

Methanesulfonic anhydride

Other names:	Methanesulfonic acid, anhydride Mesyl anhydride Methanesulphonic anhydride
Inchi:	InChI=1S/C2H6O5S2/c1-8(3,4)7-9(2,5)6/h1-2H3
InchiKey:	IZDROVVXIHRYMH-UHFFFAOYSA-N
Formula:	C2H6O5S2
SMILES:	CS(=O)(=O)OS(C)(=O)=O
Mol. weight [g/mol]:	174.20
CAS:	7143-01-3

Physical Properties

Property code	Value	Unit	Source
gf	-1076.12	kJ/mol	Joback Method
hf	-1123.53	kJ/mol	Joback Method
hfus	24.88	kJ/mol	Joback Method
hvap	59.73	kJ/mol	Joback Method
log10ws	0.61		Crippen Method
logp	-1.078		Crippen Method
mcvol	101.090	ml/mol	McGowan Method
pc	8014.82	kPa	Joback Method
tb	363.14	K	Joback Method
tc	526.51	K	Joback Method
tf	211.65	K	Joback Method
vc	0.417	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	177.54	J/mol×K	363.14	Joback Method
cpg	184.20	J/mol×K	390.37	Joback Method
cpg	190.79	J/mol×K	417.60	Joback Method
cpg	197.31	J/mol×K	444.82	Joback Method
cpg	203.73	J/mol×K	472.05	Joback Method
cpg	210.02	J/mol×K	499.28	Joback Method

Sources

Crippen Method:	http://pubs.acs.org/doi/abs/10.1021/ci990307I
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=C7143013&Units=SI

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

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