# 13-Tetradecenal

**Other names:** tetradec-13-enal
**Inchi:** InChI=1S/C14H26O/c1-2-3-4-5-6-7-8-9-10-11-12-13-14-15/h2,14H,1,3-13H2
**InchiKey:** ZVJRAGVPKPPDKE-UHFFFAOYSA-N
**Formula:** C14H26O
**SMILES:** C=CCCCCCCCCCCCC=O
**Mol. weight [g/mol]:** 210.36
**CAS:** 85896-31-7

# Physical Properties

| Property code | Value | Unit | Source |
|---|---|---|---|
| gf | 55.32 | kJ/mol | Joback Method |
| hf | -292.44 | kJ/mol | Joback Method |
| hfus | 33.02 | kJ/mol | Joback Method |
| hvap | 52.81 | kJ/mol | Joback Method |
| log10ws | -4.82 | | Crippen Method |
| logp | 4.662 | | Crippen Method |
| mcvol | 205.390 | ml/mol | McGowan Method |
| pc | 1671.43 | kPa | Joback Method |
| rinpol | 1608.00 | | NIST Webbook |
| ripol | 1964.00 | | NIST Webbook |
| tb | 565.06 | K | Joback Method |
| tc | 732.27 | K | Joback Method |
| tf | 287.78 | K | Joback Method |
| vc | 0.818 | m3/kmol | Joback Method |

# Temperature Dependent Properties

| Property code | Value | Unit | Temperature [K] | Source |
|---|---|---|---|---|
| cpg | 516.68 | J/mol×K | 565.06 | Joback Method |
| cpg | 533.05 | J/mol×K | 592.93 | Joback Method |
| cpg | 548.72 | J/mol×K | 620.80 | Joback Method |
| cpg | 563.71 | J/mol×K | 648.67 | Joback Method |
| cpg | 578.04 | J/mol×K | 676.54 | Joback Method |
| cpg | 591.74 | J/mol×K | 704.41 | Joback Method |

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|---|---|---|---|---|
| cpg | 604.83 | J/mol×K | 732.27 | Joback Method |
| dvisc | 0.0043666 | Pa×s | 287.78 | Joback Method |
| dvisc | 0.0018769 | Pa×s | 333.99 | Joback Method |
| dvisc | 0.0009906 | Pa×s | 380.21 | Joback Method |
| dvisc | 0.0006005 | Pa×s | 426.42 | Joback Method |
| dvisc | 0.0004014 | Pa×s | 472.63 | Joback Method |
| dvisc | 0.0002883 | Pa×s | 518.85 | Joback Method |
| dvisc | 0.0002186 | Pa×s | 565.06 | Joback Method |

# Correlations

| Information | Value |
|---|---|
| Property code | pvap |
| Equation | ln(Pvp) = A + B/(T + C) |
| Coeff. A | 1.42956e+01 |
| Coeff. B | -4.60543e+03 |
| Coeff. C | -9.71500e+01 |
| Temperature range (K), min. | 425.92 |
| Temperature range (K), max. | 609.77 |

# 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=C85896317&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 |