI=1S/C7H12/c1-6(2)5-7(3)4/h1-4H3
InchiKey:	DZSNJASVIURWOG-UHFFFAOYSA-N
Formula:	C7H12
SMILES:	CC(C)=C=C(C)C
Mol. weight [g/mol]:	96.17
CAS:	1000-87-9

Physical Properties

Property code	Value	Unit	Source
gf	199.46	kJ/mol	Joback Method
hf	72.61	kJ/mol	Joback Method
hfus	13.60	kJ/mol	Joback Method
hvap	31.73	kJ/mol	Joback Method
ie	8.47	eV	NIST Webbook
ie	8.53	eV	NIST Webbook
log10ws	-2.48		Crippen Method
logp	2.518		Crippen Method
mcvol	100.890	ml/mol	McGowan Method
pc	3318.18	kPa	Joback Method
tb	356.00 ± 4.00	K	NIST Webbook
tb	356.00 ± 3.00	K	NIST Webbook
tc	558.45	K	Joback Method
tf	142.16	K	Joback Method
vc	0.390	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source

cpg	172.58	J/mol×K	366.75	Joback Method
cpg	183.53	J/mol×K	398.70	Joback Method
cpg	194.04	J/mol×K	430.65	Joback Method
cpg	204.12	J/mol×K	462.60	Joback Method
cpg	213.78	J/mol×K	494.55	Joback Method
cpg	223.03	J/mol×K	526.50	Joback Method
cpg	231.89	J/mol×K	558.45	Joback Method

Correlations

Information	Value
Property code	pvap
Equation	ln(Pvp) = A + B/(T + C)
Coeff. A	1.58583e+01
Coeff. B	-3.54255e+03
Coeff. C	-4.08270e+01
Temperature range (K), min.	268.34
Temperature range (K), max.	376.71

Sources

NIST Webbook: http://webbook.nist.gov/cgi/cbook.cgi?ID=C1000879&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

Joback Method: https://en.wikipedia.org/wiki/Joback_method

McGowan Method: http://link.springer.com/article/10.1007/BF02311772

Legend

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