# Cyclopentane, octadecyl-

**Other names:** octadecylcyclopentane
**Inchi:** InChI=1S/C23H46/c1-2-3-4-5-6-7-8-9-10-11-12-13-14-15-16-17-20-23-21-18-19-22-23/h2
**InchiKey:** BMGGVLNZZWZSDT-UHFFFAOYSA-N
**Formula:** C23H46
**SMILES:** CCCCCCCCCCCCCCCCCCC1CCCC1
**Mol. weight [g/mol]:** 322.61
**CAS:** 62016-53-9

## Physical Properties

| Property code | Value | Unit | Source |
|---|---|---|---|
| gf | 179.33 | kJ/mol | Joback Method |
| hf | -457.57 | kJ/mol | Joback Method |
| hfus | 49.26 | kJ/mol | Joback Method |
| hvap | 67.05 | kJ/mol | Joback Method |
| log10ws | -9.10 | | Crippen Method |
| logp | 8.828 | | Crippen Method |
| mcvol | 324.070 | ml/mol | McGowan Method |
| pc | 949.08 | kPa | Joback Method |
| rinpol | 2368.10 | | NIST Webbook |
| rinpol | 2386.00 | | NIST Webbook |
| rinpol | 2376.40 | | NIST Webbook |
| rinpol | 2363.00 | | NIST Webbook |
| ripol | 2382.20 | | NIST Webbook |
| tb | 740.92 | K | Joback Method |
| tc | 917.21 | K | Joback Method |
| tf | 301.00 ± 1.50 | K | NIST Webbook |
| tf | 301.00 ± 2.00 | K | NIST Webbook |
| tf | 296.00 ± 8.00 | K | NIST Webbook |
| vc | 1.264 | m3/kmol | Joback Method |

## Temperature Dependent Properties

| Property code | Value | Unit | Temperature [K] | Source |
|---|---|---|---|---|
| cpg | 1019.92 | J/mol×K | 740.92 | Joback Method |

| | | | | |
|---|---|---|---|---|
| cpg | 1125.16 | J/mol×K | 887.83 | Joback Method |
| cpg | 1106.19 | J/mol×K | 858.44 | Joback Method |
| cpg | 1086.23 | J/mol×K | 829.06 | Joback Method |
| cpg | 1065.23 | J/mol×K | 799.68 | Joback Method |
| cpg | 1043.14 | J/mol×K | 770.30 | Joback Method |
| cpg | 1143.17 | J/mol×K | 917.21 | Joback Method |
| dvisc | 0.0000964 | Pa×s | 740.92 | Joback Method |
| dvisc | 0.0001304 | Pa×s | 677.41 | Joback Method |
| dvisc | 0.0001878 | Pa×s | 613.90 | Joback Method |
| dvisc | 0.0002941 | Pa×s | 550.39 | Joback Method |
| dvisc | 0.0005178 | Pa×s | 486.89 | Joback Method |
| dvisc | 0.0010803 | Pa×s | 423.38 | Joback Method |
| dvisc | 0.0029219 | Pa×s | 359.87 | Joback Method |

# Correlations

| Information | Value |
|---|---|
| Property code | pvap |
| Equation | ln(Pvp) = A + B/(T + C) |
| Coeff. A | 1.59279e+01 |
| Coeff. B | -5.92754e+03 |
| Coeff. C | -1.25228e+02 |
| Temperature range (K), min. | 504.22 |
| Temperature range (K), max. | 683.57 |

# Sources

**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
**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=C62016539&Units=SI

# 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 |
| **log10ws:** | Log10 of Water solubility in mol/l |
| **logp:** | Octanol/Water partition coefficient |
| **mcvol:** | McGowan's characteristic volume |
| **pc:** | Critical Pressure |
| **pvap:** | Vapor pressure |
| **rinpol:** | Non-polar retention indices |
| **ripol:** | Polar retention indices |
| **tb:** | Normal Boiling Point Temperature |
| **tc:** | Critical Temperature |
| **tf:** | Normal melting (fusion) point |
| **vc:** | Critical Volume |