

# Malonic acid, 2-chloropropyl ethyl ester

|                             |   |
|-----------------------------|---|
| <b>Inchi:</b>               | InChI=1S/C8H13ClO4/c1-3-12-7(10)4-8(11)13-5-6(2)9/h6H,3-5H2,1-2H3 |
| <b>InchiKey:</b>            | LNNJMHLJYAMEAG-UHFFFAOYSA-N                                       |
| <b>Formula:</b>             | C8H13ClO4   |
| <b>SMILES:</b>              | CCOC(=O)CC(=O)OCC(C)Cl  |
| <b>Mol. weight [g/mol]:</b> | 208.64  |

## Physical Properties

| Property code | Value   | Unit                 | Source         |
|---------------|---------|----------------------|----------------|
| gf            | -465.73 | kJ/mol               | Joback Method  |
| hf            | -719.07 | kJ/mol               | Joback Method  |
| hfus          | 22.72   | kJ/mol               | Joback Method  |
| hvap          | 55.71   | kJ/mol               | Joback Method  |
| log10ws       | -1.16   |                      | Crippen Method |
| logp          | 1.110   |                      | Crippen Method |
| mcvol         | 150.700 | ml/mol               | McGowan Method |
| pc            | 2704.22 | kPa                  | Joback Method  |
| rinpola       | 1294.00 |                      | NIST Webbook   |
| tb            | 572.01  | K                    | Joback Method  |
| tc            | 764.07  | K                    | Joback Method  |
| tf            | 339.16  | K                    | Joback Method  |
| vc            | 0.575   | m <sup>3</sup> /kmol | Joback Method  |

## Temperature Dependent Properties

| Property code | Value     | Unit    | Temperature [K] | Source        |
|---------------|-----------|---------|-----------------|---------------|
| cpg           | 348.36    | J/molxK | 572.01          | Joback Method |
| cpg           | 399.58    | J/molxK | 732.06          | Joback Method |
| cpg           | 390.35    | J/molxK | 700.05          | Joback Method |
| cpg           | 380.60    | J/molxK | 668.04          | Joback Method |
| cpg           | 370.35    | J/molxK | 636.03          | Joback Method |
| cpg           | 359.60    | J/molxK | 604.02          | Joback Method |
| cpg           | 408.30    | J/molxK | 764.07          | Joback Method |
| dvisc         | 0.0002071 | Paxs    | 572.01          | Joback Method |
| dvisc         | 0.0002674 | Paxs    | 533.20          | Joback Method |

|       |           |      |        |               |
|-------|-----------|------|--------|---------------|
| dvisc | 0.0003594 | Paxs | 494.39 | Joback Method |
| dvisc | 0.0005081 | Paxs | 455.59 | Joback Method |
| dvisc | 0.0007662 | Paxs | 416.78 | Joback Method |
| dvisc | 0.0012570 | Paxs | 377.97 | Joback Method |
| dvisc | 0.0023096 | Paxs | 339.16 | Joback Method |

## Sources

|                        |   |
|------------------------|---|
| <b>Joback Method:</b>  | <a href="https://en.wikipedia.org/wiki/Joback_method">https://en.wikipedia.org/wiki/Joback_method</a>                                     |
| <b>McGowan Method:</b> | <a href="http://link.springer.com/article/10.1007/BF02311772">http://link.springer.com/article/10.1007/BF02311772</a>                     |
| <b>NIST Webbook:</b>   | <a href="http://webbook.nist.gov/cgi/cbook.cgi?ID=U349026&amp;Units=SI">http://webbook.nist.gov/cgi/cbook.cgi?ID=U349026&amp;Units=SI</a> |
| <b>Crippen Method:</b> | <a href="http://pubs.acs.org/doi/abs/10.1021/ci990307l">http://pubs.acs.org/doi/abs/10.1021/ci990307l</a>                                 |
| <b>Crippen Method:</b> | <a href="https://www.chemeo.com/doc/models/crippen_log10ws">https://www.chemeo.com/doc/models/crippen_log10ws</a>                         |

## Legend

|                 |   |
|-----------------|---|
| <b>cpg:</b>     | Ideal gas heat capacity                         |
| <b>dvisc:</b>   | Dynamic viscosity                               |
| <b>gf:</b>      | Standard Gibbs free energy of formation         |
| <b>hf:</b>      | Enthalpy of formation at standard conditions    |
| <b>hfus:</b>    | Enthalpy of fusion at standard conditions       |
| <b>hvap:</b>    | Enthalpy of vaporization at standard conditions |
| <b>log10ws:</b> | Log10 of Water solubility in mol/l              |
| <b>logp:</b>    | Octanol/Water partition coefficient             |
| <b>mcvol:</b>   | McGowan's characteristic volume                 |
| <b>pc:</b>      | Critical Pressure                               |
| <b>rinpol:</b>  | Non-polar retention indices                     |
| <b>tb:</b>      | Normal Boiling Point Temperature                |
| <b>tc:</b>      | Critical Temperature                            |
| <b>tf:</b>      | Normal melting (fusion) point                   |
| <b>vc:</b>      | Critical Volume                                 |

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