# 1,2-Ethanediol, monoacetate

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|---|---|
| **Other names:** | 1,2-Ethanediol, 1-acetate |
| | 2-Acetoxyethanol |
| | 2-Hydroxyethyl ester of acetic acid |
| | 2-Hydroxyethylester kyseliny octove |
| | 2-hydroxyethyl acetate |
| | 2-hydroxyethyl ethanoate |
| | Acetic acid 2-hydroxyethyl ester |
| | Ethylene glycol, acetate |
| | Ethylene glycol, monoacetate |
| | Ethylenediol, monoacetate |
| | Glycol, monoacetate |
| | Glycol-monoacetin |
| | NSC 9234 |
| | acetic acid, 2-hydroxyethyl ester |
| | ethanediol monoacetate |
| | ethylene glycol monoacetate |
| | «beta»-Hydroxyethyl acetate |
| **Inchi:** | InChI=1S/C4H8O3/c1-4(6)7-3-2-5/h5H,2-3H2,1H3 |
| **InchiKey:** | HXDLWJWIAHWIKI-UHFFFAOYSA-N |
| **Formula:** | C4H8O3 |
| **SMILES:** | CC(=O)OCCO |
| **Mol. weight [g/mol]:** | 104.10 |
| **CAS:** | 542-59-6 |

# Physical Properties

| Property code | Value | Unit | Source |
|---|---|---|---|
| gf | -387.94 | kJ/mol | Joback Method |
| hf | -522.92 | kJ/mol | Joback Method |
| hfus | 12.99 | kJ/mol | Joback Method |
| hvap | 63.90 ± 0.30 | kJ/mol | NIST Webbook |
| log10ws | 0.38 | | Crippen Method |
| logp | -0.458 | | Crippen Method |
| mcvol | 80.530 | ml/mol | McGowan Method |
| pc | 4665.71 | kPa | Joback Method |
| rinpol | 858.70 | | NIST Webbook |
| rinpol | 844.00 | | NIST Webbook |
| tb | 461.20 | K | NIST Webbook |

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|---|---|---|---|
| tc | 632.96 | K | Joback Method |
| tf | 267.82 | K | Joback Method |
| vc | 0.302 | m3/kmol | Joback Method |

# Temperature Dependent Properties

| Property code | Value | Unit | Temperature [K] | Source |
|---|---|---|---|---|
| cpg | 201.81 | J/mol×K | 632.96 | Joback Method |
| cpg | 178.62 | J/mol×K | 517.25 | Joback Method |
| cpg | 184.73 | J/mol×K | 546.17 | Joback Method |
| cpg | 190.63 | J/mol×K | 575.10 | Joback Method |
| cpg | 196.32 | J/mol×K | 604.03 | Joback Method |
| cpg | 165.79 | J/mol×K | 459.39 | Joback Method |
| cpg | 172.31 | J/mol×K | 488.32 | Joback Method |
| cpl | 203.00 | J/mol×K | 298.15 | NIST Webbook |
| dvisc | 0.0005809 | Pa×s | 395.53 | Joback Method |
| dvisc | 0.0010757 | Pa×s | 363.61 | Joback Method |
| dvisc | 0.0022425 | Pa×s | 331.68 | Joback Method |
| dvisc | 0.0054671 | Pa×s | 299.75 | Joback Method |
| dvisc | 0.0002191 | Pa×s | 459.39 | Joback Method |
| dvisc | 0.0003440 | Pa×s | 427.46 | Joback Method |
| dvisc | 0.0164842 | Pa×s | 267.82 | Joback Method |
| hvapt | 55.10 | kJ/mol | 405.50 | NIST Webbook |
| pvap | 62.95 | kPa | 444.25 | Measurement of the thermodynamic properties for the reactive system ethylene glycol acetic acid |
| pvap | 72.79 | kPa | 448.78 | Measurement of the thermodynamic properties for the reactive system ethylene glycol acetic acid |
| pvap | 43.30 | kPa | 434.90 | Measurement of the thermodynamic properties for the reactive system ethylene glycol acetic acid |

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|---|---|---|---|---|
| pvap | 23.64 | kPa | 417.65 | Measurement of the thermodynamic properties for the reactive system ethylene glycol acetic acid |
| pvap | 13.81 | kPa | 403.66 | Measurement of the thermodynamic properties for the reactive system ethylene glycol acetic acid |
| pvap | 3.79 | kPa | 374.42 | Measurement of the thermodynamic properties for the reactive system ethylene glycol acetic acid |
| pvap | 2.22 | kPa | 363.15 | Measurement of the thermodynamic properties for the reactive system ethylene glycol acetic acid |
| pvap | 53.13 | kPa | 440.57 | Measurement of the thermodynamic properties for the reactive system ethylene glycol acetic acid |
| pvap | 33.46 | kPa | 427.41 | Measurement of the thermodynamic properties for the reactive system ethylene glycol acetic acid |

# Sources

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|---|---|
| **NIST Webbook:** | http://webbook.nist.gov/cgi/cbook.cgi?ID=C542596&Units=SI |
| **Crippen Method:** | http://pubs.acs.org/doi/abs/10.1021/ci990307l |
| **Crippen Method:** | https://www.chemeo.com/doc/models/crippen_log10ws |
| **Measurement of the thermodynamic properties for the reactive system ethylene glycol acetic acid:** | https://www.doi.org/10.1016/j.fluid.2007.05.030 |
| **Joback Method:** | https://en.wikipedia.org/wiki/Joback_method |
| **McGowan Method:** | http://link.springer.com/article/10.1007/BF02311772 |

# Legend

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|---|---|
| **cpg:** | Ideal gas heat capacity |
| **cpl:** | Liquid phase heat capacity |
| **dvisc:** | Dynamic viscosity |
| **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 |
| **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 |
| **rinpol:** | Non-polar retention indices |
| **tb:** | Normal Boiling Point Temperature |
| **tc:** | Critical Temperature |
| **tf:** | Normal melting (fusion) point |
| **vc:** | Critical Volume |