

1-vinyl-2-pyrrolidinone

Other names:	1-Ethenyl-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
Inchi:	InChI=1S/C6H9NO/c1-2-7-5-3-4-6(7)8/h2H,1,3-5H2
InchiKey:	WHNWPM SKXPGLAX-UHFFFAOYSA-N
Formula:	C6H9NO
SMILES:	C=CN1CCCC1=O
Mol. weight [g/mol]:	111.14
CAS:	872-51-5

Physical Properties

Property code	Value	Unit	Source
hf	-118.72	kJ/mol	Cheméo Relay (1.0)
hvap	55.91	kJ/mol	Cheméo Relay (1.0)
ie	8.75	eV	Cheméo Relay (1.0)
log10ws	0.21		Cheméo Relay (1.0)
logp	0.752		Crippen Method
mcvol	91.790	ml/mol	McGowan Method
pc	4255.55	kPa	Cheméo Relay (1.0, beta)
tb	497.45	K	Cheméo Relay (1.0)
tc	712.22	K	Cheméo Relay (1.0)
tf	264.27	K	Cheméo Relay (1.0)

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
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
rhoI	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
rhoI	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

rhoI	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
rhoI	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
rhoI	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
rhoI	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

Crippen Method: <http://pubs.acs.org/doi/abs/10.1021/ci990307I>

Molecular interaction between binary mixtures 1-butyl-3-methylimidazolium <https://www.doi.org/10.1016/j.jct.2017.01.014>

from T = (298.15 to 323.15) K at Atmospheric Pressure: <https://www.doi.org/10.1021/je500936y>

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:

McGowan Method: <http://link.springer.com/article/10.1007/BF02311772>
Crippen Method: https://www.chemeo.com/doc/models/crippen_log10ws
NIST Webbook: <http://webbook.nist.gov/cgi/cbook.cgi?ID=C872515&Units=SI>
Cheméo Relay (1.0):
Cheméo Relay (1.0, beta):

Densities, Viscosities, Speeds of Sound, and Relative Permittivities for Solubility of Acetones in Alcohols and Water <https://www.doi.org/10.1021/je0340809>
2-Pyrrolidinone, 1-Methyl-2-pyrrolidinone, and 1-Vinyl-2-pyrrolidinone) at Different Temperatures: <https://www.doi.org/10.1021/acs.jced.8b00126>

Legend

dvisc:	Dynamic viscosity
hf:	Enthalpy of formation at standard conditions
hvap:	Enthalpy of vaporization at standard conditions
ie:	Ionization energy
log10ws:	Log10 of Water solubility in mol/l
logp:	Octanol/Water partition coefficient
mcvol:	McGowan's characteristic volume
pc:	Critical Pressure
rho:	Liquid Density
tb:	Normal Boiling Point Temperature
tc:	Critical Temperature
tf:	Normal melting (fusion) point

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