# 2-Pyrrolidinone, 1-ethenyl-

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| **Other names:** | 1-Ethenyl-2-pyrrolidinone |
| | 1-Vinyl-2-pyrrolidinone |
| | 1-Vinyl-2-pyrrolidinone, monomer |
| | 1-Vinyl-2-pyrrolidone |
| | 1-Vinylpyrrolidinone |
| | 1-Vinylpyrrolidone |
| | 2-Pyrrolidinone, 1-vinyl- |
| | N-Vinyl-2-pyrrolidinone |
| | N-Vinyl-2-pyrrolidone |
| | N-Vinylpyrrolidinone |
| | N-vinylpyrrolidone |
| | NSC 10222 |
| | V-Pyrol |
| | Vinyl-2-pyrrolidone |
| | Vinylbutyrolactam |
| | Vinylpyrrolidinone |
| | Vinylpyrrolidone |
| | pyrrolidone, N-vinyl- |
| **Inchi:** | InChI=1S/C6H9NO/c1-2-7-5-3-4-6(7)8/h2H,1,3-5H2 |
| **InchiKey:** | WHNWPMSKXPGLAX-UHFFFAOYSA-N |
| **Formula:** | C6H9NO |
| **SMILES:** | C=CN1CCCC1=O |
| **Mol. weight [g/mol]:** | 111.14 |
| **CAS:** | 88-12-0 |

# Physical Properties

| Property code | Value | Unit | Source |
|---|---|---|---|
| log10ws | -0.92 | | Crippen Method |
| logp | 0.752 | | Crippen Method |
| mcvol | 91.790 | ml/mol | McGowan Method |
| rinpol | 1102.00 | | NIST Webbook |
| rinpol | 1102.00 | | NIST Webbook |
| rinpol | 1077.00 | | NIST Webbook |
| rinpol | 1102.00 | | NIST Webbook |

# Temperature Dependent Properties

| Property code | Value | Unit | Temperature [K] | Source |
|---|---|---|---|---|
| dvisc | 0.0043220 | Pa×s | 298.15 | Densities, Viscosities, Speeds of Sound, and Relative Permittivities for Water + Cyclic Amides (2-Pyrrolidinone, 1-Methyl-2-pyrrolidinone, and 1-Vinyl-2-pyrrolidinone) at Different Temperatures |
| dvisc | 0.0029420 | Pa×s | 308.15 | Densities, Viscosities, Speeds of Sound, and Relative Permittivities for Water + Cyclic Amides (2-Pyrrolidinone, 1-Methyl-2-pyrrolidinone, and 1-Vinyl-2-pyrrolidinone) at Different Temperatures |
| dvisc | 0.0025900 | Pa×s | 318.15 | Densities, Viscosities, Speeds of Sound, and Relative Permittivities for Water + Cyclic Amides (2-Pyrrolidinone, 1-Methyl-2-pyrrolidinone, and 1-Vinyl-2-pyrrolidinone) at Different Temperatures |
| dvisc | 0.0022590 | Pa×s | 328.15 | Densities, Viscosities, Speeds of Sound, and Relative Permittivities for Water + Cyclic Amides (2-Pyrrolidinone, 1-Methyl-2-pyrrolidinone, and 1-Vinyl-2-pyrrolidinone) at Different Temperatures |

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|---|---|---|---|---|
| dvisc | 0.0018360 | Pa×s | 338.15 | Densities, Viscosities, Speeds of Sound, and Relative Permittivities for Water + Cyclic Amides (2-Pyrrolidinone, 1-Methyl-2-pyrrolidinone, and 1-Vinyl-2-pyrrolidinone) at Different Temperatures |
| hfust | 15.28 | kJ/mol | 286.20 | NIST Webbook |
| hfust | 15.28 | kJ/mol | 286.20 | NIST Webbook |
| rhol | 1039.36 | kg/m3 | 298.15 | Density, Refractive Index, and Speed of Sound of the Binary Mixture of 1-Butyl-3-methylimidazolium Tetrafluoroborate + N-Vinyl-2-pyrrolidinone from T = (298.15 to 323.15) K at Atmospheric Pressure |
| rhol | 1034.95 | kg/m3 | 303.15 | Density, Refractive Index, and Speed of Sound of the Binary Mixture of 1-Butyl-3-methylimidazolium Tetrafluoroborate + N-Vinyl-2-pyrrolidinone from T = (298.15 to 323.15) K at Atmospheric Pressure |
| rhol | 1030.55 | kg/m3 | 308.15 | Density, Refractive Index, and Speed of Sound of the Binary Mixture of 1-Butyl-3-methylimidazolium Tetrafluoroborate + N-Vinyl-2-pyrrolidinone from T = (298.15 to 323.15) K at Atmospheric Pressure |

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|---|---|---|---|---|
| rhol | 1026.14 | kg/m3 | 313.15 | Density, Refractive Index, and Speed of Sound of the Binary Mixture of 1-Butyl-3-methylimidazolium Tetrafluoroborate + N-Vinyl-2-pyrrolidinone from T = (298.15 to 323.15) K at Atmospheric Pressure |
| rhol | 1021.73 | kg/m3 | 318.15 | Density, Refractive Index, and Speed of Sound of the Binary Mixture of 1-Butyl-3-methylimidazolium Tetrafluoroborate + N-Vinyl-2-pyrrolidinone from T = (298.15 to 323.15) K at Atmospheric Pressure |
| rhol | 1017.33 | kg/m3 | 323.15 | Density, Refractive Index, and Speed of Sound of the Binary Mixture of 1-Butyl-3-methylimidazolium Tetrafluoroborate + N-Vinyl-2-pyrrolidinone from T = (298.15 to 323.15) K at Atmospheric Pressure |

# 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 |
| **Molecular interaction between binary mixtures 1-butyl-3-methylimidazolium bis(trifluoromethylsulfonyl)imide with N-vinyl-2-pyrrolidinone at different temperatures:** | https://www.doi.org/10.1016/j.jct.2017.01.014 |
| **Solubility of Acetylene in Alcohols and Ketones:** | https://www.doi.org/10.1021/acs.jced.8b00126 |
| **Densities, Viscosities, Speeds of Sound, and Relative Permittivities for Water + 2-Pyrrolidinone at Temperatures from 293.15 K to 323.15 K:** | https://www.doi.org/10.1021/je0340809 |
| **Density, Refractive Index, and Speed of Sound of the Binary Mixture of 2-Pyrrolidinone + 1-Methyl-2-pyrrolidinone, and Tetrafluoroborate + N-Vinyl-2-pyrrolidinone from T = (298.15 to 323.15) K at Atmospheric Pressure:** | https://www.doi.org/10.1021/je500936y |
| **McGowan Method:** | http://link.springer.com/article/10.1007/BF02311772 |
| **NIST-WebBook:** | http://webbook.nist.gov/cgi/cbook.cgi?ID=C88120&Units=SI |

# Legend

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| **dvisc:** | Dynamic viscosity |
| **hfust:** | Enthalpy of fusion at a given temperature |
| **log10ws:** | Log10 of Water solubility in mol/l |
| **logp:** | Octanol/Water partition coefficient |
| **mcvol:** | McGowan's characteristic volume |
| **rhol:** | Liquid Density |
| **rinpol:** | Non-polar retention indices |