# Tetraethylene glycol monododecyl ether

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|---|---|
| **Other names:** | Tetraethylene glycol mono-n-dodecyl ether |
| | 3,6,9,12-Tetraoxatetracosan-1-ol |
| | n-Dodecyl tetraethylene glycol ether |
| | Ethanol, 2-(2-(2-(2-(dodecyloxy)ethoxy)ethoxy)ethoxy)- |
| | Lauryl alcohol tri(oxyethylene) ethanol |
| | LA 4 |
| | Polyoxyethylene(4) lauryl ether |
| | Tetra(oxydiethanol) monodecyl ether |
| | Tetra(oxyethylene) dodecyl ether |
| | Tetraethylene glycol dodecyl ether |
| | Tetraethylene glycol monolauryl ether |
| | Tetraoxyethylene glycol monododecyl ether |
| | Laureth-4 |
| | Mulsifan CPA |
| | NSC 190605 |
| | 3,6,9,12-Tetraoxa-1-tetracosanol |
| **Inchi:** | InChI=1S/C20H42O5/c1-2-3-4-5-6-7-8-9-10-11-13-22-15-17-24-19-20-25-18-16-23-14-12 |
| **InchiKey:** | WPMWEFXCIYCJSA-UHFFFAOYSA-N |
| **Formula:** | C20H42O5 |
| **SMILES:** | CCCCCCCCCCCCOCCOCCOCCOCCO |
| **Mol. weight [g/mol]:** | 362.54 |
| **CAS:** | 5274-68-0 |

# Physical Properties

| Property code | Value | Unit | Source |
|---|---|---|---|
| gf | -439.30 | kJ/mol | Joback Method |
| hf | -1137.24 | kJ/mol | Joback Method |
| hfus | 56.40 | kJ/mol | Joback Method |
| hvap | 86.43 | kJ/mol | Joback Method |
| log10ws | -3.81 | | Crippen Method |
| logp | 3.966 | | Crippen Method |
| mcvol | 322.010 | ml/mol | McGowan Method |
| pc | 1031.25 | kPa | Joback Method |
| tb | 838.86 | K | Joback Method |
| tc | 1028.29 | K | Joback Method |
| tf | 464.90 | K | Joback Method |
| vc | 1.246 | m3/kmol | Joback Method |

# Temperature Dependent Properties

| Property code | Value | Unit | Temperature [K] | Source |
|---|---|---|---|---|
| cpg | 1155.68 | J/mol×K | 1028.29 | Joback Method |
| cpg | 1142.38 | J/mol×K | 996.72 | Joback Method |
| cpg | 1127.89 | J/mol×K | 965.15 | Joback Method |
| cpg | 1112.21 | J/mol×K | 933.57 | Joback Method |
| cpg | 1095.33 | J/mol×K | 902.00 | Joback Method |
| cpg | 1077.24 | J/mol×K | 870.43 | Joback Method |
| cpg | 1057.95 | J/mol×K | 838.86 | Joback Method |
| dvisc | 0.0003555 | Pa×s | 464.90 | Joback Method |
| dvisc | 0.0000052 | Pa×s | 838.86 | Joback Method |
| dvisc | 0.0000080 | Pa×s | 776.53 | Joback Method |
| dvisc | 0.0000130 | Pa×s | 714.21 | Joback Method |
| dvisc | 0.0000235 | Pa×s | 651.88 | Joback Method |
| dvisc | 0.0000480 | Pa×s | 589.55 | Joback Method |
| dvisc | 0.0001161 | Pa×s | 527.23 | Joback Method |
| hvapt | 135.50 | kJ/mol | 522.00 | NIST Webbook |

# Sources

**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=C5274680&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

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|---|---|
| **hvap:** | Enthalpy of vaporization at standard conditions |
| **hvapt:** | Enthalpy of vaporization at a given temperature |
| **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 |