

# Fumaric acid, 2-hexyl propyl ester

|                             |   |
|-----------------------------|---|
| <b>Inchi:</b>               | InChI=1S/C13H22O4/c1-4-6-7-11(3)17-13(15)9-8-12(14)16-10-5-2/h8-9,11H,4-7,10H2,1- |
| <b>InchiKey:</b>            | QVBHBTSEFOKWCJD-CMDGGGOBGS-A-N  |
| <b>Formula:</b>             | C13H22O4  |
| <b>SMILES:</b>              | CCCCC(C)OC(=O)C=CC(=O)OCCC  |
| <b>Mol. weight [g/mol]:</b> | 242.31  |

## Physical Properties

| Property code | Value   | Unit                 | Source         |
|---------------|---------|----------------------|----------------|
| gf            | -331.48 | kJ/mol               | Joback Method  |
| hf            | -689.31 | kJ/mol               | Joback Method  |
| hfus          | 31.68   | kJ/mol               | Joback Method  |
| hvap          | 62.41   | kJ/mol               | Joback Method  |
| log10ws       | -2.95   |                      | Crippen Method |
| logp          | 2.618   |                      | Crippen Method |
| mvol          | 204.610 | ml/mol               | McGowan Method |
| pc            | 1867.55 | kPa                  | Joback Method  |
| rinpol        | 1604.00 |                      | NIST Webbook   |
| tb            | 653.14  | K                    | Joback Method  |
| tc            | 838.21  | K                    | Joback Method  |
| tf            | 360.51  | K                    | Joback Method  |
| vc            | 0.785   | m <sup>3</sup> /kmol | Joback Method  |

## Temperature Dependent Properties

| Property code | Value     | Unit    | Temperature [K] | Source        |
|---------------|-----------|---------|-----------------|---------------|
| cpg           | 547.34    | J/molxK | 653.14          | Joback Method |
| cpg           | 614.70    | J/molxK | 807.36          | Joback Method |
| cpg           | 602.64    | J/molxK | 776.52          | Joback Method |
| cpg           | 589.89    | J/molxK | 745.67          | Joback Method |
| cpg           | 576.43    | J/molxK | 714.83          | Joback Method |
| cpg           | 562.25    | J/molxK | 683.98          | Joback Method |
| cpg           | 626.08    | J/molxK | 838.21          | Joback Method |
| dvisc         | 0.0001079 | Paxs    | 653.14          | Joback Method |
| dvisc         | 0.0001431 | Paxs    | 604.37          | Joback Method |

|       |           |      |        |               |
|-------|-----------|------|--------|---------------|
| dvisc | 0.0001995 | Paxs | 555.60 | Joback Method |
| dvisc | 0.0002963 | Paxs | 506.82 | Joback Method |
| dvisc | 0.0004789 | Paxs | 458.05 | Joback Method |
| dvisc | 0.0008679 | Paxs | 409.28 | Joback Method |
| dvisc | 0.0018471 | Paxs | 360.51 | Joback Method |

## Sources

|                        |   |
|------------------------|---|
| <b>NIST Webbook:</b>   | <a href="http://webbook.nist.gov/cgi/cbook.cgi?ID=U348740&amp;Units=SI">http://webbook.nist.gov/cgi/cbook.cgi?ID=U348740&amp;Units=SI</a> |
| <b>Crippen Method:</b> | <a href="http://pubs.acs.org/doi/abs/10.1021/ci9903071">http://pubs.acs.org/doi/abs/10.1021/ci9903071</a>                                 |
| <b>Crippen Method:</b> | <a href="https://www.chemeo.com/doc/models/crippen_log10ws">https://www.chemeo.com/doc/models/crippen_log10ws</a>                         |
| <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>                     |

## 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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