# Diethylene glycol, octyl ether

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|---|---|
| **Other names:** | Diethylene glycol, monooctyl ether |
| | 2-[2-(octyloxy)ethoxy]ethanol |
| **Inchi:** | InChI=1S/C12H26O3/c1-2-3-4-5-6-7-9-14-11-12-15-10-8-13/h13H,2-12H2,1H3 |
| **InchiKey:** | NDSYZZUVPRGESW-UHFFFAOYSA-N |
| **Formula:** | C12H26O3 |
| **SMILES:** | CCCCCCCCOCCOCCO |
| **Mol. weight [g/mol]:** | 218.33 |
| **CAS:** | 19327-37-8 |

# Physical Properties

| Property code | Value | Unit | Source |
|---|---|---|---|
| gf | -296.66 | kJ/mol | Joback Method |
| hf | -707.68 | kJ/mol | Joback Method |
| hfus | 33.30 | kJ/mol | Joback Method |
| hvap | 63.81 | kJ/mol | Joback Method |
| log10ws | -2.28 | | Crippen Method |
| logp | 2.372 | | Crippen Method |
| mcvol | 197.550 | ml/mol | McGowan Method |
| pc | 1870.79 | kPa | Joback Method |
| rinpol | 1568.00 | | NIST Webbook |
| rinpol | 1568.00 | | NIST Webbook |
| tb | 610.98 | K | Joback Method |
| tc | 770.02 | K | Joback Method |
| tf | 330.28 | K | Joback Method |
| vc | 0.762 | m3/kmol | Joback Method |

# Temperature Dependent Properties

| Property code | Value | Unit | Temperature [K] | Source |
|---|---|---|---|---|
| cpg | 534.64 | J/mol×K | 610.98 | Joback Method |
| cpg | 549.02 | J/mol×K | 637.49 | Joback Method |
| cpg | 562.87 | J/mol×K | 663.99 | Joback Method |
| cpg | 576.20 | J/mol×K | 690.50 | Joback Method |
| cpg | 589.00 | J/mol×K | 717.01 | Joback Method |

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|---|---|---|---|---|
| cpg | 601.29 | J/mol×K | 743.51 | Joback Method |
| cpg | 613.06 | J/mol×K | 770.02 | Joback Method |
| dvisc | 0.0052677 | Pa×s | 330.28 | Joback Method |
| dvisc | 0.0014664 | Pa×s | 377.06 | Joback Method |
| dvisc | 0.0005413 | Pa×s | 423.85 | Joback Method |
| dvisc | 0.0002436 | Pa×s | 470.63 | Joback Method |
| dvisc | 0.0001267 | Pa×s | 517.41 | Joback Method |
| dvisc | 0.0000734 | Pa×s | 564.20 | Joback Method |
| dvisc | 0.0000463 | Pa×s | 610.98 | Joback Method |

# Sources

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|---|---|
| **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 |
| **NIST Webbook:** | http://webbook.nist.gov/cgi/cbook.cgi?ID=C19327378&Units=SI |

# 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 |