# 4-Fluorocinnamic acid

**Other names:** p-Fluorocinnamic acid
2-Propenoic acid, 3-(4-fluorophenyl)-
3-(4-Fluorophenyl)-2-propenoic acid
**Inchi:** InChI=1S/C9H7FO2/c10-8-4-1-7(2-5-8)3-6-9(11)12/h1-6H,(H,11,12)/b6-3+
**InchiKey:** ISMMYAZSUSYVQG-ZZXKWVIFSA-N
**Formula:** C9H7FO2
**SMILES:** O=C(O)C=Cc1ccc(F)cc1
**Mol. weight [g/mol]:** 166.15
**CAS:** 459-32-5

# Physical Properties

| Property code | Value | Unit | Source |
|---|---|---|---|
| gf | -252.65 | kJ/mol | Joback Method |
| hf | -347.73 | kJ/mol | Joback Method |
| hfus | 21.69 | kJ/mol | Joback Method |
| hvap | 61.13 | kJ/mol | Joback Method |
| log10ws | -2.14 | | Crippen Method |
| logp | 1.924 | | Crippen Method |
| mcvol | 118.820 | ml/mol | McGowan Method |
| pc | 3886.79 | kPa | Joback Method |
| tb | 586.46 | K | Joback Method |
| tc | 789.56 | K | Joback Method |
| tf | 336.39 | K | Joback Method |
| vc | 0.455 | m3/kmol | Joback Method |

# Temperature Dependent Properties

| Property code | Value | Unit | Temperature [K] | Source |
|---|---|---|---|---|
| cpg | 268.26 | J/mol×K | 586.46 | Joback Method |
| cpg | 277.34 | J/mol×K | 620.31 | Joback Method |
| cpg | 285.83 | J/mol×K | 654.16 | Joback Method |
| cpg | 293.75 | J/mol×K | 688.01 | Joback Method |
| cpg | 301.14 | J/mol×K | 721.86 | Joback Method |
| cpg | 308.03 | J/mol×K | 755.71 | Joback Method |

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|---|---|---|---|---|
| cpg | 314.47 | J/mol×K | 789.56 | 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=C459325&Units=SI |
| **Crippen Method:** | http://pubs.acs.org/doi/abs/10.1021/ci990307l |

# Legend

| | |
|---|---|
| **cpg:** | Ideal gas heat capacity |
| **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 |
| **tb:** | Normal Boiling Point Temperature |
| **tc:** | Critical Temperature |
| **tf:** | Normal melting (fusion) point |
| **vc:** | Critical Volume |