

# Trifluoromethanesulfonic anhydride

<b>Other names:</b>	Methanesulfonic acid, trifluoro-, anhydride trifluoromethanesulphonic anhydride
<b>Inchi:</b>	InChI=1S/C2F6O5S2/c3-1(4,5)14(9,10)13-15(11,12)2(6,7)8
<b>InchiKey:</b>	WJKHJLXJJJATHN-UHFFFAOYSA-N
<b>Formula:</b>	C2F6O5S2
<b>SMILES:</b>	O=S(=O)(OS(=O)(=O)C(F)(F)F)C(F)(F)F
<b>Mol. weight [g/mol]:</b>	282.14
<b>CAS:</b>	358-23-6

## Physical Properties

Property code	Value	Unit	Source
gf	-2239.30	kJ/mol	Joback Method
hf	-2317.69	kJ/mol	Joback Method
hfus	28.53	kJ/mol	Joback Method
hvap	52.23	kJ/mol	Joback Method
log10ws	-1.71		Crippen Method
logp	0.702		Crippen Method
mvol	111.710	ml/mol	McGowan Method
pc	5495.11	kPa	Joback Method
tb	356.50 ± 0.50	K	NIST Webbook
tc	486.63	K	Joback Method
tf	220.03	K	Joback Method
vc	0.503	m <sup>3</sup> /kmol	Joback Method

## Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	228.95	J/mol×K	352.30	Joback Method
cpg	236.03	J/mol×K	374.69	Joback Method
cpg	242.85	J/mol×K	397.08	Joback Method
cpg	249.39	J/mol×K	419.46	Joback Method
cpg	255.65	J/mol×K	441.85	Joback Method
cpg	261.64	J/mol×K	464.24	Joback Method
cpg	267.36	J/mol×K	486.63	Joback Method

# Sources

<b>NIST Webbook:</b>	<a href="http://webbook.nist.gov/cgi/cbook.cgi?ID=C358236&amp;Units=SI">http://webbook.nist.gov/cgi/cbook.cgi?ID=C358236&amp;Units=SI</a>
<b>Crippen Method:</b>	<a href="http://pubs.acs.org/doi/abs/10.1021/ci9903071">http://pubs.acs.org/doi/abs/10.1021/ci9903071</a>
<b>Crippen Method:</b>	<a href="https://www.chemeo.com/doc/models/crippen_log10ws">https://www.chemeo.com/doc/models/crippen_log10ws</a>
<b>Joback Method:</b>	<a href="https://en.wikipedia.org/wiki/Joback_method">https://en.wikipedia.org/wiki/Joback_method</a>
<b>McGowan Method:</b>	<a href="http://link.springer.com/article/10.1007/BF02311772">http://link.springer.com/article/10.1007/BF02311772</a>

# Legend

<b>cpg:</b>	Ideal gas heat capacity
<b>gf:</b>	Standard Gibbs free energy of formation
<b>hf:</b>	Enthalpy of formation at standard conditions
<b>hfus:</b>	Enthalpy of fusion at standard conditions
<b>hvp:</b>	Enthalpy of vaporization at standard conditions
<b>log10ws:</b>	Log10 of Water solubility in mol/l
<b>logp:</b>	Octanol/Water partition coefficient
<b>mcvol:</b>	McGowan's characteristic volume
<b>pc:</b>	Critical Pressure
<b>tb:</b>	Normal Boiling Point Temperature
<b>tc:</b>	Critical Temperature
<b>tf:</b>	Normal melting (fusion) point
<b>vc:</b>	Critical Volume

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