Methacrylic anhydride

Other names:	2-Propenoic acid, 2-methyl-, anhydride
	Methacrylic acid anhydride
	Methacryloyl anhydride
	2-Methyl-2-propenoic acid anhydride
Inchi:	InChI=1S/C8H10O3/c1-5(2)7(9)11-8(10)6(3)4/h1,3H2,2,4H3
InchiKey:	DCUFMVPCXCSVNP-UHFFFAOYSA-N
Formula:	C8H10O3
SMILES:	C=C(C)C(=O)OC(=O)C(=C)C
Mol. weight [g/mol]:	154.16
CAS:	760-93-0

Physical Properties

Property code	Value	Unit	Source
gf	-187.78	kJ/mol	Joback Method
hf	-334.55	kJ/mol	Joback Method
hfus	15.68	kJ/mol	Joback Method
hvap	48.12	kJ/mol	Joback Method
log10ws	-1.52		Crippen Method
logp	1.208		Crippen Method
mcvol	123.990	ml/mol	McGowan Method
pc	3145.56	kPa	Joback Method
tb	505.72	K	Joback Method
tc	705.07	K	Joback Method
tf	270.57	K	Joback Method
vc	0.477	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	262.40	J/mol×K	505.72	Joback Method
cpg	272.95	J/mol×K	538.94	Joback Method
cpg	282.99	J/mol×K	572.17	Joback Method
cpg	292.52	J/mol×K	605.39	Joback Method
cpg	301.56	J/mol×K	638.62	Joback Method

cpg	310.12	J/mol×K	671.84	Joback Method
cpg	318.20	J/mol×K	705.07	Joback Method

Pressure Dependent Properties

Property code	Value	Unit	Pressure [kPa]	Source
tbrp	360.20	K	1.70	NIST Webbook

Sources

McGowan Method: http://link.springer.com/article/10.1007/BF02311772
NIST Webbook: http://webbook.nist.gov/cgi/cbook.cgi?ID=C760930&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
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
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
tbrp: Boiling point at reduced pressure
tc: Critical Temperature
tf: Normal melting (fusion) point
vc: Critical Volume