

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

<b>Other names:</b>	1,2-Bis(Methacryloyloxy)ethane 1,2-Bis(methacryloyoxy) ethane 1,2-Ethanediol dimethacrylate 2-(Methacryloyloxy)ethyl 2-methylacrylate 2-Propenoic acid, 2-methyl-, 1,1'-(1,2-ethanediyl) ester 2-methyl-2-propenoic acid 1,2-ethanediyl ester Ageflex EGDM Ageflex EGDMA Diglycol dimethacrylate EGDMA Ethanediol dimethacrylate Ethylidol metacrylate Ethylene glycol bis(methacrylate) Ethylene glycol dimethylacrylate Ethylene methacrylate Ethylenedimethacrylate Glycol dimethacrylate MFM-416 Methacrylic acid, ethylene ester NK Ester 1G NSC 24166 Perkalink 401 SR 206 Sartomer SR 206 TGM 1 ethane-1,2-diyl bis(2-methylacrylate) ethylene dimethacrylate ethylene glycol dimethacrylate
<b>Inchi:</b>	InChI=1S/C10H14O4/c1-7(2)9(11)13-5-6-14-10(12)8(3)4/h1,3,5-6H2,2,4H3
<b>InchiKey:</b>	STVZJERGLQHEKB-UHFFFAOYSA-N
<b>Formula:</b>	C10H14O4
<b>SMILES:</b>	<chem>C=C(C)C(=O)OCCOC(=O)C(=C)C</chem>
<b>Mol. weight [g/mol]:</b>	198.22
<b>CAS:</b>	97-90-5

## Physical Properties

Property code	Value	Unit	Source
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gf	-275.94		kJ/mol	Joback Method
hf	-508.05		kJ/mol	Joback Method
hfus	22.05		kJ/mol	Joback Method
hvap	54.99		kJ/mol	Joback Method
log10ws	-1.44			Crippen Method
logp	1.225			Crippen Method
mcvol	158.040		ml/mol	McGowan Method
pc	2520.12		kPa	Joback Method
tb	573.90		K	Joback Method
tc	766.49		K	Joback Method
tf	315.34		K	Joback Method
vc	0.608		m <sup>3</sup> /kmol	Joback Method

## Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	374.81	J/mol×K	573.90	Joback Method
cpg	387.12	J/mol×K	606.00	Joback Method
cpg	398.86	J/mol×K	638.10	Joback Method
cpg	410.02	J/mol×K	670.20	Joback Method
cpg	420.62	J/mol×K	702.29	Joback Method
cpg	430.66	J/mol×K	734.39	Joback Method
cpg	440.15	J/mol×K	766.49	Joback Method

## Pressure Dependent Properties

Property code	Value	Unit	Pressure [kPa]	Source
tbrp	372.20	K	0.70	NIST Webbook

## Sources

Crippen Method:

[https://www.chemeo.com/doc/models/crippen\\_log10ws](https://www.chemeo.com/doc/models/crippen_log10ws)

High-pressure phase behaviour measurement of (CO<sub>2</sub> + ethylene glycol dimethacrylate) and (CO<sub>2</sub> + di-ethylene glycol dimethacrylate) binary mixture systems:

<https://www.doi.org/10.1016/j.jct.2011.05.031>

Joback Method: [https://en.wikipedia.org/wiki/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=C97905&Units=SI>  
**Crippen Method:** <http://pubs.acs.org/doi/abs/10.1021/ci9903071>

## 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  
**mccvol:** McGowan's characteristic volume  
**pc:** Critical Pressure  
**tb:** Normal Boiling Point Temperature  
**tbrp:** Boiling point at reduced pressure  
**tc:** Critical Temperature  
**tf:** Normal melting (fusion) point  
**vc:** Critical Volume

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