# Diethylmalonic acid, decyl ethyl ester

**Inchi:** InChI=1S/C19H36O4/c1-5-9-10-11-12-13-14-15-16-23-18(21)19(6-2,7-3)17(20)22-8-4/h5
**InchiKey:** LSHYEZDBVSCNCH-UHFFFAOYSA-N
**Formula:** C19H36O4
**SMILES:** CCCCCCCCCCOC(=O)C(CC)(CC)C(=O)OCC
**Mol. weight [g/mol]:** 328.49

## Physical Properties

| Property code | Value | Unit | Source |
|---|---|---|---|
| gf | -355.90 | kJ/mol | Joback Method |
| hf | -933.84 | kJ/mol | Joback Method |
| hfus | 43.13 | kJ/mol | Joback Method |
| hvap | 74.90 | kJ/mol | Joback Method |
| log10ws | -5.26 | | Crippen Method |
| logp | 5.040 | | Crippen Method |
| mcvol | 293.450 | ml/mol | McGowan Method |
| pc | 1164.04 | kPa | Joback Method |
| rinpol | 1981.00 | | NIST Webbook |
| tb | 783.47 | K | Joback Method |
| tc | 967.35 | K | Joback Method |
| tf | 450.63 | K | Joback Method |
| vc | 1.137 | m3/kmol | Joback Method |

## Temperature Dependent Properties

| Property code | Value | Unit | Temperature [K] | Source |
|---|---|---|---|---|
| cpg | 910.17 | J/mol×K | 783.47 | Joback Method |
| cpg | 928.06 | J/mol×K | 814.12 | Joback Method |
| cpg | 944.94 | J/mol×K | 844.76 | Joback Method |
| cpg | 960.85 | J/mol×K | 875.41 | Joback Method |
| cpg | 975.81 | J/mol×K | 906.05 | Joback Method |
| cpg | 989.85 | J/mol×K | 936.70 | Joback Method |
| cpg | 1003.00 | J/mol×K | 967.35 | Joback Method |
| dvisc | 0.0009035 | Pa×s | 450.63 | Joback Method |
| dvisc | 0.0004275 | Pa×s | 506.10 | Joback Method |

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|---|---|---|---|---|
| dvisc | 0.0002345 | Pa×s | 561.58 | Joback Method |
| dvisc | 0.0001433 | Pa×s | 617.05 | Joback Method |
| dvisc | 0.0000950 | Pa×s | 672.52 | Joback Method |
| dvisc | 0.0000670 | Pa×s | 728.00 | Joback Method |
| dvisc | 0.0000497 | Pa×s | 783.47 | Joback Method |

# Sources

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|---|---|
| **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=U369494&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 |
| **rinpol:** | Non-polar retention indices |
| **tb:** | Normal Boiling Point Temperature |
| **tc:** | Critical Temperature |
| **tf:** | Normal melting (fusion) point |
| **vc:** | Critical Volume |

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