# sec-Butyl tert-pentyl ether

**Other names:** tert-pentyl sec-butyl ether
**Inchi:** InChI=1S/C9H20O/c1-6-8(3)10-9(4,5)7-2/h8H,6-7H2,1-5H3
**InchiKey:** SKHAHQPUUJTKBB-UHFFFAOYSA-N
**Formula:** C9H20O
**SMILES:** CCC(C)OC(C)(C)CC
**Mol. weight [g/mol]:** 144.25

## Physical Properties

| Property code | Value | Unit | Source |
|---|---|---|---|
| gf | -79.70 | kJ/mol | Joback Method |
| hf | -375.34 | kJ/mol | Joback Method |
| hfus | 9.32 | kJ/mol | Joback Method |
| hvap | 36.35 | kJ/mol | Joback Method |
| log10ws | -2.90 | | Crippen Method |
| logp | 2.990 | | Crippen Method |
| mcvol | 143.540 | ml/mol | McGowan Method |
| pc | 2329.27 | kPa | Joback Method |
| rinpol | 872.00 | | NIST Webbook |
| rinpol | 872.00 | | NIST Webbook |
| tb | 424.07 | K | Joback Method |
| tc | 601.48 | K | Joback Method |
| tf | 200.84 | K | Joback Method |
| vc | 0.540 | m3/kmol | Joback Method |

## Temperature Dependent Properties

| Property code | Value | Unit | Temperature [K] | Source |
|---|---|---|---|---|
| cpg | 300.64 | J/mol×K | 424.07 | Joback Method |
| cpg | 372.20 | J/mol×K | 571.91 | Joback Method |
| cpg | 359.13 | J/mol×K | 542.34 | Joback Method |
| cpg | 345.46 | J/mol×K | 512.77 | Joback Method |
| cpg | 331.17 | J/mol×K | 483.21 | Joback Method |
| cpg | 316.23 | J/mol×K | 453.64 | Joback Method |
| cpg | 384.67 | J/mol×K | 601.48 | Joback Method |

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|---|---|---|---|---|
| dvisc | 0.0002159 | Pa×s | 424.07 | Joback Method |
| dvisc | 0.0003074 | Pa×s | 386.87 | Joback Method |
| dvisc | 0.0004719 | Pa×s | 349.66 | Joback Method |
| dvisc | 0.0008023 | Pa×s | 312.45 | Joback Method |
| dvisc | 0.0015744 | Pa×s | 275.25 | Joback Method |
| dvisc | 0.0038142 | Pa×s | 238.05 | Joback Method |
| dvisc | 0.0128253 | Pa×s | 200.84 | Joback Method |

# Sources

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|---|---|
| **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=R559885&Units=SI |
| **Crippen Method:** | http://pubs.acs.org/doi/abs/10.1021/ci990307l |
| **Crippen Method:** | https://www.chemeo.com/doc/models/crippen_log10ws |
| **Thermochemistry of Branched Ethers: Experimental Study of Chemical Equilibrium in the Reacting System of tert-Amyl Alkyl Ether Synthesis:** | https://www.doi.org/10.1021/je034172y |

# 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 |
| **rinpol:** | Non-polar retention indices |
| **tb:** | Normal Boiling Point Temperature |
| **tc:** | Critical Temperature |
| **tf:** | Normal melting (fusion) point |
| **vc:** | Critical Volume |

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