# Benzene, 1,1'-hexylidenebis-

**Other names:** 1,1-Diphenylhexane
**Inchi:** InChI=1S/C18H22/c1-2-3-6-15-18(16-11-7-4-8-12-16)17-13-9-5-10-14-17/h4-5,7-14,18H,
**InchiKey:** BXINIXQKBCSKKR-UHFFFAOYSA-N
**Formula:** C18H22
**SMILES:** CCCCCC(c1ccccc1)c1ccccc1
**Mol. weight [g/mol]:** 238.37
**CAS:** 1530-04-7

## Physical Properties

| Property code | Value | Unit | Source |
|---|---|---|---|
| chl | -10230.00 | kJ/mol | NIST Webbook |
| gf | 323.06 | kJ/mol | Joback Method |
| hf | 52.93 | kJ/mol | Joback Method |
| hfus | 26.94 | kJ/mol | Joback Method |
| hvap | 59.83 | kJ/mol | Joback Method |
| log10ws | -5.63 | | Crippen Method |
| logp | 5.399 | | Crippen Method |
| mcvol | 216.960 | ml/mol | McGowan Method |
| pc | 1930.44 | kPa | Joback Method |
| tb | 594.18 ± 0.30 | K | NIST Webbook |
| tc | 890.11 | K | Joback Method |
| tf | 261.39 ± 0.10 | K | NIST Webbook |
| vc | 0.822 | m3/kmol | Joback Method |

## Temperature Dependent Properties

| Property code | Value | Unit | Temperature [K] | Source |
|---|---|---|---|---|
| cpg | 578.29 | J/mol×K | 664.16 | Joback Method |
| cpg | 663.59 | J/mol×K | 852.45 | Joback Method |
| cpg | 648.97 | J/mol×K | 814.79 | Joback Method |
| cpg | 633.21 | J/mol×K | 777.13 | Joback Method |
| cpg | 616.23 | J/mol×K | 739.48 | Joback Method |
| cpg | 597.96 | J/mol×K | 701.82 | Joback Method |
| cpg | 677.16 | J/mol×K | 890.11 | Joback Method |

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|---|---|---|---|---|
| dvisc | 0.0001145 | Pa×s | 664.16 | Joback Method |
| dvisc | 0.0001530 | Pa×s | 608.54 | Joback Method |
| dvisc | 0.0002169 | Pa×s | 552.93 | Joback Method |
| dvisc | 0.0003323 | Pa×s | 497.31 | Joback Method |
| dvisc | 0.0005670 | Pa×s | 441.69 | Joback Method |
| dvisc | 0.0011284 | Pa×s | 386.08 | Joback Method |
| dvisc | 0.0028308 | Pa×s | 330.46 | Joback Method |

# Correlations

| Information | Value |
|---|---|
| Property code | pvap |
| Equation | ln(Pvp) = A + B/(T + C) |
| Coeff. A | 1.43785e+01 |
| Coeff. B | -4.76150e+03 |
| Coeff. C | -1.06332e+02 |
| Temperature range (K), min. | 444.15 |
| Temperature range (K), max. | 631.15 |

# Sources

**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=C1530047&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

# Legend

**chl:** Standard liquid enthalpy of combustion

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