# Dimethylpropanedioic acid dimethyl ester

**Inchi:** InChI=1S/C7H12O4/c1-7(2,5(8)10-3)6(9)11-4/h1-4H3
**InchiKey:** CAFVGIPKHPBMJS-UHFFFAOYSA-N
**Formula:** C7H12O4
**SMILES:** COC(=O)C(C)(C)C(=O)OC
**Mol. weight [g/mol]:** 160.17
**CAS:** 6065-54-9

## Physical Properties

| Property code | Value | Unit | Source |
|---|---|---|---|
| chl | -3611.10 ± 0.42 | kJ/mol | NIST Webbook |
| gf | -456.94 | kJ/mol | Joback Method |
| hf | -802.74 ± 0.79 | kJ/mol | NIST Webbook |
| hfl | -858.43 ± 0.42 | kJ/mol | NIST Webbook |
| hfus | 12.05 | kJ/mol | Joback Method |
| hvap | 55.70 | kJ/mol | NIST Webbook |
| hvap | 55.69 ± 0.79 | kJ/mol | NIST Webbook |
| log10ws | -0.24 | | Crippen Method |
| logp | 0.359 | | Crippen Method |
| mcvol | 124.370 | ml/mol | McGowan Method |
| pc | 3159.72 | kPa | Joback Method |
| tb | 508.91 | K | Joback Method |
| tc | 706.01 | K | Joback Method |
| tf | 315.39 | K | Joback Method |
| vc | 0.465 | m3/kmol | Joback Method |

## Temperature Dependent Properties

| Property code | Value | Unit | Temperature [K] | Source |
|---|---|---|---|---|
| cpg | 341.51 | J/mol×K | 706.01 | Joback Method |
| cpg | 332.83 | J/mol×K | 673.16 | Joback Method |
| cpg | 323.65 | J/mol×K | 640.31 | Joback Method |
| cpg | 313.95 | J/mol×K | 607.46 | Joback Method |
| cpg | 303.74 | J/mol×K | 574.61 | Joback Method |
| cpg | 293.00 | J/mol×K | 541.76 | Joback Method |

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|---|---|---|---|---|
| cpg | 281.74 | J/mol×K | 508.91 | Joback Method |
| cpl | 259.30 | J/mol×K | 298.15 | NIST Webbook |
| dvisc | 0.0002384 | Pa×s | 508.91 | Joback Method |
| dvisc | 0.0003088 | Pa×s | 476.66 | Joback Method |
| dvisc | 0.0004154 | Pa×s | 444.40 | Joback Method |
| dvisc | 0.0005852 | Pa×s | 412.15 | Joback Method |
| dvisc | 0.0008739 | Pa×s | 379.90 | Joback Method |
| dvisc | 0.0014058 | Pa×s | 347.64 | Joback Method |
| dvisc | 0.0024923 | Pa×s | 315.39 | Joback Method |
| hvapt | 55.60 ± 0.80 | kJ/mol | 292.50 | NIST Webbook |

# 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=C6065549&Units=SI |

# Legend

| | |
|---|---|
| **chl:** | Standard liquid enthalpy of combustion |
| **cpg:** | Ideal gas heat capacity |
| **cpl:** | Liquid phase heat capacity |
| **dvisc:** | Dynamic viscosity |
| **gf:** | Standard Gibbs free energy of formation |
| **hf:** | Enthalpy of formation at standard conditions |
| **hfl:** | Liquid phase enthalpy of formation at standard conditions |
| **hfus:** | Enthalpy of fusion at standard conditions |
| **hvap:** | Enthalpy of vaporization at standard conditions |
| **hvapt:** | Enthalpy of vaporization at a given temperature |
| **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 |
| **tc:** | Critical Temperature |
| **tf:** | Normal melting (fusion) point |

**vc:** Critical Volume

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