# Glutaric acid, ethyl pentyl ester

**Inchi:** InChI=1S/C12H22O4/c1-3-5-6-10-16-12(14)9-7-8-11(13)15-4-2/h3-10H2,1-2H3
**InchiKey:** BHAKSOAIYLGQLR-UHFFFAOYSA-N
**Formula:** C12H22O4
**SMILES:** CCCCCOC(=O)CCCC(=O)OCC
**Mol. weight [g/mol]:** 230.30

## Physical Properties

| Property code | Value | Unit | Source |
|---|---|---|---|
| gf | -417.68 | kJ/mol | Joback Method |
| hf | -780.61 | kJ/mol | Joback Method |
| hfus | 32.41 | kJ/mol | Joback Method |
| hvap | 60.62 | kJ/mol | Joback Method |
| log10ws | -2.57 | | Crippen Method |
| logp | 2.453 | | Crippen Method |
| mcvol | 194.820 | ml/mol | McGowan Method |
| pc | 1927.05 | kPa | Joback Method |
| rinpol | 1597.00 | | NIST Webbook |
| rinpol | 1597.00 | | NIST Webbook |
| tb | 626.54 | K | Joback Method |
| tc | 803.91 | K | Joback Method |
| tf | 369.32 | K | Joback Method |
| vc | 0.755 | m3/kmol | Joback Method |

## Temperature Dependent Properties

| Property code | Value | Unit | Temperature [K] | Source |
|---|---|---|---|---|
| cpg | 515.96 | J/mol×K | 626.54 | Joback Method |
| cpg | 530.51 | J/mol×K | 656.10 | Joback Method |
| cpg | 544.42 | J/mol×K | 685.66 | Joback Method |
| cpg | 557.71 | J/mol×K | 715.23 | Joback Method |
| cpg | 570.37 | J/mol×K | 744.79 | Joback Method |
| cpg | 582.39 | J/mol×K | 774.35 | Joback Method |
| cpg | 593.78 | J/mol×K | 803.91 | Joback Method |
| dvisc | 0.0017118 | Pa×s | 369.32 | Joback Method |

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|---|---|---|---|---|
| dvisc | 0.0009273 | Pa×s | 412.19 | Joback Method |
| dvisc | 0.0005638 | Pa×s | 455.06 | Joback Method |
| dvisc | 0.0003735 | Pa×s | 497.93 | Joback Method |
| dvisc | 0.0002641 | Pa×s | 540.80 | Joback Method |
| dvisc | 0.0001965 | Pa×s | 583.67 | Joback Method |
| dvisc | 0.0001522 | Pa×s | 626.54 | Joback Method |

# Sources

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|---|---|
| **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=U360002&Units=SI |
| **Crippen Method:** | http://pubs.acs.org/doi/abs/10.1021/ci990307l |

# 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 |