# Butane, 1-propoxy-

**Other names:** Butyl propyl ether
Ether, butyl propyl
**Inchi:** InChI=1S/C7H16O/c1-3-5-7-8-6-4-2/h3-7H2,1-2H3
**InchiKey:** YGZQJYIITOMTMD-UHFFFAOYSA-N
**Formula:** C7H16O
**SMILES:** CCCCOCCC
**Mol. weight [g/mol]:** 116.20
**CAS:** 3073-92-5

# Physical Properties

| Property code | Value | Unit | Source |
|---|---|---|---|
| gf | -96.94 | kJ/mol | Joback Method |
| hf | -320.03 | kJ/mol | Joback Method |
| hfus | 15.07 | kJ/mol | Joback Method |
| hvap | 40.26 | kJ/mol | NIST Webbook |
| log10ws | -1.84 | | Crippen Method |
| logp | 2.213 | | Crippen Method |
| mcvol | 115.360 | ml/mol | McGowan Method |
| pc | 2749.78 | kPa | Joback Method |
| rinpol | 780.00 | | NIST Webbook |
| rinpol | 780.00 | | NIST Webbook |
| ripol | 870.00 | | NIST Webbook |
| tb | 390.30 | K | NIST Webbook |
| tb | 389.90 ± 1.00 | K | NIST Webbook |
| tb | 391.20 | K | NIST Webbook |
| tc | 546.34 | K | Joback Method |
| tf | 190.88 | K | Joback Method |
| vc | 0.446 | m3/kmol | Joback Method |

# Temperature Dependent Properties

| Property code | Value | Unit | Temperature [K] | Source |
|---|---|---|---|---|
| cpg | 218.44 | J/mol×K | 381.98 | Joback Method |
| cpg | 229.92 | J/mol×K | 409.37 | Joback Method |

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|---|---|---|---|---|
| cpg | 241.06 | J/mol×K | 436.77 | Joback Method |
| cpg | 251.87 | J/mol×K | 464.16 | Joback Method |
| cpg | 262.35 | J/mol×K | 491.56 | Joback Method |
| cpg | 272.49 | J/mol×K | 518.95 | Joback Method |
| cpg | 282.30 | J/mol×K | 546.34 | Joback Method |
| dvisc | 0.0039006 | Pa×s | 190.88 | Joback Method |
| dvisc | 0.0017217 | Pa×s | 222.73 | Joback Method |
| dvisc | 0.0009325 | Pa×s | 254.58 | Joback Method |
| dvisc | 0.0005789 | Pa×s | 286.43 | Joback Method |
| dvisc | 0.0003953 | Pa×s | 318.28 | Joback Method |
| dvisc | 0.0002894 | Pa×s | 350.13 | Joback Method |
| dvisc | 0.0002231 | Pa×s | 381.98 | Joback Method |
| hvapt | 33.72 | kJ/mol | 391.20 | NIST Webbook |

# Sources

**McGowan Method:** http://link.springer.com/article/10.1007/BF02311772
**NIST Webbook:** http://webbook.nist.gov/cgi/cbook.cgi?ID=C3073925&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
**KDB:** https://www.cheric.org/files/research/kdb/mol/mol1016.mol

# 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
**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
**rinpol:** Non-polar retention indices
**ripol:** Polar retention indices

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