

# Methanesulfonyl fluoride

<b>Other names:</b>	Fumette Methanesulphonyl fluoride MSF Fluoro methyl sulfone Mesyl fluoride
<b>Inchi:</b>	InChI=1S/CH3FO2S/c1-5(2,3)4/h1H3
<b>InchiKey:</b>	KNWQLFOXPQZGPX-UHFFFAOYSA-N
<b>Formula:</b>	CH3FO2S
<b>SMILES:</b>	CS(=O)(=O)F
<b>Mol. weight [g/mol]:</b>	98.10
<b>CAS:</b>	558-25-8

## Physical Properties

Property code	Value	Unit	Source
gf	-705.81	kJ/mol	Joback Method
hf	-713.43	kJ/mol	Joback Method
hfus	12.80	kJ/mol	Joback Method
hvap	35.64	kJ/mol	Joback Method
ie	12.53	eV	NIST Webbook
ie	12.53	eV	NIST Webbook
ie	12.61	eV	NIST Webbook
log10ws	0.08		Crippen Method
logp	-0.084		Crippen Method
mcvol	54.810	ml/mol	McGowan Method
pc	6898.38	kPa	Joback Method
tb	269.33	K	Joback Method
tc	418.81	K	Joback Method
tf	140.18	K	Joback Method
vc	0.235	m <sup>3</sup> /kmol	Joback Method

## Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	80.39	J/mol×K	269.33	Joback Method

cpg	83.90	J/mol×K	294.24	Joback Method
cpg	87.38	J/mol×K	319.16	Joback Method
cpg	90.81	J/mol×K	344.07	Joback Method
cpg	94.19	J/mol×K	368.98	Joback Method
cpg	97.52	J/mol×K	393.90	Joback Method
cpg	100.79	J/mol×K	418.81	Joback Method

## Sources

<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.cheméo.com/doc/models/crippen_log10ws">https://www.cheméo.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>
<b>NIST Webbook:</b>	<a href="http://webbook.nist.gov/cgi/cbook.cgi?ID=C558258&amp;Units=SI">http://webbook.nist.gov/cgi/cbook.cgi?ID=C558258&amp;Units=SI</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>hvap:</b>	Enthalpy of vaporization at standard conditions
<b>ie:</b>	Ionization energy
<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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