# Diethyl 4,4'-biphenyldicarboxylate

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| **Other names:** | Diethyl-4,4'-diphenyldicarboxylate |
| | Diethyl biphenyl-4,4'-dicarboxylate |
| | 4,4'-Biphenyldicarboxylic acid diethyl ester |
| **Inchi:** | InChI=1S/C18H18O4/c1-3-21-17(19)15-9-5-13(6-10-15)14-7-11-16(12-8-14)18(20)22-4-2 |
| **InchiKey:** | SYTZNHBXNLYWAK-UHFFFAOYSA-N |
| **Formula:** | C18H18O4 |
| **SMILES:** | CCOC(=O)c1ccc(-c2ccc(C(=O)OCC)cc2)cc1 |
| **Mol. weight [g/mol]:** | 298.33 |
| **CAS:** | 47230-38-6 |

## Physical Properties

| Property code | Value | Unit | Source |
|---|---|---|---|
| gf | -161.60 | kJ/mol | Joback Method |
| hf | -454.33 | kJ/mol | Joback Method |
| hfus | 35.25 | kJ/mol | Joback Method |
| hvap | 79.85 | kJ/mol | Joback Method |
| log10ws | -5.40 | | Crippen Method |
| logp | 3.707 | | Crippen Method |
| mcvol | 231.840 | ml/mol | McGowan Method |
| pc | 2025.41 | kPa | Joback Method |
| tb | 827.14 | K | Joback Method |
| tc | 1056.49 | K | Joback Method |
| tf | 514.82 | K | Joback Method |
| vc | 0.875 | m3/kmol | Joback Method |

## Temperature Dependent Properties

| Property code | Value | Unit | Temperature [K] | Source |
|---|---|---|---|---|
| cpg | 666.96 | J/mol×K | 827.14 | Joback Method |
| cpg | 680.81 | J/mol×K | 865.36 | Joback Method |
| cpg | 693.42 | J/mol×K | 903.59 | Joback Method |
| cpg | 704.81 | J/mol×K | 941.81 | Joback Method |
| cpg | 715.01 | J/mol×K | 980.04 | Joback Method |
| cpg | 724.04 | J/mol×K | 1018.26 | Joback Method |

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|---|---|---|---|---|
| cpg | 731.93 | J/mol×K | 1056.49 | Joback Method |
| dvisc | 0.0005404 | Pa×s | 514.82 | Joback Method |
| dvisc | 0.0003335 | Pa×s | 566.87 | Joback Method |
| dvisc | 0.0002232 | Pa×s | 618.93 | Joback Method |
| dvisc | 0.0001590 | Pa×s | 670.98 | Joback Method |
| dvisc | 0.0001189 | Pa×s | 723.03 | Joback Method |
| dvisc | 0.0000925 | Pa×s | 775.09 | Joback Method |
| dvisc | 0.0000743 | Pa×s | 827.14 | Joback Method |

# Sources

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|---|---|
| **McGowan Method:** | http://link.springer.com/article/10.1007/BF02311772 |
| **NIST Webbook:** | http://webbook.nist.gov/cgi/cbook.cgi?ID=C47230386&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 |

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