# 2-Propanol, 1-ethoxy-

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|---|---|
| **Other names:** | 1-Ethoxy-2-propanol |
| | 1-ethoxypropan-2-ol |
| | Propylene glycol ethyl ether |
| **Inchi:** | InChI=1S/C5H12O2/c1-3-7-4-5(2)6/h5-6H,3-4H2,1-2H3 |
| **InchiKey:** | JOLQKTGDSGKSKJ-UHFFFAOYSA-N |
| **Formula:** | C5H12O2 |
| **SMILES:** | CCOCC(C)O |
| **Mol. weight [g/mol]:** | 104.15 |
| **CAS:** | 1569-02-4 |

## Physical Properties

| Property code | Value | Unit | Source |
|---|---|---|---|
| gf | -253.04 | kJ/mol | Joback Method |
| hf | -436.26 | kJ/mol | Joback Method |
| hfus | 10.46 | kJ/mol | Joback Method |
| hvap | 45.42 | kJ/mol | Joback Method |
| log10ws | -0.38 | | Crippen Method |
| logp | 0.404 | | Crippen Method |
| mcvol | 93.050 | ml/mol | McGowan Method |
| pc | 3834.03 | kPa | Joback Method |
| rinpol | 738.00 | | NIST Webbook |
| rinpol | 750.00 | | NIST Webbook |
| tb | 405.04 | K | Separation of the mixture (isopropyl alcohol + diisopropyl ether + n-propanol): Entrainer selection, interaction exploration and vapour-liquid equilibrium measurements |
| tc | 593.40 | K | Joback Method |
| tf | 214.16 | K | Joback Method |
| vc | 0.346 | m3/kmol | Joback Method |

## Temperature Dependent Properties

| Property code | Value | Unit | Temperature [K] | Source |
|---|---|---|---|---|

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|---|---|---|---|---|---|
| cpg | 191.34 | J/mol×K | 427.96 | Joback Method | |
| cpg | 199.79 | J/mol×K | 455.53 | Joback Method | |
| cpg | 207.98 | J/mol×K | 483.11 | Joback Method | |
| cpg | 215.92 | J/mol×K | 510.68 | Joback Method | |
| cpg | 223.60 | J/mol×K | 538.25 | Joback Method | |
| cpg | 231.03 | J/mol×K | 565.83 | Joback Method | |
| cpg | 238.21 | J/mol×K | 593.40 | Joback Method | |
| dvisc | 0.0002180 | Pa×s | 427.96 | Joback Method | |
| dvisc | 0.0183815 | Pa×s | 249.79 | Joback Method | |
| dvisc | 0.1081645 | Pa×s | 214.16 | Joback Method | |
| dvisc | 0.0017280 | Pa×s | 321.06 | Joback Method | |
| dvisc | 0.0007551 | Pa×s | 356.69 | Joback Method | |
| dvisc | 0.0003835 | Pa×s | 392.33 | Joback Method | |
| dvisc | 0.0048625 | Pa×s | 285.43 | Joback Method | |
| speedsl | 1287.05 | m/s | 288.15 | Densities and Speeds of Sound of Binary Liquid Mixtures of Some n-Alkoxypropanols with Methyl Acetate, Ethyl Acetate, and n-Butyl Acetate at T = (288.15, 293.15, 298.15, 303.15, and 308.15) K | |
| speedsl | 1269.02 | m/s | 293.15 | Densities and Speeds of Sound of Binary Liquid Mixtures of Some n-Alkoxypropanols with Methyl Acetate, Ethyl Acetate, and n-Butyl Acetate at T = (288.15, 293.15, 298.15, 303.15, and 308.15) K | |
| speedsl | 1250.50 | m/s | 298.15 | Densities and Speeds of Sound of Binary Liquid Mixtures of Some n-Alkoxypropanols with Methyl Acetate, Ethyl Acetate, and n-Butyl Acetate at T = (288.15, 293.15, 298.15, 303.15, and 308.15) K | |

| | | | | | |
|---|---|---|---|---|---|
| speedsl | 1231.98 | m/s | 303.15 | Densities and Speeds of Sound of Binary Liquid Mixtures of Some n-Alkoxypropanols with Methyl Acetate, Ethyl Acetate, and n-Butyl Acetate at T = (288.15, 293.15, 298.15, 303.15, and 308.15) K | |
| speedsl | 1213.53 | m/s | 308.15 | Densities and Speeds of Sound of Binary Liquid Mixtures of Some n-Alkoxypropanols with Methyl Acetate, Ethyl Acetate, and n-Butyl Acetate at T = (288.15, 293.15, 298.15, 303.15, and 308.15) K | |

# Correlations

| Information | Value |
|---|---|
| Property code | pvap |
| Equation | $\ln(Pvp) = A + B/(T + C)$ |
| Coeff. A | 1.64047e+01 |
| Coeff. B | -4.12462e+03 |
| Coeff. C | -5.35040e+01 |
| Temperature range (K), min. | 309.42 |
| Temperature range (K), max. | 425.32 |

# Sources

**NIST Webbook:** http://webbook.nist.gov/cgi/cbook.cgi?ID=C1569024&Units=SI

**The Yaws Handbook of Vapor Pressure:** https://www.sciencedirect.com/book/9780128029992/the-yaws-handbook-of-vapor-pressure

**Crippen Method:** http://pubs.acs.org/doi/abs/10.1021/ci990307l

**Crippen Method:** https://www.chemeo.com/doc/models/crippen_log10ws

**Separation of the mixture (isopropyl alcohol + diisopropyl ether + n-propanol). Entrainer selection. Interaction exploration and vapor-liquid equilibrium.** https://www.doi.org/10.1016/j.jct.2019.03.018

**Densities and Speeds of Sound of Binary Liquid Mixtures of Some n-Alkoxypropanols with Methyl Acetate, Ethyl Acetate, and n-Butyl Acetate at T = (288.15, 293.15, 298.15, 303.15, and 308.15) K:** https://www.doi.org/10.1021/je300789a

# 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 |
| **pvap:** | Vapor pressure |
| **rinpol:** | Non-polar retention indices |
| **speedsl:** | Speed of sound in fluid |
| **tb:** | Normal Boiling Point Temperature |
| **tc:** | Critical Temperature |
| **tf:** | Normal melting (fusion) point |
| **vc:** | Critical Volume |