# Butanedioic acid, 2-ethyl-2-hydroxy, dimethyl ester

**Other names:** Butanedioic acid, 2-hydroxy-2-ethyl, dimethyl ester
**Inchi:** InChI=1S/C8H14O5/c1-4-8(11,7(10)13-3)5-6(9)12-2/h11H,4-5H2,1-3H3
**InchiKey:** AHVQMKGBZAIWQZ-UHFFFAOYSA-N
**Formula:** C8H14O5
**SMILES:** CCC(O)(CC(=O)OC)C(=O)OC
**Mol. weight [g/mol]:** 190.19

## Physical Properties

| Property code | Value | Unit | Source |
|---|---|---|---|
| gf | -585.34 | kJ/mol | Joback Method |
| hf | -859.03 | kJ/mol | Joback Method |
| hfus | 18.72 | kJ/mol | Joback Method |
| hvap | 67.10 | kJ/mol | Joback Method |
| log10ws | -0.27 | | Crippen Method |
| logp | -0.136 | | Crippen Method |
| mcvol | 144.330 | ml/mol | McGowan Method |
| pc | 3145.56 | kPa | Joback Method |
| rinpol | 1176.00 | | NIST Webbook |
| tb | 623.97 | K | Joback Method |
| tc | 808.40 | K | Joback Method |
| tf | 387.48 | K | Joback Method |
| vc | 0.539 | m3/kmol | Joback Method |

## Temperature Dependent Properties

| Property code | Value | Unit | Temperature [K] | Source |
|---|---|---|---|---|
| cpg | 376.01 | J/mol×K | 623.97 | Joback Method |
| cpg | 386.31 | J/mol×K | 654.71 | Joback Method |
| cpg | 396.07 | J/mol×K | 685.45 | Joback Method |
| cpg | 405.32 | J/mol×K | 716.18 | Joback Method |
| cpg | 414.05 | J/mol×K | 746.92 | Joback Method |
| cpg | 422.28 | J/mol×K | 777.66 | Joback Method |
| cpg | 430.00 | J/mol×K | 808.40 | Joback Method |
| dvisc | 0.0024147 | Pa×s | 387.48 | Joback Method |

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|---|---|---|---|---|
| dvisc | 0.0009857 | Pa×s | 426.90 | Joback Method |
| dvisc | 0.0004681 | Pa×s | 466.31 | Joback Method |
| dvisc | 0.0002497 | Pa×s | 505.73 | Joback Method |
| dvisc | 0.0001459 | Pa×s | 545.14 | Joback Method |
| dvisc | 0.0000916 | Pa×s | 584.56 | Joback Method |
| dvisc | 0.0000610 | Pa×s | 623.97 | Joback Method |

# Sources

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|---|---|
| **NIST Webbook:** | http://webbook.nist.gov/cgi/cbook.cgi?ID=R106491&Units=SI |
| **Crippen Method:** | http://pubs.acs.org/doi/abs/10.1021/ci990307l |
| **Crippen Method:** | https://www.chemeo.com/doc/models/crippen_log10ws |
| **Joback Method:** | https://en.wikipedia.org/wiki/Joback_method |
| **McGowan Method:** | http://link.springer.com/article/10.1007/BF02311772 |

# Legend

| | |
|---|---|
| **cpg:** | Ideal gas 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 |
| **log10ws:** | Log10 of Water solubility in mol/l |
| **logp:** | Octanol/Water partition coefficient |
| **mcvol:** | McGowan's characteristic volume |
| **pc:** | Critical Pressure |
| **rinpol:** | Non-polar retention indices |
| **tb:** | Normal Boiling Point Temperature |
| **tc:** | Critical Temperature |
| **tf:** | Normal melting (fusion) point |
| **vc:** | Critical Volume |

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