# 1,3-Dioxan-5-ol

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|---|---|
| **Other names:** | 1,3-Formalglycerol |
| | 5-Hydroxy-1,3-dioxane |
| | 5-Hydroxy-m-dioxane |
| | Glycerol formal |
| | m-Dioxan-5-ol |
| **Inchi:** | InChI=1S/C4H8O3/c5-4-1-6-3-7-2-4/h4-5H,1-3H2 |
| **InchiKey:** | VCKSNYNNVSOWEE-UHFFFAOYSA-N |
| **Formula:** | C4H8O3 |
| **SMILES:** | OC1COCOC1 |
| **Mol. weight [g/mol]:** | 104.10 |
| **CAS:** | 4740-78-7 |

## Physical Properties

| Property code | Value | Unit | Source |
|---|---|---|---|
| gf | -301.81 | kJ/mol | Joback Method |
| hf | -487.80 | kJ/mol | Joback Method |
| hfus | 18.00 | kJ/mol | Joback Method |
| hvap | 50.63 | kJ/mol | Joback Method |
| log10ws | 0.56 | | Crippen Method |
| logp | -0.648 | | Crippen Method |
| mcvol | 73.970 | ml/mol | McGowan Method |
| pc | 5713.21 | kPa | Joback Method |
| tb | 456.55 | K | Joback Method |
| tc | 655.33 | K | Joback Method |
| tf | 256.18 | K | Joback Method |
| vc | 0.254 | m3/kmol | Joback Method |

## Temperature Dependent Properties

| Property code | Value | Unit | Temperature [K] | Source |
|---|---|---|---|---|
| cpg | 163.17 | J/mol×K | 456.55 | Joback Method |
| cpg | 173.01 | J/mol×K | 489.68 | Joback Method |
| cpg | 182.37 | J/mol×K | 522.81 | Joback Method |
| cpg | 191.26 | J/mol×K | 555.94 | Joback Method |

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|---|---|---|---|---|
| cpg | 199.67 | J/mol×K | 589.07 | Joback Method |
| cpg | 207.63 | J/mol×K | 622.20 | Joback Method |
| cpg | 215.14 | J/mol×K | 655.33 | Joback Method |
| dvisc | 0.0491988 | Pa×s | 256.18 | Joback Method |
| dvisc | 0.0128361 | Pa×s | 289.57 | Joback Method |
| dvisc | 0.0044216 | Pa×s | 322.97 | Joback Method |
| dvisc | 0.0018599 | Pa×s | 356.37 | Joback Method |
| dvisc | 0.0009075 | Pa×s | 389.76 | Joback Method |
| dvisc | 0.0004959 | Pa×s | 423.15 | Joback Method |
| dvisc | 0.0002960 | Pa×s | 456.55 | Joback Method |

# Sources

| | |
|---|---|
| **Solubilities and Thermodynamic Properties of NH3 in Glycerin and its Derivatives:** | https://www.doi.org/10.1021/acs.jced.8b01042 |
| **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=C4740787&Units=SI |
| **Crippen Method:** | http://pubs.acs.org/doi/abs/10.1021/ci990307l |
| **Crippen Method:** | https://www.chemeo.com/doc/models/crippen_log10ws |
| **Solubilities and Thermodynamic Properties of Carbon Dioxide in Some Biobased Solvents:** | https://www.doi.org/10.1021/acs.jced.6b00399 |

# Legend

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|---|---|
| **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 |
| **tb:** | Normal Boiling Point Temperature |
| **tc:** | Critical Temperature |
| **tf:** | Normal melting (fusion) point |
| **vc:** | Critical Volume |