# Dodecanoic acid, 2,3-dihydroxypropyl ester

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| **Other names:** | (.+/-.)-2,3-Dihydroxypropyl dodecanoate |
| | (.+/-.)-Glyceryl 1-monododecanoate |
| | 1,2,3-Propanetriol 1-dodecanoate |
| | 1,2,3-Propanetriol, 1-dodecanate |
| | 1-Glyceryl laurate |
| | 1-Monododecanoylglycerol |
| | 1-Monolaurin |
| | 1-Monolauroyl-rac-glycerol |
| | 2,3-dihydroxypropyl dodecanoate |
| | 2,3-dihydroxypropyl laurate |
| | Dodecanoic acid «alpha»-monoglyceride |
| | Glycerin 1-monolaurate |
| | Glycerol 1-dodecanoate |
| | Glycerol 1-laurate |
| | Glycerol 1-monolaurate |
| | Glycerol «alpha»-dodecanoate |
| | Glycerol «alpha»-monolaurate |
| | Glyceryl laurate |
| | Glyceryl monododecanoate |
| | Glyceryl monolaurate |
| | Hodag GML |
| | Lauric acid 1-monoglyceride |
| | Lauric acid «alpha»-monoglyceride |
| | Lauricidin |
| | Laurin, 1-mono- |
| | «alpha»-Monolaurin |
| **Inchi:** | InChI=1S/C15H30O4/c1-2-3-4-5-6-7-8-9-10-11-15(18)19-13-14(17)12-16/h14,16-17H,2-1 |
| **InchiKey:** | ARIWANIATODDMH-UHFFFAOYSA-N |
| **Formula:** | C15H30O4 |
| **SMILES:** | CCCCCCCCCCCC(=O)OCC(O)CO |
| **Mol. weight [g/mol]:** | 274.40 |
| **CAS:** | 142-18-7 |

# Physical Properties

| Property code | Value | Unit | Source |
|---|---|---|---|
| chs | -9029.20 ± 1.60 | kJ/mol | NIST Webbook |

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|---|---|---|---|
| gf | -434.58 | kJ/mol | Joback Method |
| hf | -907.47 | kJ/mol | Joback Method |
| hfs | -1160.90 ± 1.90 | kJ/mol | NIST Webbook |
| hfus | 42.05 | kJ/mol | Joback Method |
| hvap | 91.11 | kJ/mol | Joback Method |
| log10ws | -3.60 | | Crippen Method |
| logp | 2.804 | | Crippen Method |
| mcvol | 241.390 | ml/mol | McGowan Method |
| pc | 1707.53 | kPa | Joback Method |
| tb | 802.81 | K | Joback Method |
| tc | 983.46 | K | Joback Method |
| tf | 437.61 | K | Joback Method |
| vc | 0.931 | m3/kmol | Joback Method |

# Temperature Dependent Properties

| Property code | Value | Unit | Temperature [K] | Source |
|---|---|---|---|---|
| cpg | 759.38 | J/mol×K | 802.81 | Joback Method |
| cpg | 773.50 | J/mol×K | 832.92 | Joback Method |
| cpg | 786.86 | J/mol×K | 863.03 | Joback Method |
| cpg | 799.48 | J/mol×K | 893.13 | Joback Method |
| cpg | 811.38 | J/mol×K | 923.24 | Joback Method |
| cpg | 822.58 | J/mol×K | 953.35 | Joback Method |
| cpg | 833.10 | J/mol×K | 983.46 | Joback Method |
| cps | 447.70 | J/mol×K | 298.00 | NIST Webbook |
| dvisc | 0.0013156 | Pa×s | 437.61 | Joback Method |
| dvisc | 0.0002782 | Pa×s | 498.48 | Joback Method |
| dvisc | 0.0000825 | Pa×s | 559.34 | Joback Method |
| dvisc | 0.0000311 | Pa×s | 620.21 | Joback Method |
| dvisc | 0.0000139 | Pa×s | 681.08 | Joback Method |
| dvisc | 0.0000071 | Pa×s | 741.94 | Joback Method |
| dvisc | 0.0000040 | Pa×s | 802.81 | Joback Method |

# Pressure Dependent Properties

| Property code | Value | Unit | Pressure [kPa] | Source |
|---|---|---|---|---|

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|---|---|---|---|---|
| tbp | 505.19 | K | 2.06 | Vapor-liquid equilibria of monoacylglicerol + monoacylglicerol or alcohol or fatty acid at subatmospheric pressures |

# Sources

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|---|---|
| **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=C142187&Units=SI |
| **Crippen Method:** | http://pubs.acs.org/doi/abs/10.1021/ci990307l |
| **Crippen Method:** | https://www.chemeo.com/doc/models/crippen_log10ws |
| **Vapor-liquid equilibria of monoacylglicerol + monoacylglicerol or alcohol or fatty acid at subatmospheric pressures:** | https://www.doi.org/10.1016/j.fluid.2017.08.013 |

# Legend

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|---|---|
| **chs:** | Standard solid enthalpy of combustion |
| **cpg:** | Ideal gas heat capacity |
| **cps:** | Solid phase heat capacity |
| **dvisc:** | Dynamic viscosity |
| **gf:** | Standard Gibbs free energy of formation |
| **hf:** | Enthalpy of formation at standard conditions |
| **hfs:** | Solid phase 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 |
| **tbp:** | Boiling point at given pressure |
| **tc:** | Critical Temperature |
| **tf:** | Normal melting (fusion) point |
| **vc:** | Critical Volume |