Cyclobutane, 1,2-dipropenyl-

Other names:	Cyclobutane, 1,2-dipropenyl-, (E,E)-
	Cyclobutane, 1,2-dipropenyl-, (Z,Z)-
	Cyclobutane, 1,2-di-1-propenyl-cis-[(E),2«alpha»(E)]
	Cyclobutane, 1,2-di-1-propenyl-cis-[(E),2«alpha»(Z)]
Inchi:	InChI=1S/C10H16/c1-3-5-9-7-8-10(9)6-4-2/h3-6,9-10H,7-8H2,1-2H3/b5-3+,6-4+
InchiKey:	LKMHAUSOSFYRLJ-GGWOSOGESA-N
Formula:	C10H16
SMILES:	CC=CC1CCC1C=CC
Mol. weight [g/mol]:	136.23
CAS:	22769-00-2

Physical Properties

Property code	Value	Unit	Source
gf	234.70	kJ/mol	Joback Method
hf	31.01	kJ/mol	Joback Method
hfus	19.17	kJ/mol	Joback Method
hvap	37.55	kJ/mol	Joback Method
ie	8.38	eV	NIST Webbook
log10ws	-3.13		Crippen Method
logp	3.165		Crippen Method
mcvol	132.300	ml/mol	McGowan Method
pc	2624.46	kPa	Joback Method
tb	442.86	K	Joback Method
tc	643.29	K	Joback Method
tf	202.48	K	Joback Method
vc	0.503	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	270.04	J/mol×K	442.86	Joback Method
cpg	347.59	J/mol×K	609.89	Joback Method
cpg	333.90	J/mol×K	576.48	Joback Method
cpg	319.36	J/mol×K	543.08	Joback Method

cpg	303.91	J/mol×K	509.67	Joback Method
cpg	287.49	J/mol×K	476.27	Joback Method
cpg	360.47	J/mol×K	643.29	Joback Method
dvisc	0.0002460	Pa×s	442.86	Joback Method
dvisc	0.0002850	Pa×s	402.80	Joback Method
dvisc	0.0003410	Pa×s	362.73	Joback Method
dvisc	0.0004266	Pa×s	322.67	Joback Method
dvisc	0.0005687	Pa×s	282.61	Joback Method
dvisc	0.0008337	Pa×s	242.54	Joback Method
dvisc	0.0014217	Pa×s	202.48	Joback Method

Sources

McGowan Method: http://link.springer.com/article/10.1007/BF02311772
NIST Webbook: http://webbook.nist.gov/cgi/cbook.cgi?ID=C22769002&Units=SI
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

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

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