# Urea, (2-hydroxyethyl)-

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|---|---|
| **Other names:** | 1-Ethanolurea |
| | («beta»-Hydroxyethyl)urea |
| | N-(«beta»-Hydroxyethyl)urea |
| | N-(2-Hydroxyethyl)urea |
| | (2-Hydroxyethyl)urea |
| | Monoethanolurea |
| | Monoethylolurea |
| **Inchi:** | InChI=1S/C3H8N2O2/c4-3(7)5-1-2-6/h6H,1-2H2,(H3,4,5,7) |
| **InchiKey:** | CLAHOZSYMRNIPY-UHFFFAOYSA-N |
| **Formula:** | C3H8N2O2 |
| **SMILES:** | NC(=O)NCCO |
| **Mol. weight [g/mol]:** | 104.11 |
| **CAS:** | 2078-71-9 |

## Physical Properties

| Property code | Value | Unit | Source |
|---|---|---|---|
| gf | -135.52 | kJ/mol | Joback Method |
| hf | -282.80 | kJ/mol | Joback Method |
| hfus | 19.51 | kJ/mol | Joback Method |
| hvap | 62.77 | kJ/mol | Joback Method |
| log10ws | 0.28 | | Crippen Method |
| logp | -1.353 | | Crippen Method |
| mcvol | 80.530 | ml/mol | McGowan Method |
| pc | 6093.99 | kPa | Joback Method |
| tb | 536.79 | K | Joback Method |
| tc | 726.30 | K | Joback Method |
| tf | 370.24 | K | Joback Method |
| vc | 0.292 | m3/kmol | Joback Method |

## Temperature Dependent Properties

| Property code | Value | Unit | Temperature [K] | Source |
|---|---|---|---|---|
| cpg | 187.65 | J/mol×K | 536.79 | Joback Method |
| cpg | 194.19 | J/mol×K | 568.37 | Joback Method |

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|---|---|---|---|---|
| cpg | 200.41 | J/mol×K | 599.96 | Joback Method |
| cpg | 206.31 | J/mol×K | 631.54 | Joback Method |
| cpg | 211.90 | J/mol×K | 663.13 | Joback Method |
| cpg | 217.18 | J/mol×K | 694.71 | Joback Method |
| cpg | 222.18 | J/mol×K | 726.30 | Joback Method |

# Sources

| | |
|---|---|
| **NIST Webbook:** | http://webbook.nist.gov/cgi/cbook.cgi?ID=C2078719&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

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|---|---|
| **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 |
| **mcvol:** | McGowan's characteristic volume |
| **pc:** | Critical Pressure |
| **tb:** | Normal Boiling Point Temperature |
| **tc:** | Critical Temperature |
| **tf:** | Normal melting (fusion) point |
| **vc:** | Critical Volume |