# Dodecanoic acid, dodecyl ester

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|---|---|
| **Other names:** | Dodecyl laurate |
| | Lauric acid, dodecyl ester |
| | Lauryl laurate |
| | dodecyl dodecanoate |
| **Inchi:** | InChI=1S/C24H48O2/c1-3-5-7-9-11-13-15-17-19-21-23-26-24(25)22-20-18-16-14-12-10- |
| **InchiKey:** | CYUUZGXOQDCCGH-UHFFFAOYSA-N |
| **Formula:** | C24H48O2 |
| **SMILES:** | CCCCCCCCCCCCOC(=O)CCCCCCCCCCC |
| **Mol. weight [g/mol]:** | 368.64 |
| **CAS:** | 13945-76-1 |

## Physical Properties

| Property code | Value | Unit | Source |
|---|---|---|---|
| gf | -82.72 | kJ/mol | Joback Method |
| hf | -783.49 | kJ/mol | Joback Method |
| hfus | 60.70 | kJ/mol | Joback Method |
| hvap | 78.17 | kJ/mol | Joback Method |
| log10ws | -8.73 | | Crippen Method |
| logp | 8.371 | | Crippen Method |
| mcvol | 356.460 | ml/mol | McGowan Method |
| pc | 827.64 | kPa | Joback Method |
| rinpol | 2554.05 | | NIST Webbook |
| rinpol | 2554.05 | | NIST Webbook |
| rinpol | 2553.00 | | NIST Webbook |
| rinpol | 2570.20 | | NIST Webbook |
| rinpol | 2570.20 | | NIST Webbook |
| tb | 824.81 | K | Joback Method |
| tc | 1009.81 | K | Joback Method |
| tf | 432.40 | K | Joback Method |
| vc | 1.403 | m3/kmol | Joback Method |

## Temperature Dependent Properties

| Property code | Value | Unit | Temperature [K] | Source |
|---|---|---|---|---|

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|---|---|---|---|---|
| cpg | 1156.81 | J/mol×K | 824.81 | Joback Method |
| cpg | 1178.47 | J/mol×K | 855.64 | Joback Method |
| cpg | 1198.97 | J/mol×K | 886.48 | Joback Method |
| cpg | 1218.34 | J/mol×K | 917.31 | Joback Method |
| cpg | 1236.63 | J/mol×K | 948.14 | Joback Method |
| cpg | 1253.86 | J/mol×K | 978.97 | Joback Method |
| cpg | 1270.08 | J/mol×K | 1009.81 | Joback Method |
| dvisc | 0.0010603 | Pa×s | 432.40 | Joback Method |
| dvisc | 0.0004342 | Pa×s | 497.80 | Joback Method |
| dvisc | 0.0002188 | Pa×s | 563.20 | Joback Method |
| dvisc | 0.0001271 | Pa×s | 628.61 | Joback Method |
| dvisc | 0.0000818 | Pa×s | 694.01 | Joback Method |
| dvisc | 0.0000568 | Pa×s | 759.41 | Joback Method |
| dvisc | 0.0000418 | Pa×s | 824.81 | Joback Method |

# Sources

**McGowan Method:** http://link.springer.com/article/10.1007/BF02311772
**NIST Webbook:** http://webbook.nist.gov/cgi/cbook.cgi?ID=C13945761&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

**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
**rinpol:** Non-polar retention indices
**tb:** Normal Boiling Point Temperature
**tc:** Critical Temperature

**tf:** Normal melting (fusion) point

**vc:** Critical Volume