# Ethyl radical, 1-hydroxy

**Inchi:** InChI=1S/C2H5O/c1-2-3/h2-3H,1H3
**InchiKey:** GAWIXWVDTYZWAW-UHFFFAOYSA-N
**Formula:** C2H5O
**SMILES:** C[CH]O
**Mol. weight [g/mol]:** 45.06
**CAS:** 2348-46-1

## Physical Properties

| Property code | Value | Unit | Source |
|---|---|---|---|
| affp | 720.10 | kJ/mol | NIST Webbook |
| basg | 687.70 | kJ/mol | NIST Webbook |
| gf | -120.92 | kJ/mol | Joback Method |
| hf | -186.31 | kJ/mol | Joback Method |
| hfus | 3.18 | kJ/mol | Joback Method |
| hvap | 36.19 | kJ/mol | Joback Method |
| ie | 6.70 | eV | NIST Webbook |
| ie | 6.85 | eV | NIST Webbook |
| log10ws | 0.11 | | Crippen Method |
| logp | 0.541 | | Crippen Method |
| mcvol | 42.760 | ml/mol | McGowan Method |
| pc | 6239.25 | kPa | Joback Method |
| tb | 336.20 | K | Joback Method |
| tc | 498.81 | K | Joback Method |
| tf | 174.49 | K | Joback Method |
| vc | 0.151 | m3/kmol | Joback Method |

## Temperature Dependent Properties

| Property code | Value | Unit | Temperature [K] | Source |
|---|---|---|---|---|
| cpg | 65.62 | J/mol×K | 336.20 | Joback Method |
| cpg | 69.87 | J/mol×K | 363.30 | Joback Method |
| cpg | 73.84 | J/mol×K | 390.40 | Joback Method |
| cpg | 77.57 | J/mol×K | 417.51 | Joback Method |
| cpg | 81.05 | J/mol×K | 444.61 | Joback Method |

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|---|---|---|---|---|
| cpg | 84.31 | J/mol×K | 471.71 | Joback Method |
| cpg | 87.36 | J/mol×K | 498.81 | Joback Method |
| dvisc | 0.0702627 | Pa×s | 174.49 | Joback Method |
| dvisc | 0.0176456 | Pa×s | 201.44 | Joback Method |
| dvisc | 0.0061401 | Pa×s | 228.39 | Joback Method |
| dvisc | 0.0026699 | Pa×s | 255.34 | Joback Method |
| dvisc | 0.0013611 | Pa×s | 282.30 | Joback Method |
| dvisc | 0.0007803 | Pa×s | 309.25 | Joback Method |
| dvisc | 0.0004891 | Pa×s | 336.20 | Joback Method |

# Sources

**McGowan Method:** http://link.springer.com/article/10.1007/BF02311772
**NIST Webbook:** http://webbook.nist.gov/cgi/cbook.cgi?ID=C2348461&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

# Legend

**affp:** Proton affinity
**basg:** Gas basicity
**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
**ie:** Ionization energy
**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