Formamide

Other names:	Amid kyseliny mravenci
	CARBAMALDEHYDE
	FORMIMIDIC ACID
	HCONH2
	METHANAMIDE
Inchi:	InChI=1S/CH3NO/c2-1-3/h1H,(H2,2,3)
InchiKey:	ZHNUHDYFZUAESO-UHFFFAOYSA-N
Formula:	CH3NO
SMILES:	NC=O
Mol. weight [g/mol]:	45.04
CAS:	75-12-7

Physical Properties

Property code	Value	Unit	Source
affp	822.20	kJ/mol	NIST Webbook
basg	791.20	kJ/mol	NIST Webbook
ea	0.02	eV	NIST Webbook
gf	-75.53	kJ/mol	Joback Method
hf	-186.00	kJ/mol	NIST Webbook
hfl	-251.00	kJ/mol	NIST Webbook
hfus	5.83	kJ/mol	Joback Method
hsub	71.70	kJ/mol	NIST Webbook
hvap	60.20	kJ/mol	NIST Webbook
hvap	64.98	kJ/mol	NIST Webbook
hvap	60.15	kJ/mol	NIST Webbook
ie	10.16 ± 0.03	eV	NIST Webbook
ie	10.25 ± 0.02	eV	NIST Webbook
ie	10.13	eV	NIST Webbook
ie	10.16 ± 0.06	eV	NIST Webbook
ie	9.95	eV	NIST Webbook
ie	10.15	eV	NIST Webbook
ie	10.15	eV	NIST Webbook
ie	10.30	eV	NIST Webbook
ie	10.40	eV	NIST Webbook
ie	10.24	eV	NIST Webbook
ie	10.50 ± 0.05	eV	NIST Webbook
ie	10.00	eV	NIST Webbook

log10ws	0.55		Crippen Method
logp	-0.898		Crippen Method
mcvol	36.500	ml/mol	McGowan Method
pc	7145.47	kPa	Joback Method
ripol	1772.00		NIST Webbook
ripol	1791.00		NIST Webbook
ripol	1772.00		NIST Webbook
ripol	1791.00		NIST Webbook
tb	343.47	K	Joback Method
tc	536.54	K	Joback Method
tf	275.54	K	Solid liquid equilibrium in the ternary system acetic acid propanoic acid formamide
tf	275.70 ± 1.50	K	NIST Webbook
tf	275.00 ± 1.50	K	NIST Webbook
tf	275.70 ± 0.10	K	NIST Webbook
tf	275.70	K	KDB
tt	275.72 ± 0.02	K	NIST Webbook
tt	275.60 ± 0.02	K	NIST Webbook
vc	0.138	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	74.61	J/mol×K	536.54	Joback Method
cpg	72.25	J/mol×K	504.36	Joback Method
cpg	69.78	J/mol×K	472.19	Joback Method
cpg	67.21	J/mol×K	440.01	Joback Method
cpg	64.52	J/mol×K	407.83	Joback Method
cpg	58.79	J/mol×K	343.47	Joback Method
cpg	61.71	J/mol×K	375.65	Joback Method
cpl	105.20	J/mol×K	293.00	NIST Webbook
cpl	107.62	J/mol×K	298.15	NIST Webbook
cpl	107.00	J/mol×K	298.15	NIST Webbook
cpl	108.11	J/mol×K	298.15	NIST Webbook
cpl	107.90	J/mol×K	298.15	NIST Webbook
cpl	107.61	J/mol×K	298.15	NIST Webbook
cpl	107.60	J/mol×K	298.00	NIST Webbook
cpl	108.11	J/mol×K	298.15	NIST Webbook

dvisc	0.0022187	Pa×s	318.15	Molecular interactions in binary mixtures of formamide with 1-butanol, 2-butanol, 1,3-butanediol and 1,4-butanediol at different temperatures: An ultrasonic and viscometric study
dvisc	0.0014900	Pa×s	348.15	Viscosity of Ammonium Nitrate + Formamide Mixtures
dvisc	0.0015800	Pa×s	338.15	Viscosity of Ammonium Nitrate + Formamide Mixtures
dvisc	0.0025420	Pa×s	308.15	Viscosity, Density, and Speed of Sound for the Binary Mixtures of Formamide with 2-Methoxyethanol, Acetophenone, Acetonitrile, 1,2-Dimethoxyethane, and Dimethylsulfoxide at Different Temperatures
dvisc	0.0020010	Pa×s	318.15	Viscosity, Density, and Speed of Sound for the Binary Mixtures of Formamide with 2-Methoxyethanol, Acetophenone, Acetonitrile, 1,2-Dimethoxyethane, and Dimethylsulfoxide at Different Temperatures
dvisc	0.0033220	Pa×s	298.15	Molecular interactions in binary mixtures of formamide with 1-butanol, 2-butanol, 1,3-butanediol and 1,4-butanediol at different temperatures: An ultrasonic and viscometric study

dvisc	0.0029663	Pa×s	303.15	Molecular interactions in binary mixtures of formamide with 1-butanol, 2-butanol, 1,3-butanediol and 1,4-butanediol at different temperatures: An ultrasonic and viscometric study	
dvisc	0.0016900	Pa×s	333.15	Viscosity of Ammonium Nitrate + Formamide Mixtures	
dvisc	0.0018200	Pa×s	328.15	Viscosity of Ammonium Nitrate + Formamide Mixtures	
dvisc	0.0019900	Pa×s	323.15	Viscosity of Ammonium Nitrate + Formamide Mixtures	
dvisc	0.0022000	Pa×s	318.15	Viscosity of Ammonium Nitrate + Formamide Mixtures	
dvisc	0.0024300	Pa×s	313.15	Viscosity of Ammonium Nitrate + Formamide Mixtures	
dvisc	0.0033020	Pa×s	298.15	Viscosity, Density, and Speed of Sound for the Binary Mixtures of Formamide with 2-Methoxyethanol, Acetophenone, Acetonitrile, 1,2-Dimethoxyethane, and Dimethylsulfoxide at Different Temperatures	
dvisc	0.0026700	Pa×s	308.15	Viscosity of Ammonium Nitrate + Formamide Mixtures	

dvisc	0.0026531	Pa×s	308.15	Molecular interactions in binary mixtures of formamide with 1-butanol, 2-butanol, 1,3-butanediol and 1,4-butanediol at different temperatures: An ultrasonic and viscometric study
dvisc	0.0015200	Pa×s	343.15	Viscosity of Ammonium Nitrate + Formamide Mixtures
dvisc	0.0024039	Pa×s	313.15	Molecular interactions in binary mixtures of formamide with 1-butanol, 2-butanol, 1,3-butanediol and 1,4-butanediol at different temperatures: An ultrasonic and viscometric study
dvisc	0.0029500	Pa×s	303.15	Viscosity of Ammonium Nitrate + Formamide Mixtures
dvisc	0.0032300	Pa×s	298.15	Viscosity of Ammonium Nitrate + Formamide Mixtures
dvisc	0.0036542	Pa×s	293.15	Molecular interactions in binary mixtures of formamide with 1-butanol, 2-butanol, 1,3-butanediol and 1,4-butanediol at different temperatures: An ultrasonic and viscometric study
hfust	8.67	kJ/mol	275.60	NIST Webbook
hfust	7.98	kJ/mol	275.70	NIST Webbook
hfust	7.98	kJ/mol	275.72	NIST Webbook
hfust	7.98	kJ/mol	275.70	NIST Webbook
hfust	8.67	kJ/mol	275.60	NIST Webbook
hfust	8.67	kJ/mol	275.60	NIST Webbook
hsubt	72.40	kJ/mol	262.00	NIST Webbook

hsubt	71.70	kJ/mol	276.00	NIST Webbook
hvapt	70.80	kJ/mol	335.00	NIST Webbook
hvapt	64.00	kJ/mol	413.00	NIST Webbook
hvapt	61.20	kJ/mol	440.50	NIST Webbook
pvap	0.01	kPa	303.40	Thermochemical Properties of Formamide Revisited: New Experiment and Quantum Mechanical Calculations
pvap	26.70	kPa	444.50	Density, Viscosity, Refractive Index, Excess Molar Volume, Viscosity, and Refractive Index Deviations and Their Correlations for the (Formamide + Water) System. Isobaric (Vapor + Liquid) Equilibrium at 2.5 kPa
pvap	0.02	kPa	308.20	Thermochemical Properties of Formamide Revisited: New Experiment and Quantum Mechanical Calculations
pvap	0.03	kPa	313.20	Thermochemical Properties of Formamide Revisited: New Experiment and Quantum Mechanical Calculations
pvap	0.05	kPa	318.20	Thermochemical Properties of Formamide Revisited: New Experiment and Quantum Mechanical Calculations
pvap	0.06	kPa	323.20	Thermochemical Properties of Formamide Revisited: New Experiment and Quantum Mechanical Calculations

pvap	0.09	kPa	328.20	Thermochemical Properties of Formamide Revisited: New Experiment and Quantum Mechanical Calculations
pvap	0.12	kPa	333.20	Thermochemical Properties of Formamide Revisited: New Experiment and Quantum Mechanical Calculations
pvap	0.17	kPa	338.20	Thermochemical Properties of Formamide Revisited: New Experiment and Quantum Mechanical Calculations
pvap	13.33	kPa	425.30	Density, Viscosity, Refractive Index, Excess Molar Volume, Viscosity, and Refractive Index Deviations and Their Correlations for the (Formamide + Water) System. Isobaric (Vapor + Liquid) Equilibrium at 2.5 kPa
pvap	0.23	kPa	343.20	Thermochemical Properties of Formamide Revisited: New Experiment and Quantum Mechanical Calculations
pvap	0.31	kPa	348.20	Thermochemical Properties of Formamide Revisited: New Experiment and Quantum Mechanical Calculations

pvap	5.33	kPa	401.80	Density, Viscosity, Refractive Index, Excess Molar Volume, Viscosity, and Refractive Index Deviations and Their Correlations for the (Formamide + Water) System. Isobaric (Vapor + Liquid) Equilibrium at 2.5 kPa
pvap	2.67	kPa	386.30	Density, Viscosity, Refractive Index, Excess Molar Volume, Viscosity, and Refractive Index Deviations and Their Correlations for the (Formamide + Water) System. Isobaric (Vapor + Liquid) Equilibrium at 2.5 kPa
pvap	2.50	kPa	384.50	Density, Viscosity, Refractive Index, Excess Molar Volume, Viscosity, and Refractive Index Deviations and Their Correlations for the (Formamide + Water) System. Isobaric (Vapor + Liquid) Equilibrium at 2.5 kPa
pvap	1.30	kPa	371.70	Density, Viscosity, Refractive Index, Excess Molar Volume, Viscosity, and Refractive Index Deviations and Their Correlations for the (Formamide + Water) System. Isobaric (Vapor + Liquid) Equilibrium at 2.5 kPa

pvap	0.28	kPa	348.40	Density, Viscosity, Refractive Index, Excess Molar Volume, Viscosity, and Refractive Index Deviations and Their Correlations for the (Formamide + Water) System. Isobaric (Vapor + Liquid) Equilibrium at 2.5 kPa
pvap	0.45	kPa	353.30	Thermochemical Properties of Formamide Revisited: New Experiment and Quantum Mechanical Calculations
pvap	0.55	kPa	358.20	Thermochemical Properties of Formamide Revisited: New Experiment and Quantum Mechanical Calculations
pvap	0.78	kPa	363.20	Thermochemical Properties of Formamide Revisited: New Experiment and Quantum Mechanical Calculations
pvap	0.99	kPa	368.10	Thermochemical Properties of Formamide Revisited: New Experiment and Quantum Mechanical Calculations
pvap	0.99	kPa	368.10	Thermochemical Properties of Formamide Revisited: New Experiment and Quantum Mechanical Calculations
pvap	1.27	kPa	373.20	Thermochemical Properties of Formamide Revisited: New Experiment and Quantum Mechanical Calculations

pvap	1.48	kPa	376.00	Thermochemical Properties of Formamide Revisited: New Experiment and Quantum Mechanical Calculations
pvap	8.00	kPa	411.90	Density, Viscosity, Refractive Index, Excess Molar Volume, Viscosity, and Refractive Index Deviations and Their Correlations for the (Formamide + Water) System. Isobaric (Vapor + Liquid) Equilibrium at 2.5 kPa
pvap	0.65	kPa	359.30	Density, Viscosity, Refractive Index, Excess Molar Volume, Viscosity, and Refractive Index Deviations and Their Correlations for the (Formamide + Water) System. Isobaric (Vapor + Liquid) Equilibrium at 2.5 kPa
rfi	1.44590		303.15	Refractive Indices and Deviations in Refractive Indices for Binary Mixtures of Formamide + 1-Butanol, + 2-Butanol, + 1,3-Butanediol, and + 1,4-Butanediol at Temperatures from (293.15 to 318.15) K

rfi	1.44670	298.15	Refractive Indices and Deviations in Refractive Indices for Binary Mixtures of Formamide + 1-Butanol, + 2-Butanol, + 1,3-Butanediol, and + 1,4-Butanediol at Temperatures from (293.15 to 318.15) K
rfi	1.44750	293.15	Refractive Indices and Deviations in Refractive Indices for Binary Mixtures of Formamide + 1-Butanol, + 2-Butanol, + 1,3-Butanediol, and + 1,4-Butanediol at Temperatures from (293.15 to 318.15) K
rfi	1.44610	298.15	Molar excess enthalpies and molar excess volumes of formamide + 1-propanol or 2-propanol and thermodynamic modeling by Prigogine-Flory-Patterson theory and Treszczanowicz-Benson association model
rfi	1.44330	318.15	Refractive Indices and Deviations in Refractive Indices for Binary Mixtures of Formamide + 1-Butanol, + 2-Butanol, + 1,3-Butanediol, and + 1,4-Butanediol at Temperatures from (293.15 to 318.15) K

rfi	1.44510		308.15	Refractive Indices and Deviations in Refractive Indices for Binary Mixtures of Formamide + 1-Butanol, + 2-Butanol, + 1,3-Butanediol, and + 1,4-Butanediol at Temperatures from (293.15 to 318.15) K
rfi	1.44420		313.15	Refractive Indices and Deviations in Refractive Indices for Binary Mixtures of Formamide + 1-Butanol, + 2-Butanol, + 1,3-Butanediol, and + 1,4-Butanediol at Temperatures from (293.15 to 318.15) K
rhol	1133.00	kg/m3	293.15	Densities and volumetric properties of (acetonitrile + an amide) binary mixtures at temperatures between 293.15 K and 318.15 K
rhol	1121.22	kg/m3	308.15	Densities and Molar Isobaric Thermal Expansions of the Water + Formamide Mixture over the Temperature Range from 274.15 to 333.15 K at Atmospheric Pressure
rhol	1108.46	kg/m3	323.15	Densities and Molar Isobaric Thermal Expansions of the Water + Formamide Mixture over the Temperature Range from 274.15 to 333.15 K at Atmospheric Pressure

rhol	1099.88	kg/m3	333.15	Densities and Molar Isobaric Thermal Expansions of the Water + Formamide Mixture over the Temperature Range from 274.15 to 333.15 K at Atmospheric Pressure
rhol	1137.91	kg/m3	288.15	Solutions of Urea and Tetramethylurea in Formamide and Water: A Comparative Analysis of Volume Characteristics and Solute-Solute Interaction Parameters at Temperatures from 288.15 to 328.15 K and Ambient Pressure
rhol	1129.49	kg/m3	298.15	Solutions of Urea and Tetramethylurea in Formamide and Water: A Comparative Analysis of Volume Characteristics and Solute-Solute Interaction Parameters at Temperatures from 288.15 to 328.15 K and Ambient Pressure
rhol	1129.73	kg/m3	298.15	Densities and Molar Isobaric Thermal Expansions of the Water + Formamide Mixture over the Temperature Range from 274.15 to 333.15 K at Atmospheric Pressure

rhol	1112.55	kg/m3	318.15	Solutions of Urea and Tetramethylurea in Formamide and Water: A Comparative Analysis of Volume Characteristics and Solute-Solute Interaction Parameters at Temperatures from 288.15 to 328.15 K and Ambient Pressure
rhol	1104.04	kg/m3	328.15	Solutions of Urea and Tetramethylurea in Formamide and Water: A Comparative Analysis of Volume Characteristics and Solute-Solute Interaction Parameters at Temperatures from 288.15 to 328.15 K and Ambient Pressure
rhol	1138.17	kg/m3	288.15	Densities and Molar Isobaric Thermal Expansions of the Water + Formamide Mixture over the Temperature Range from 274.15 to 333.15 K at Atmospheric Pressure
rhol	1146.62	kg/m3	278.15	Densities and Molar Isobaric Thermal Expansions of the Water + Formamide Mixture over the Temperature Range from 274.15 to 333.15 K at Atmospheric Pressure
rhol	1105.47	kg/m3	323.15	Intermolecular interactions in Formamide +2-Alkoxyethanols: Viscometric study

rhol	1110.95	kg/m3	318.15	Intermolecular interactions in Formamide +2-Alkoxyethanols: Viscometric study
rhol	1115.22	kg/m3	313.15	Intermolecular interactions in Formamide +2-Alkoxyethanols: Viscometric study
rhol	1120.19	kg/m3	308.15	Intermolecular interactions in Formamide +2-Alkoxyethanols: Viscometric study
rhol	1121.04	kg/m3	308.15	Solutions of Urea and Tetramethylurea in Formamide and Water: A Comparative Analysis of Volume Characteristics and Solute-Solute Interaction Parameters at Temperatures from 288.15 to 328.15 K and Ambient Pressure
rhol	1124.57	kg/m3	303.15	Intermolecular interactions in Formamide +2-Alkoxyethanols: Viscometric study
rhol	1120.75	kg/m3	308.15	Solution behavior of {(formamide/N-methylformamide/ N,N-dimethylformamide) + CsCl + water} ternary systems at multiple temperatures
rhol	1129.18	kg/m3	298.15	Solution behavior of {(formamide/N-methylformamide/ N,N-dimethylformamide) + CsCl + water} ternary systems at multiple temperatures
rhol	1137.80	kg/m3	288.15	Solution behavior of {(formamide/N-methylformamide/ N,N-dimethylformamide) + CsCl + water} ternary systems at multiple temperatures

rhol	1121.00	kg/m3	308.15	Topological and thermodynamic investigations of mixtures containing o-chlorotoluene and lower amides
rhol	1125.20	kg/m3	303.15	Topological and thermodynamic investigations of mixtures containing o-chlorotoluene and lower amides
rhol	1129.50	kg/m3	298.15	Topological and thermodynamic investigations of mixtures containing o-chlorotoluene and lower amides
rhol	1116.85	kg/m3	313.15	Densities and viscosities of the mixtures (formamide + 2-alkanol): Experimental and theoretical approaches
rhol	1120.98	kg/m3	308.15	Densities and viscosities of the mixtures (formamide + 2-alkanol): Experimental and theoretical approaches
rhol	1129.00	kg/m3	298.15	Densities and viscosities of the mixtures (formamide + 2-alkanol): Experimental and theoretical approaches
rhol	1113.00	kg/m3	318.15	Densities and volumetric properties of (acetonitrile + an amide) binary mixtures at temperatures between 293.15 K and 318.15 K
rhol	1117.00	kg/m3	313.15	Densities and volumetric properties of (acetonitrile + an amide) binary mixtures at temperatures between 293.15 K and 318.15 K

rhol	1121.00	kg/m3	308.15	Densities and volumetric properties of (acetonitrile + an amide) binary mixtures at temperatures between 293.15 K and 318.15 K	
rhol	1125.00	kg/m3	303.15	Densities and volumetric properties of (acetonitrile + an amide) binary mixtures at temperatures between 293.15 K and 318.15 K	
rhol	1129.00	kg/m3	298.15	Densities and volumetric properties of (acetonitrile + an amide) binary mixtures at temperatures between 293.15 K and 318.15 K	
rhol	1134.10	kg/m3	293.15	Volumetric properties of binary mixtures of (water + organic solvents) at temperatures between T = 288.15 K and T = 303.15 K at p = 0.1 MPa	
rhol	1120.90	kg/m3	308.15	Liquid-liquid phase equilibrium for ternary mixtures of formamide (or ethylene glycol, or monoethanolamine) + indole + 2-methylnaphthalene at 308.15 K	
rhol	1111.70	kg/m3	313.15	Interpretation of Association Behavior and Molecular Interactions in Binary Mixtures from Thermoacoustics and Molecular Compression Data	

rhol	1121.00	kg/m3	308.15	Interpretation of Association Behavior and Molecular Interactions in Binary Mixtures from Thermoacoustics and Molecular Compression Data	
rhol	1125.00	kg/m3	303.15	Interpretation of Association Behavior and Molecular Interactions in Binary Mixtures from Thermoacoustics and Molecular Compression Data	
rhol	1129.00	kg/m3	298.15	Interpretation of Association Behavior and Molecular Interactions in Binary Mixtures from Thermoacoustics and Molecular Compression Data	
rhol	1132.00	kg/m3	293.15	Interpretation of Association Behavior and Molecular Interactions in Binary Mixtures from Thermoacoustics and Molecular Compression Data	
rhol	1129.22	kg/m3	298.15	Exploration of Solvation Consequence of Ionic Liquid [Bu4PCH3SO3] in Various Solvent Systems by Conductance and FTIR Study	
rhol	1125.10	kg/m3	303.15	Densities and viscosities of the mixtures (formamide + 2-alkanol): Experimental and theoretical approaches	
sfust	28.94	J/mol×K	275.72	NIST Webbook	
sfust	31.45	J/mol×K	275.60	NIST Webbook	

speedsl	1565.40	m/s	313.15	Acoustic, volumetric, and spectroscopic studies of formamide with 2-alkoxyethanols at different temperatures
speedsl	1588.10	m/s	303.15	Acoustic, volumetric, and spectroscopic studies of formamide with 2-alkoxyethanols at different temperatures
speedsl	1597.28	m/s	298.15	Isentropic compressibilities of (amide + water) mixtures: A comparative study
speedsl	1542.70	m/s	323.15	Acoustic, volumetric, and spectroscopic studies of formamide with 2-alkoxyethanols at different temperatures

Correlations

Information	Value
Property code	pvap
Equation	ln(Pvp) = A + B/(T + C)
Coeff. A	1.55723e+01
Coeff. B	-4.63442e+03
Coeff. C	-6.99160e+01
Temperature range (K), min.	373.12
Temperature range (K), max.	521.58

Information	Value
Property code	pvap
Equation	ln(Pvp) = A + B/T + C*ln(T) + D*T^2
Coeff. A	5.02136e+01
Coeff. B	-8.66196e+03
Coeff. C	-4.60543e+00
Coeff. D	2.69617e-06

Temperature range (K), min.	275.70
Temperature range (K), max.	493.00

Datasets

Mass density, kg/m3

Pressure, kPa - Liquid	Temperature, K - Liquid	Mass density, kg/m3 - Liquid
100.00	298.15	1129.22

Reference *https://www.doi.org/10.1021/je400536f*

Sources

Determination and Correlation of Solubility of N-tertbutylacrylamide in Seven Different Solvents at Temperatures between (279.15 and 353.15) K:	https://www.doi.org/10.1021/acs.jced.5b00135
Densities and Molar Isobaric Thermal Expansions of the Water + Formamide Mixtures over the Temperature Range from 274.15 to 333.15 K at Atmospheric Pressure:	https://www.doi.org/10.1021/acs.jced.6b00786
McGowan Method:	http://link.springer.com/article/10.1007/BF02311772
Determination and correlation of solubility and thermodynamics of mixing of 4-aminobutyric acid in mono-solvents and binary solvent mixtures:	https://www.doi.org/10.1016/j.jct.2016.07.014
Densities and volumetric properties of (acetonitrile + an amide) binary mixtures at temperatures between 293.15 K and 318.15 K:	https://www.doi.org/10.1016/j.jct.2006.01.015
Joback Method:	https://en.wikipedia.org/wiki/Joback_method
Densities and viscosities of the mixtures (formamide + 2-alkanol): Experimental and theoretical approaches:	https://www.doi.org/10.1016/j.jct.2013.09.043
Temperature dependence of the pair interaction between hydrophobic and hydrophilic solutes: A calorimetric study:	https://www.doi.org/10.1016/j.tca.2005.05.012
Exploration of Solvation Consequence of Ionic Liquid [Bu4PCH3SO3] in Various Solvent Systems by Conductance and FTIR Study:	https://www.doi.org/10.1021/acs.jced.5b00670
Crippen Method:	https://www.chemeo.com/doc/models/crippen_log10ws
Refractive Indices and Deviations in Refractive Indices for Binary Mixtures of Formamide + 1-Butanol, + 2-Butanol, + 1,3-Butanediol, and + 1,4-Butanediol at Temperatures from (293.15 to 318.15) K:	https://www.doi.org/10.1021/je7007632
Molecular interactions in binary mixtures of formamide with 1-butanol, 2-butanol, 1,3-butanediol and 1,4-butanediol at different temperatures: An ultrasonic and viscometric study:	https://www.doi.org/10.1016/j.fluid.2007.12.007
KDB:	https://www.cheric.org/files/research/kdb/mol/mol1374.mol
Solubility of p-Aminobenzoic Acid Potassium in Organic Solvents and Binary (Water + Isopropyl Alcohol) Mixture at Temperatures from (283.15 to 318.15) K:	https://www.doi.org/10.1021/acs.jced.7b00978
The Yaws Handbook of Vapor Pressure:	https://www.sciencedirect.com/book/9780128029992/the-yaws-handbook-of-vapor-pressure
Liquid–liquid phase equilibrium for ternary mixtures of formamide (or ethylene glycol, or monoethanolamine) + indole + 2-methylnaphthalene at 303.15 K:	https://www.doi.org/10.1016/j.fluid.2015.04.001
Role of Anions (Tetrafluoroborate, Perchlorate) of Tetrabutylammonium Salts in Determining Solvation Effects Prevailing in Industrially Essential Solvents Probed by Conductance and FTIR Spectroscopy:	https://www.doi.org/10.1021/je400536f
Interpretation of Association Behavior and Molecular Interactions in Binary Mixtures from Thermo-Acoustic and IR-Spectral Compression Data:	https://www.doi.org/10.1007/s10765-016-2096-3
Activity Coefficients of RbF in Urea-Water and Formamide-Water Mixtures from Potentiometric Measurements:	https://www.doi.org/10.1021/acs.jced.5b00484
Isentropic compressibilities of (amide + water) mixtures: A comparative study:	https://www.doi.org/10.1016/j.jct.2007.05.015
Acoustic, volumetric, and spectroscopic studies of formamide with 2-alkoxyethanols at different temperatures:	https://www.doi.org/10.1016/j.jct.2012.04.024
Molar excess enthalpies and molar excess volumes of formamide + 1-propanol or 2-propanol and thermodynamic modeling by Prigogine-Flory-Patterson theory and Treszczanowicz-Benson association model:	https://www.doi.org/10.1016/j.tca.2013.02.010

NIST Webbook:	http://webbook.nist.gov/cgi/cbook.cgi?ID=C75127&Units=SI
Solubility of Sodium Cefotaxime in Different Solvents:	https://www.doi.org/10.1021/je600564q
Density, Viscosity, Refractive Index, Excess Molar Volume, Viscosity, and Refractive Index Deviations and Their Correlations for the (Formamide + Water) System. Isobaric (Vapor + Liquid) Equilibrium at 2.5 kPa:	https://www.doi.org/10.1021/je700517f
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Legend

affp:	Proton affinity
basg:	Gas basicity
cpg:	Ideal gas heat capacity
cpl:	Liquid phase heat capacity
dvisc:	Dynamic viscosity
ea:	Electron affinity
gf:	Standard Gibbs free energy of formation
hf:	Enthalpy of formation at standard conditions
hfl:	Liquid phase enthalpy of formation at standard conditions
hfus:	Enthalpy of fusion at standard conditions
hfust:	Enthalpy of fusion at a given temperature
hsub:	Enthalpy of sublimation at standard conditions
hsubt:	Enthalpy of sublimation at a given temperature
hvap:	Enthalpy of vaporization at standard conditions
hvapt:	Enthalpy of vaporization at a given temperature
ie:	Ionization energy

log10ws:	Log10 of Water solubility in mol/l
logp:	Octanol/Water partition coefficient
mcvol:	McGowan's characteristic volume
pc:	Critical Pressure
pvap:	Vapor pressure
rfi:	Refractive Index
rhol:	Liquid Density
ripol:	Polar retention indices
sfust:	Entropy of fusion at a given temperature
speedsl:	Speed of sound in fluid
tb:	Normal Boiling Point Temperature
tc:	Critical Temperature
tf:	Normal melting (fusion) point
tt:	Triple Point Temperature
vc:	Critical Volume