# Diethylmalonic acid, heptyl 1-naphthyl ester

**Inchi:** InChI=1S/C24H32O4/c1-4-7-8-9-12-18-27-22(25)24(5-2,6-3)23(26)28-21-17-13-15-19-14
**InchiKey:** ZDBPLWNQZAEHHZ-UHFFFAOYSA-N
**Formula:** C24H32O4
**SMILES:** CCCCCCCOC(=O)C(CC)(CC)C(=O)Oc1cccc2ccccc12
**Mol. weight [g/mol]:** 384.51

## Physical Properties

| Property code | Value | Unit | Source |
|---|---|---|---|
| gf | -104.37 | kJ/mol | Joback Method |
| hf | -620.91 | kJ/mol | Joback Method |
| hfus | 46.75 | kJ/mol | Joback Method |
| hvap | 90.61 | kJ/mol | Joback Method |
| log10ws | -7.23 | | Crippen Method |
| logp | 6.065 | | Crippen Method |
| mcvol | 320.680 | ml/mol | McGowan Method |
| pc | 1231.15 | kPa | Joback Method |
| rinpol | 2713.00 | | NIST Webbook |
| rinpol | 2713.00 | | NIST Webbook |
| tb | 948.51 | K | Joback Method |
| tc | 1168.74 | K | Joback Method |
| tf | 578.62 | K | Joback Method |
| vc | 1.230 | m3/kmol | Joback Method |

## Temperature Dependent Properties

| Property code | Value | Unit | Temperature [K] | Source |
|---|---|---|---|---|
| cpg | 1040.19 | J/mol×K | 948.51 | Joback Method |
| cpg | 1055.73 | J/mol×K | 985.22 | Joback Method |
| cpg | 1070.16 | J/mol×K | 1021.92 | Joback Method |
| cpg | 1083.59 | J/mol×K | 1058.63 | Joback Method |
| cpg | 1096.09 | J/mol×K | 1095.33 | Joback Method |
| cpg | 1107.77 | J/mol×K | 1132.04 | Joback Method |
| cpg | 1118.70 | J/mol×K | 1168.74 | Joback Method |
| dvisc | 0.0004280 | Pa×s | 578.62 | Joback Method |

| | | | | |
|---|---|---|---|---|
| dvisc | 0.0002500 | Pa×s | 640.27 | Joback Method |
| dvisc | 0.0001605 | Pa×s | 701.92 | Joback Method |
| dvisc | 0.0001106 | Pa×s | 763.57 | Joback Method |
| dvisc | 0.0000806 | Pa×s | 825.21 | Joback Method |
| dvisc | 0.0000614 | Pa×s | 886.86 | Joback Method |
| dvisc | 0.0000485 | Pa×s | 948.51 | Joback Method |

# 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=U369871&Units=SI |
| **Crippen Method:** | http://pubs.acs.org/doi/abs/10.1021/ci990307l |
| **Crippen Method:** | https://www.chemeo.com/doc/models/crippen_log10ws |

# Legend

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|---|---|
| **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 |