

# 2-Propenoic acid, 2-methyl-, 1,1-dimethylethyl ester

**Other names:** Methacrylic acid, tert-butyl ester  
Methylacrylic acid, tert-butyl ester  
tert-Butyl methacrylate

**Inchi:** InChI=1S/C8H14O2/c1-6(2)7(9)10-8(3,4)5/h1H2,2-5H3  
**InchiKey:** SJMYWORNLPSJQO-UHFFFAOYSA-N  
**Formula:** C8H14O2  
**SMILES:** C=C(C)C(=O)OC(C)(C)C  
**Mol. weight [g/mol]:** 142.20  
**CAS:** 585-07-9

## Physical Properties

Property code	Value	Unit	Source
gf	-135.31	kJ/mol	Joback Method
hf	-346.36	kJ/mol	Joback Method
hfus	9.26	kJ/mol	Joback Method
hvap	40.67	kJ/mol	Joback Method
log10ws	-2.00		Crippen Method
logp	1.904		Crippen Method
mcvol	126.720	ml/mol	McGowan Method
pc	2847.48	kPa	Joback Method
tb	452.06	K	Joback Method
tc	645.69	K	Joback Method
tf	238.78	K	Joback Method
vc	0.478	m3/kmol	Joback Method

## Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	324.35	J/mol×K	613.42	Joback Method
cpg	265.65	J/mol×K	452.06	Joback Method
cpg	278.66	J/mol×K	484.33	Joback Method
cpg	291.02	J/mol×K	516.60	Joback Method
cpg	302.74	J/mol×K	548.88	Joback Method
cpg	313.84	J/mol×K	581.15	Joback Method

cpg	334.29	J/mol×K	645.69	Joback Method
hvapt	42.90	kJ/mol	361.50	NIST Webbook

## Correlations

Information	Value
Property code	pvap
Equation	$\ln(P_{\text{vp}}) = A + B/(T + C)$
Coeff. A	1.24902e+01
Coeff. B	-3.06332e+03
Coeff. C	-5.37820e+01
Temperature range (K), min.	304.82
Temperature range (K), max.	480.50

## Sources

<b>NIST Webbook:</b>	<a href="http://webbook.nist.gov/cgi/cbook.cgi?ID=C585079&amp;Units=SI">http://webbook.nist.gov/cgi/cbook.cgi?ID=C585079&amp;Units=SI</a>
<b>The Yaws Handbook of Vapor Pressure:</b>	<a href="https://www.sciencedirect.com/book/9780128029992/the-yaws-handbook-of-vapor-pressure">https://www.sciencedirect.com/book/9780128029992/the-yaws-handbook-of-vapor-pressure</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>hvap:</b>	Enthalpy of vaporization at standard conditions
<b>hvapt:</b>	Enthalpy of vaporization at a given temperature
<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>pvap:</b>	Vapor 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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