# Naphthalene-1,4,5,8-tetracarboxylic acid, tetramethyl ester

**Other names:** 1,4,5,8-Tetracarbomethoxynaphthalene
**Inchi:** InChI=1S/C18H16O8/c1-23-15(19)9-5-6-11(17(21)25-3)14-12(18(22)26-4)8-7-10(13(9)14
**InchiKey:** QGAXWPQVFUUSGN-UHFFFAOYSA-N
**Formula:** C18H16O8
**SMILES:** COC(=O)c1ccc(C(=O)OC)c2c(C(=O)OC)ccc(C(=O)OC)c12
**Mol. weight [g/mol]:** 360.31
**CAS:** 31996-10-8

## Physical Properties

| Property code | Value | Unit | Source |
|---|---|---|---|
| gf | -654.46 | kJ/mol | Joback Method |
| hf | -1012.33 | kJ/mol | Joback Method |
| hfus | 43.03 | kJ/mol | Joback Method |
| hvap | 98.85 | kJ/mol | Joback Method |
| log10ws | -4.25 | | Crippen Method |
| logp | 1.986 | | Crippen Method |
| mcvol | 251.020 | ml/mol | McGowan Method |
| pc | 1982.35 | kPa | Joback Method |
| tb | 981.98 | K | Joback Method |
| tc | 1213.81 | K | Joback Method |
| tf | 690.46 | K | Joback Method |
| vc | 0.954 | m3/kmol | Joback Method |

## Temperature Dependent Properties

| Property code | Value | Unit | Temperature [K] | Source |
|---|---|---|---|---|
| cpg | 752.46 | J/mol×K | 981.98 | Joback Method |
| cpg | 760.90 | J/mol×K | 1020.62 | Joback Method |
| cpg | 767.92 | J/mol×K | 1059.26 | Joback Method |
| cpg | 773.51 | J/mol×K | 1097.89 | Joback Method |
| cpg | 777.64 | J/mol×K | 1136.53 | Joback Method |
| cpg | 780.31 | J/mol×K | 1175.17 | Joback Method |
| cpg | 781.50 | J/mol×K | 1213.81 | Joback Method |
| dvisc | 0.0002997 | Pa×s | 690.46 | Joback Method |

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|---|---|---|---|---|
| dvisc | 0.0002250 | Pa×s | 739.05 | Joback Method |
| dvisc | 0.0001751 | Pa×s | 787.63 | Joback Method |
| dvisc | 0.0001402 | Pa×s | 836.22 | Joback Method |
| dvisc | 0.0001151 | Pa×s | 884.81 | Joback Method |
| dvisc | 0.0000964 | Pa×s | 933.39 | Joback Method |
| dvisc | 0.0000822 | Pa×s | 981.98 | Joback Method |

# Sources

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|---|---|
| **NIST Webbook:** | http://webbook.nist.gov/cgi/cbook.cgi?ID=C31996108&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 |
| **McGowan Method:** | http://link.springer.com/article/10.1007/BF02311772 |

# 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 |