

Methacryloyl chloride

Other names:	2-Methyl-2-propenoyl chloride 2-Methylpropenoic acid chloride 2-Methylpropenoyl chloride 2-Propenoyl chloride, 2-methyl- Methacryl chloride Methacrylic acid chloride Methacrylic chloride Methacrylyl chloride Methylacryloyl chloride «alpha»-Methylacryloyl chloride Â«alphaÂ»-Methylacryloyl chloride
Inchi:	InChI=1S/C4H5ClO/c1-3(2)4(5)6/h1H2,2H3
InchiKey:	VHRYZQNGTZXDNX-UHFFFAOYSA-N
Formula:	C4H5ClO
SMILES:	C=C(C)C(=O)Cl
Mol. weight [g/mol]:	104.53
CAS:	920-46-7

Physical Properties

Property code	Value	Unit	Source
gf	-78.76	kJ/mol	Joback Method
hf	-138.57	kJ/mol	Joback Method
hfus	9.32	kJ/mol	Joback Method
hvap	35.04	kJ/mol	Joback Method
log10ws	-1.28		Crippen Method
logp	1.328		Crippen Method
mcvol	76.730	ml/mol	McGowan Method
pc	4277.45	kPa	Joback Method
tb	369.20	K	NIST Webbook
tc	574.54	K	Joback Method
tf	198.97	K	Joback Method
vc	0.296	m ³ /kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	117.91	J/mol×K	378.78	Joback Method
cpg	124.25	J/mol×K	411.41	Joback Method
cpg	130.26	J/mol×K	444.03	Joback Method
cpg	135.96	J/mol×K	476.66	Joback Method
cpg	141.36	J/mol×K	509.29	Joback Method
cpg	146.47	J/mol×K	541.91	Joback Method
cpg	151.30	J/mol×K	574.54	Joback Method
hvapt	36.10	kJ/mol	342.50	NIST Webbook

Correlations

Information	Value
Property code	pvap
Equation	$\ln(P_{vp}) = A + B/(T + C)$
Coeff. A	1.25934e+01
Coeff. B	-2.61866e+03
Coeff. C	-5.85250e+01
Temperature range (K), min.	271.32
Temperature range (K), max.	418.14

Sources

McGowan Method:

<http://link.springer.com/article/10.1007/BF02311772>

NIST Webbook:

<http://webbook.nist.gov/cgi/cbook.cgi?ID=C920467&Units=SI>

The Yaws Handbook of Vapor Pressure:

<https://www.sciencedirect.com/book/9780128029992/the-yaws-handbook-of-vapor-pressure>

Crippen Method:

<http://pubs.acs.org/doi/abs/10.1021/ci9903071>

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
hvac:	Enthalpy of vaporization at standard conditions
hvapt:	Enthalpy of vaporization at a given temperature
log10ws:	Log10 of Water solubility in mol/l
logp:	Octanol/Water partition coefficient
mcvol:	McGowan's characteristic volume
pc:	Critical Pressure
pvap:	Vapor pressure
tb:	Normal Boiling Point Temperature
tc:	Critical Temperature
tf:	Normal melting (fusion) point
vc:	Critical Volume

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