Acetophenone

Other names:	1-Phenyl-1-ethanone
	1-Phenylethanone
	1-phenylethanone (acetophenone)
	Acetofenon
	Acetophenon
	Acetylbenzene
	Acetylbenzol
	Benzene, acetyl-
	Benzoyl methide
	Dymex
	Ethanone, 1-phenyl-
	Hypnon
	Hypnone
	Ketone, methyl phenyl-
	Methyl phenyl ketone
	NSC 7635
	Phenyl methyl ketone
	Phenylethanone
	Rcra waste number U004
	USAF EK-496
Inchi:	InChI=1S/C8H8O/c1-7(9)8-5-3-2-4-6-8/h2-6H,1H3
InchiKey:	KWOLFJPFCHCOCG-UHFFFAOYSA-N
Formula:	C8H8O
SMILES:	CC(=O)c1ccccc1
Mol. weight [g/mol]:	120.15
CAS:	98-86-2

Physical Properties

Property code	Value	Unit	Source
af	0.4200		KDB
affp	861.10	kJ/mol	NIST Webbook
affp	863.50 ± 0.50	kJ/mol	NIST Webbook
aigt	843.15	K	KDB
basg	829.30	kJ/mol	NIST Webbook
chl	-4140.00	kJ/mol	NIST Webbook
chl	-4148.90 ± 0.88	kJ/mol	NIST Webbook
chl	-4136.00	kJ/mol	NIST Webbook

dm	3.00	debye	KDB
ea	2.55 ± 0.03	eV	NIST Webbook
ea	0.33 ± 0.00	eV	NIST Webbook
ea	0.33 ± 0.00	eV	NIST Webbook
fpc	355.37	K	KDB
gf	1.84	kJ/mol	KDB
hf	-86.92	kJ/mol	KDB
hf	-86.70 ± 1.70	kJ/mol	NIST Webbook
hfl	-142.50 ± 1.00	kJ/mol	NIST Webbook
hfus	12.12	kJ/mol	Joback Method
hvap	55.90 ± 1.30	kJ/mol	NIST Webbook
hvap	53.40	kJ/mol	NIST Webbook
hvap	55.40 ± 0.40	kJ/mol	NIST Webbook
hvap	57.90	kJ/mol	NIST Webbook
hvap	52.70	kJ/mol	NIST Webbook
ie	9.45	eV	NIST Webbook
ie	9.51	eV	NIST Webbook
ie	9.37	eV	NIST Webbook
ie	9.45	eV	NIST Webbook
ie	9.35	eV	NIST Webbook
ie	9.45	eV	NIST Webbook
ie	9.51	eV	NIST Webbook
ie	9.38	eV	NIST Webbook
ie	9.60	eV	NIST Webbook
ie	8.90	eV	NIST Webbook
ie	9.27 ± 0.03	eV	NIST Webbook
ie	9.30 ± 0.20	eV	NIST Webbook
ie	9.50	eV	NIST Webbook
ie	9.10	eV	NIST Webbook
ie	9.28 ± 0.03	eV	NIST Webbook
ie	9.10 ± 0.10	eV	NIST Webbook
ie	9.10 ± 0.10	eV	NIST Webbook
ie	9.28	eV	NIST Webbook
ie	9.15 ± 0.03	eV	NIST Webbook
log10ws	-1.28		Aqueous Solubility Prediction Method
log10ws	-1.28		Estimated Solubility Method
logp	1.889		Crippen Method
mcvol	101.390	ml/mol	McGowan Method
nfpaf	%!d(float64=2)		KDB
nfpah	%!d(float64=1)		KDB
pc	4060.00	kPa	KDB
pc	4010.00 ± 30.00	kPa	NIST Webbook
pc	4400.00 ± 150.00	kPa	NIST Webbook

rhoc	314.79 ± 12.01	kg/m3	NIST Webbook
rhoc	311.18 ± 6.01	kg/m3	NIST Webbook
rinpol	1043.10		NIST Webbook
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ripol	1600.00		NIST Webbook
ripol	1628.00		NIST Webbook
sg	372.88	J/mol×K	NIST Webbook
tb	475.15 ± 0.30	K	NIST Webbook
tb	475.00	K	NIST Webbook
tb	474.85	K	NIST Webbook
tb	475.15 ± 0.35	K	NIST Webbook
tb	475.20 ± 0.50	K	NIST Webbook
tb	475.10 ± 0.10	K	Ternary phase diagrams for aqueous mixtures of butyric acid with several solvents: experimental and correlated data
tb	475.20 ± 0.50	K	NIST Webbook
tb	474.00 ± 3.00	K	NIST Webbook
tb	474.65 ± 1.00	K	NIST Webbook
tb	474.00 ± 1.50	K	NIST Webbook

tb	475.15 ± 0.50	K	NIST Webbook
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tb	475.00	K	KDB
tc	709.50	K	KDB
tc	713.00 ± 2.00	K	NIST Webbook
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tc	709.50 ± 0.60	K	NIST Webbook
tf	292.88	K	Aqueous Solubility Prediction Method
tf	293.00	K	KDB
tf	293.00	K	NIST Webbook
tf	292.85	K	NIST Webbook
tf	292.65 ± 1.50	K	NIST Webbook
tf	292.77 ± 0.06	K	NIST Webbook
tf	292.75 ± 0.30	K	NIST Webbook
tf	293.15 ± 1.50	K	NIST Webbook
tf	293.65 ± 0.60	K	NIST Webbook
tf	293.00 ± 2.00	K	NIST Webbook
vc	0.386	m3/kmol	KDB
zc	0.2656590		KDB

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	192.32	J/mol×K	462.99	Joback Method
cpg	225.45	J/mol×K	573.89	Joback Method
cpg	235.08	J/mol×K	610.86	Joback Method
cpg	244.05	J/mol×K	647.82	Joback Method
cpg	252.40	J/mol×K	684.79	Joback Method
cpg	215.13	J/mol×K	536.92	Joback Method
cpg	204.10	J/mol×K	499.96	Joback Method
cpl	227.60	J/mol×K	303.20	NIST Webbook
dvisc	0.0014100	Pa×s	308.15	Densities and Viscosities of Binary Mixtures of N,N-Dimethylformamide with Benzyl Alcohol and Acetophenone at (298.15, 303.15, 308.15, and 313.15) K

dvisc	0.0015110 ± 0.0000010	Pa×s	303.15	Excess Volumes, Speeds of Sound, Isentropic Compressibilities, and Viscosities of Binary Mixtures of Acetophenone with Chlorotoluenes and Nitrotoluenes at 303.15 K
dvisc	0.0016530	Pa×s	298.15	Density, Viscosity, and Speed of Sound of (1-Octanol + 2-Methoxyethanol), (1-Octanol + N,N-Dimethylacetamide), and (1-Octanol + Acetophenone) at Temperatures of (298.15, 308.15, and 318.15) K
dvisc	0.0014110	Pa×s	308.15	Density, Viscosity, and Speed of Sound of (1-Octanol + 2-Methoxyethanol), (1-Octanol + N,N-Dimethylacetamide), and (1-Octanol + Acetophenone) at Temperatures of (298.15, 308.15, and 318.15) K
dvisc	0.0011150	Pa×s	318.15	Density, Viscosity, and Speed of Sound of (1-Octanol + 2-Methoxyethanol), (1-Octanol + N,N-Dimethylacetamide), and (1-Octanol + Acetophenone) at Temperatures of (298.15, 308.15, and 318.15) K
dvisc	0.0015180 ± 0.0000076	Pa×s	303.15	Densities, Viscosities, and Refractive Indices of Binary Mixtures of Diethyl Oxalate with Some Ketones at (303.15, 308.15, and 313.15) K

dvisc	0.0013100	Pa×s	313.15	Densities and Viscosities of Binary Mixtures of N,N-Dimethylformamide with Benzyl Alcohol and Acetophenone at (298.15, 303.15, 308.15, and 313.15) K
dvisc	0.0012910 ± 0.0000065	Pa×s	313.15	Densities, Viscosities, and Refractive Indices of Binary Mixtures of Diethyl Oxalate with Some Ketones at (303.15, 308.15, and 313.15) K
dvisc	0.0016530 ± 0.0000030	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	0.0015400	Pa×s	303.15	Densities and Viscosities of Binary Mixtures of N,N-Dimethylformamide with Benzyl Alcohol and Acetophenone at (298.15, 303.15, 308.15, and 313.15) K
dvisc	0.0011170 ± 0.0000030	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	0.0016788 ± 0.0000015	Pa×s	298.15	Density and Viscosity of Ketones with Toluene at Different Temperatures and at Atmospheric Pressure
dvisc	0.0015328 ± 0.0000015	Pa×s	303.15	Density and Viscosity of Ketones with Toluene at Different Temperatures and at Atmospheric Pressure
dvisc	0.0014073 ± 0.0000015	Pa×s	308.15	Density and Viscosity of Ketones with Toluene at Different Temperatures and at Atmospheric Pressure
dvisc	0.0016780 ± 0.0000000	Pa×s	298.15	Densities, Viscosities, and Refractive Indices of Binary Mixtures of Acetophenone and 2-Alkanols
dvisc	0.0016740 ± 0.0000084	Pa×s	298.15	Density and Viscosity of Binary Mixtures of n-Butyl Acetate with Ketones at (298.15, 303.15, 308.15, and 313.15) K
dvisc	0.0015080 ± 0.0000075	Pa×s	303.15	Density and Viscosity of Binary Mixtures of n-Butyl Acetate with Ketones at (298.15, 303.15, 308.15, and 313.15) K
dvisc	0.0013790 ± 0.0000069	Pa×s	308.15	Density and Viscosity of Binary Mixtures of n-Butyl Acetate with Ketones at (298.15, 303.15, 308.15, and 313.15) K

dvisc	0.0012660 ± 0.0000063	Pa×s	313.15	Density and Viscosity of Binary Mixtures of n-Butyl Acetate with Ketones at (298.15, 303.15, 308.15, and 313.15) K
dvisc	0.0016800	Pa×s	298.15	Densities and Viscosities of Binary Mixtures of N,N-Dimethylformamide with Benzyl Alcohol and Acetophenone at (298.15, 303.15, 308.15, and 313.15) K
dvisc	0.0014073	Pa×s	308.15	Excess parameter studies on the binary mixtures of toluene with ketones at different temperatures
dvisc	0.0015328	Pa×s	303.15	Excess parameter studies on the binary mixtures of toluene with ketones at different temperatures
dvisc	0.0016788	Pa×s	298.15	Excess parameter studies on the binary mixtures of toluene with ketones at different temperatures
dvisc	0.0013780 ± 0.0000069	Pa×s	308.15	Densities, Viscosities, and Refractive Indices of Binary Mixtures of Diethyl Oxalate with Some Ketones at (303.15, 308.15, and 313.15) K
dvisc	0.0013510	Pa×s	308.15	Density and viscosity of binary liquid systems of N-methylacetamide with aromatic ketones at T = 308.15 K

dvisc	0.0014120 ± 0.0000030	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
hfust	16.65	kJ/mol	292.70	NIST Webbook
hvapt	52.60 ± 0.40	kJ/mol	440.00	NIST Webbook
hvapt	51.20	kJ/mol	393.00	NIST Webbook
hvapt	41.90	kJ/mol	410.00	NIST Webbook
hvapt	49.70	kJ/mol	489.00	NIST Webbook
hvapt	47.50 ± 0.30	kJ/mol	440.00	NIST Webbook
hvapt	45.00 ± 0.40	kJ/mol	440.00	NIST Webbook
hvapt	42.20 ± 0.40	kJ/mol	440.00	NIST Webbook
hvapt	50.10 ± 0.30	kJ/mol	440.00	NIST Webbook
pvap	95.50	kPa	472.55	Activity coefficients and excess Gibbs energy of binary mixtures of N,N-dimethyl formamide with selected compounds at 95.5 kPa
pvap	0.34 ± 0.00	kPa	323.27	Isothermal Vapor-Liquid Equilibrium and Excess Enthalpy Data for the Binary Systems Water + 1,2-Ethanediol and Propene + Acetophenone
pvap	95.50 ± 0.13	kPa	472.25	Isobaric Vapor Liquid Equilibrium Data for the Binary Mixtures 2-Methyl Propan-2-ol with Tetraethoxysilane and 1-Phenyl Ethanone at 95.5 kPa

pvap	3.57	kPa	373.10	Vapor-Liquid Equilibria on Seven Binary Systems: Ethylene Oxide + 2-Methylpropane; Acetophenone + Phenol; cis-1,3-Dichloropropene + 1,2-Dichloropropane; 1,5-Hexadiene + Allyl Chloride; Isopropyl Acetate + Acetonitrile; Vinyl Chloride + Methyl Chloride; and 1,4-Butanediol + c-Butyrolactone
pvap	94.70	kPa	472.25	Bubble temperature measurements on seven binary mixtures formed by ethylbenzene at 94.7 kPa
pvap	95.20 ± 0.13	kPa	472.25	Isobaric Vapor Liquid Equilibrium Data for Binary Mixtures of 1-Phenylethanone with a Few Alcohols at 95.2 kPa
pvap	32.02	kPa	433.15	Vapor-Liquid Equilibria on Seven Binary Systems: Ethylene Oxide + 2-Methylpropane; Acetophenone + Phenol; cis-1,3-Dichloropropene + 1,2-Dichloropropane; 1,5-Hexadiene + Allyl Chloride; Isopropyl Acetate + Acetonitrile; Vinyl Chloride + Methyl Chloride; and 1,4-Butanediol + c-Butyrolactone

rfi	1.53420	298.15	Activity coefficients and excess Gibbs energy of binary mixtures of N,N-dimethyl formamide with selected compounds at 95.5 kPa
rfi	1.53360 ± 0.00010	293.15	Densities, Viscosities, Speeds of Sound, and Refractive Indices for Binary Mixtures of Diethylcarbonate, Acetophenone, and 1-Hexanol at (293.15, 303.15, 313.15, and 323.15) K for the Liquid Region and at Ambient Pressure
rfi	1.53080 ± 0.00004	298.15	Densities, Viscosities, and Refractive Indices of Binary Mixtures of Acetophenone and 2-Alkanols
rfi	1.52500 ± 0.00010	313.15	Densities, Viscosities, and Refractive Indices of Binary Mixtures of Diethyl Oxalate with Some Ketones at (303.15, 308.15, and 313.15) K
rfi	1.52940 ± 0.00010	303.15	Densities, Viscosities, and Refractive Indices of Binary Mixtures of Diethyl Oxalate with Some Ketones at (303.15, 308.15, and 313.15) K
rfi	1.53700	293.15	Isobaric Vapor Liquid Equilibrium Data for the Binary Mixtures 2-Methyl Propan-2-ol with Tetraethoxysilane and 1-Phenyl Ethanone at 95.5 kPa

rfi	1.53610 ± 0.00020	293.20	Modeling extraction equilibria of butyric acid distributed between water and tri-n-butyl amine/diluent or tri-n-butyl phosphate/diluent system: Extension of the LSER approach
rfi	1.53610 ± 0.00010	293.15	Ternary phase diagrams for aqueous mixtures of butyric acid with several solvents: experimental and correlated data
rfi	1.53420	293.15	Bubble temperature measurements on seven binary mixtures formed by ethylbenzene at 94.7 kPa
rfi	1.53360	293.15	Densities and derived thermodynamic properties of binary mixtures of diethylcarbonate, acetophenone, and 1-hexanol at T = (293.15 to 323.15) K for the liquid region and at ambient pressure
rfi	1.53180	298.15	Dielectric study of H-bonded interactions in amyl alcohols with ketones and DMSO at T = 298.15 K
rfi	1.53700 ± 0.00010	295.15	Isobaric Vapor Liquid Equilibrium Data for Binary Mixtures of 1-Phenylethanone with a Few Alcohols at 95.2 kPa

rfi	1.52700 ± 0.00010		308.15	Densities, Viscosities, and Refractive Indices of Binary Mixtures of Diethyl Oxalate with Some Ketones at (303.15, 308.15, and 313.15) K
rhol	1022.40	kg/m3	298.15	Excess parameter studies on the binary mixtures of toluene with ketones at different temperatures
rhol	1020.00	kg/m3	308.15	Ultrasonic studies on binary mixtures of some aromatic ketones with acetonitrile at T = 308.15 K
rhol	1027.93	kg/m3	293.15	Densities and derived thermodynamic properties of binary mixtures of diethylcarbonate, acetophenone, and 1-hexanol at T = (293.15 to 323.15) K for the liquid region and at ambient pressure
rhol	1020.00	kg/m3	308.15	Density and viscosity of binary liquid systems of N-methylacetamide with aromatic ketones at T = 308.15 K
rhol	1017.90	kg/m3	303.15	Excess parameter studies on the binary mixtures of toluene with ketones at different temperatures
rhol	1013.50	kg/m3	308.15	Excess parameter studies on the binary mixtures of toluene with ketones at different temperatures

rhol	1023.40	kg/m3	100.00	PVT properties for binary ionic liquids of 1-methyl-1-propylpiperidinium bis(trifluoromethylsulfonyl)imide with anisole or acetophenone at pressures up to 50 MPa
rhol	1029.00	kg/m3	10000.00	PVT properties for binary ionic liquids of 1-methyl-1-propylpiperidinium bis(trifluoromethylsulfonyl)imide with anisole or acetophenone at pressures up to 50 MPa
rhol	1031.70	kg/m3	15000.00	PVT properties for binary ionic liquids of 1-methyl-1-propylpiperidinium bis(trifluoromethylsulfonyl)imide with anisole or acetophenone at pressures up to 50 MPa
rhol	1034.30	kg/m3	20000.00	PVT properties for binary ionic liquids of 1-methyl-1-propylpiperidinium bis(trifluoromethylsulfonyl)imide with anisole or acetophenone at pressures up to 50 MPa
rhol	1028.10	kg/m3	293.15	Bubble temperature measurements on seven binary mixtures formed by ethylbenzene at 94.7 kPa
rhol	1039.30	kg/m3	30000.00	PVT properties for binary ionic liquids of 1-methyl-1-propylpiperidinium bis(trifluoromethylsulfonyl)imide with anisole or acetophenone at pressures up to 50 MPa
rhol	1041.80	kg/m3	35000.00	PVT properties for binary ionic liquids of 1-methyl-1-propylpiperidinium bis(trifluoromethylsulfonyl)imide with anisole or acetophenone at pressures up to 50 MPa

rhol	1044.40	kg/m3	40000.00	PVT properties for binary ionic liquids of 1-methyl-1-propylpiperidinium bis(trifluoromethylsulfonyl)imide with anisole or acetophenone at pressures up to 50 MPa
rhol	1046.70	kg/m3	45000.00	PVT properties for binary ionic liquids of 1-methyl-1-propylpiperidinium bis(trifluoromethylsulfonyl)imide with anisole or acetophenone at pressures up to 50 MPa
rhol	1049.00	kg/m3	50000.00	PVT properties for binary ionic liquids of 1-methyl-1-propylpiperidinium bis(trifluoromethylsulfonyl)imide with anisole or acetophenone at pressures up to 50 MPa
rhol	1005.90	kg/m3	100.00	PVT properties for binary ionic liquids of 1-methyl-1-propylpiperidinium bis(trifluoromethylsulfonyl)imide with anisole or acetophenone at pressures up to 50 MPa
rhol	1012.20	kg/m3	10000.00	PVT properties for binary ionic liquids of 1-methyl-1-propylpiperidinium bis(trifluoromethylsulfonyl)imide with anisole or acetophenone at pressures up to 50 MPa
rhol	1015.20	kg/m3	15000.00	PVT properties for binary ionic liquids of 1-methyl-1-propylpiperidinium bis(trifluoromethylsulfonyl)imide with anisole or acetophenone at pressures up to 50 MPa
rhol	1018.10	kg/m3	20000.00	PVT properties for binary ionic liquids of 1-methyl-1-propylpiperidinium bis(trifluoromethylsulfonyl)imide with anisole or acetophenone at pressures up to 50 MPa

rhol	1020.90	kg/m3	25000.00	PVT properties for binary ionic liquids of 1-methyl-1-propylpiperidinium bis(trifluoromethylsulfonyl)imide with anisole or acetophenone at pressures up to 50 MPa
rhol	1023.60	kg/m3	30000.00	PVT properties for binary ionic liquids of 1-methyl-1-propylpiperidinium bis(trifluoromethylsulfonyl)imide with anisole or acetophenone at pressures up to 50 MPa
rhol	1026.40	kg/m3	35000.00	PVT properties for binary ionic liquids of 1-methyl-1-propylpiperidinium bis(trifluoromethylsulfonyl)imide with anisole or acetophenone at pressures up to 50 MPa
rhol	1028.80	kg/m3	40000.00	PVT properties for binary ionic liquids of 1-methyl-1-propylpiperidinium bis(trifluoromethylsulfonyl)imide with anisole or acetophenone at pressures up to 50 MPa
rhol	1031.50	kg/m3	45000.00	PVT properties for binary ionic liquids of 1-methyl-1-propylpiperidinium bis(trifluoromethylsulfonyl)imide with anisole or acetophenone at pressures up to 50 MPa
rhol	1034.00	kg/m3	50000.00	PVT properties for binary ionic liquids of 1-methyl-1-propylpiperidinium bis(trifluoromethylsulfonyl)imide with anisole or acetophenone at pressures up to 50 MPa
rhol	979.60	kg/m3	100.00	PVT properties for binary ionic liquids of 1-methyl-1-propylpiperidinium bis(trifluoromethylsulfonyl)imide with anisole or acetophenone at pressures up to 50 MPa

rhol	987.10	kg/m3	10000.00	PVT properties for binary ionic liquids of 1-methyl-1-propylpiperidinium bis(trifluoromethylsulfonyl)imide with anisole or acetophenone at pressures up to 50 MPa
rhol	990.50	kg/m3	15000.00	PVT properties for binary ionic liquids of 1-methyl-1-propylpiperidinium bis(trifluoromethylsulfonyl)imide with anisole or acetophenone at pressures up to 50 MPa
rhol	993.60	kg/m3	20000.00	PVT properties for binary ionic liquids of 1-methyl-1-propylpiperidinium bis(trifluoromethylsulfonyl)imide with anisole or acetophenone at pressures up to 50 MPa
rhol	996.90	kg/m3	25000.00	PVT properties for binary ionic liquids of 1-methyl-1-propylpiperidinium bis(trifluoromethylsulfonyl)imide with anisole or acetophenone at pressures up to 50 MPa
rhol	1000.10	kg/m3	30000.00	PVT properties for binary ionic liquids of 1-methyl-1-propylpiperidinium bis(trifluoromethylsulfonyl)imide with anisole or acetophenone at pressures up to 50 MPa
rhol	1003.10	kg/m3	35000.00	PVT properties for binary ionic liquids of 1-methyl-1-propylpiperidinium bis(trifluoromethylsulfonyl)imide with anisole or acetophenone at pressures up to 50 MPa
rhol	1006.10	kg/m3	40000.00	PVT properties for binary ionic liquids of 1-methyl-1-propylpiperidinium bis(trifluoromethylsulfonyl)imide with anisole or acetophenone at pressures up to 50 MPa

rhol	1009.00	kg/m3	45000.00	PVT properties for binary ionic liquids of 1-methyl-1-propylpiperidinium bis(trifluoromethylsulfonyl)imide with anisole or acetophenone at pressures up to 50 MPa
rhol	1011.70	kg/m3	50000.00	PVT properties for binary ionic liquids of 1-methyl-1-propylpiperidinium bis(trifluoromethylsulfonyl)imide with anisole or acetophenone at pressures up to 50 MPa
rhol	1022.77	kg/m3	298.15	Dielectric study of H-bonded interactions in amyl alcohols with ketones and DMSO at T = 298.15 K
rhol	1023.00	kg/m3	298.15	Binary liquid liquid equilibrium in the systems containing monofunctional benzene derivates and 1,2-ethanediol
rhol	1023.80	kg/m3	298.15	Activity coefficients and excess Gibbs energy of binary mixtures of N,N-dimethyl formamide with selected compounds at 95.5 kPa
rhol	1027.90 ± 0.01	kg/m3	293.15	Ternary phase diagrams for aqueous mixtures of butyric acid with several solvents: experimental and correlated data
rhol	1027.90 ± 0.10	kg/m3	293.20	Modeling extraction equilibria of butyric acid distributed between water and tri-n-butyl amine/diluent or tri-n-butyl phosphate/diluent system: Extension of the LSER approach

rhol	1023.05 ± 0.02	kg/m3	298.15	Liquid liquid equilibria for acetophenone + n-alkane mixtures and characterization of acetophenone systems using DISQUAC
rhol	1024.10	kg/m3	298.15	Densities and Viscosities of Binary Mixtures of N,N-Dimethylformamide with Benzyl Alcohol and Acetophenone at (298.15, 303.15, 308.15, and 313.15) K
rhol	1019.90	kg/m3	303.15	Densities and Viscosities of Binary Mixtures of N,N-Dimethylformamide with Benzyl Alcohol and Acetophenone at (298.15, 303.15, 308.15, and 313.15) K
rhol	1015.70	kg/m3	308.15	Densities and Viscosities of Binary Mixtures of N,N-Dimethylformamide with Benzyl Alcohol and Acetophenone at (298.15, 303.15, 308.15, and 313.15) K
rhol	1011.20	kg/m3	313.15	Densities and Viscosities of Binary Mixtures of N,N-Dimethylformamide with Benzyl Alcohol and Acetophenone at (298.15, 303.15, 308.15, and 313.15) K
rhol	1023.10	kg/m3	298.15	Ultrasonic Studies of Binary Mixtures of Some Aromatic Ketones with N-Methyl-acetamide at 308.15 K

rhol	1019.43 ± 0.10	kg/m3	303.15	Excess Volumes, Speeds of Sound, Isentropic Compressibilities, and Viscosities of Binary Mixtures of Acetophenone with Chlorotoluenes and Nitrotoluenes at 303.15 K
rhol	1023.10 ± 0.20	kg/m3	298.15	Density, Viscosity, and Speed of Sound of (1-Octanol + 2-Methoxyethanol), (1-Octanol + N,N-Dimethylacetamide), and (1-Octanol + Acetophenone) at Temperatures of (298.15, 308.15, and 318.15) K
rhol	1014.90 ± 0.20	kg/m3	308.15	Density, Viscosity, and Speed of Sound of (1-Octanol + 2-Methoxyethanol), (1-Octanol + N,N-Dimethylacetamide), and (1-Octanol + Acetophenone) at Temperatures of (298.15, 308.15, and 318.15) K
rhol	1007.20 ± 0.20	kg/m3	318.15	Density, Viscosity, and Speed of Sound of (1-Octanol + 2-Methoxyethanol), (1-Octanol + N,N-Dimethylacetamide), and (1-Octanol + Acetophenone) at Temperatures of (298.15, 308.15, and 318.15) K
rhol	1019.90	kg/m3	303.15	Densities, Viscosities, and Refractive Indices of Binary Mixtures of Diethyl Oxalate with Some Ketones at (303.15, 308.15, and 313.15) K

rhol	1016.90	kg/m3	308.15	Densities, Viscosities, and Refractive Indices of Binary Mixtures of Diethyl Oxalate with Some Ketones at (303.15, 308.15, and 313.15) K
rhol	1013.50	kg/m3	313.15	Densities, Viscosities, and Refractive Indices of Binary Mixtures of Diethyl Oxalate with Some Ketones at (303.15, 308.15, and 313.15) K
rhol	1023.00	kg/m3	298.15	Liquid-Liquid Equilibrium in Ternary Systems Containing Ethylene Glycol, Monofunctional Benzene Derivative, and Ethyl Acetate
rhol	1027.93 ± 0.05	kg/m3	293.15	Densities, Viscosities, Speeds of Sound, and Refractive Indices for Binary Mixtures of Diethylcarbonate, Acetophenone, and 1-Hexanol at (293.15, 303.15, 313.15, and 323.15) K for the Liquid Region and at Ambient Pressure
rhol	1023.10 ± 0.30	kg/m3	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

rhol	1014.80 ± 0.30	kg/m3	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
rhol	1007.50 ± 0.30	kg/m3	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
rhol	1022.40 ± 0.10	kg/m3	298.15	Density and Viscosity of Ketones with Toluene at Different Temperatures and at Atmospheric Pressure
rhol	1017.90 ± 0.10	kg/m3	303.15	Density and Viscosity of Ketones with Toluene at Different Temperatures and at Atmospheric Pressure
rhol	1013.50 ± 0.10	kg/m3	308.15	Density and Viscosity of Ketones with Toluene at Different Temperatures and at Atmospheric Pressure
rhol	1023.30 ± 0.01	kg/m3	298.15	Densities, Viscosities, and Refractive Indices of Binary Mixtures of Acetophenone and 2-Alkanols
rhol	1032.00	kg/m3	288.00	KDB

rhol	1028.20 ± 0.10	kg/m3	295.15	Isobaric Vapor Liquid Equilibrium Data for Binary Mixtures of 1-Phenylethanone with a Few Alcohols at 95.2 kPa
rhol	1023.60 ± 1.02	kg/m3	298.15	Density and Viscosity of Binary Mixtures of n-Butyl Acetate with Ketones at (298.15, 303.15, 308.15, and 313.15) K
rhol	1019.80 ± 1.02	kg/m3	303.15	Density and Viscosity of Binary Mixtures of n-Butyl Acetate with Ketones at (298.15, 303.15, 308.15, and 313.15) K
rhol	1016.80 ± 1.02	kg/m3	308.15	Density and Viscosity of Binary Mixtures of n-Butyl Acetate with Ketones at (298.15, 303.15, 308.15, and 313.15) K
rhol	1013.00 ± 1.01	kg/m3	313.15	Density and Viscosity of Binary Mixtures of n-Butyl Acetate with Ketones at (298.15, 303.15, 308.15, and 313.15) K
rhol	1036.80	kg/m3	25000.00	PVT properties for binary ionic liquids of 1-methyl-1-propylpiperidinium bis(trifluoromethylsulfonyl)imide with anisole or acetophenone at pressures up to 50 MPa

rhol	1024.50 ± 0.10	kg/m3	293.15	Isobaric Vapor Liquid Equilibrium Data for the Binary Mixtures 2-Methyl Propan-2-ol with Tetraethoxysilane and 1-Phenyl Ethanone at 95.5 kPa
speedsl	1457.20	m/s	303.15	Density and Viscosity of Ketones with Toluene at Different Temperatures and at Atmospheric Pressure
speedsl	1476.20	m/s	298.15	Density and Viscosity of Ketones with Toluene at Different Temperatures and at Atmospheric Pressure
speedsl	1296.40 ± 0.20	m/s	100.00	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
speedsl	1296.20 ± 0.20	m/s	298.15	Density, Viscosity, and Speed of Sound of (1-Octanol + 2-Methoxyethanol), (1-Octanol + N,N-Dimethylacetamide), and (1-Octanol + Acetophenone) at Temperatures of (298.15, 308.15, and 318.15) K

speedsl	1466.00 ± 1.47	m/s	303.15	Excess Volumes, Speeds of Sound, Isentropic Compressibilities, and Viscosities of Binary Mixtures of Acetophenone with Chlorotoluenes and Nitrotoluenes at 303.15 K
speedsl	1460.00 ± 1.46	m/s	303.15	Excess Volumes, Speeds of Sound, Isentropic Compressibilities, and Viscosities of Binary Mixtures of Acetophenone with Chlorotoluenes and Nitrotoluenes at 303.15 K
speedsl	1444.96 ± 4.33	m/s	308.15	Ultrasonic Studies of Binary Mixtures of Some Aromatic Ketones with N-Methyl-acetamide at 308.15 K
speedsl	1441.20	m/s	308.15	Excess parameter studies on the binary mixtures of toluene with ketones at different temperatures
speedsl	1457.20	m/s	303.15	Excess parameter studies on the binary mixtures of toluene with ketones at different temperatures
speedsl	1476.20	m/s	298.15	Excess parameter studies on the binary mixtures of toluene with ketones at different temperatures
speedsl	1445.00	m/s	308.15	Ultrasonic studies on binary mixtures of some aromatic ketones with acetonitrile at T = 308.15 K

speedsl	1441.20	m/s	308.15	Density and Viscosity of Ketones with Toluene at Different Temperatures and at Atmospheric Pressure

Pressure Dependent Properties

Property code	Value	Unit	Pressure [kPa]	Source
tbrp	340.00	K	0.70	NIST Webbook

Sources

Ultrasonic studies on binary mixtures of some aromatic ketones with acetonitrile at T = 308.15 K:	https://www.doi.org/10.1016/j.jct.2006.01.009
Aqueous Solubility Prediction Method:	http://onschallenge.wikispaces.com/file/view/AqueousDataset002.xlsx/351826032/AqueousDa
McGowan Method:	http://link.springer.com/article/10.1007/BF02311772
Liquid liquid equilibria for acetophenone + n-alkane mixtures and characterization of acetophenone systems using DISQUAC:	https://www.doi.org/10.1016/j.fluid.2015.01.026
Bubble temperature measurements on seven binary mixtures formed by ethylbenzene at 94.7 kPa:	https://www.doi.org/10.1016/j.jct.2004.11.015
Density and Viscosity of Binary Mixtures of n-Butyl Acetate with Ketones at (298.15, 303.15, 308.15, and 313.15) K:	https://www.doi.org/10.1021/je300085z
Isobaric Vapor Liquid Equilibrium Data for Binary Mixtures of 1-Phenylethanone with a Few Alcohols at 95.2 kPa:	https://www.doi.org/10.1021/je300733a
Density and Viscosity of Ketones with Toluene at Different Temperatures and at Atmospheric Pressure:	https://www.doi.org/10.1021/je900523k
PVT properties for binary ionic liquids of 1-methyl-1-propylpiperidinium bis(trifluoromethylsulfonyl)imide with anisole or acetophenone at pressures up to 50 MPa:	https://www.doi.org/10.1016/j.jct.2012.01.008
NIST Webbook:	http://webbook.nist.gov/cgi/cbook.cgi?ID=C98862&Units=SI
Excess Volumes, Speeds of Sound, Isentropic Compressibilities, and Viscosities of Binary Mixtures of Acetophenone with Chlorotoluenes and Nitrotoluenes at 303.15 K:	https://www.doi.org/10.1021/je050413l
KDB:	https://www.cheric.org/research/kdb/hcprop/showprop.php?cmpid=1214
Isobaric Vapor Liquid Equilibrium Data for the Binary Mixtures 2-Methyl Propan-2-ol with Tetraethoxysilane and 1-Phenyl Ethanone at 95.3 kPa:	https://www.doi.org/10.1021/je300076y
Densities, Viscosities, and Refractive Indices of Binary Mixtures of Diethyl Oxalate with Some Ketones at (303.15, 308.15, and 313.15) K:	https://www.doi.org/10.1021/je100715x
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Joback Method:	https://en.wikipedia.org/wiki/Joback_method
Densities and Viscosities of Binary Mixtures of N,N-Dimethylformamide with Benzyl Alcohol and Acetophenone at (298.15, 308.15, 318.15, and 313.15) K	https://www.doi.org/10.1021/je030163d
Dielectric study of H-bonded interactions in amyl alcohols with ketones and binary mixtures	https://www.doi.org/10.1016/j.jct.2017.06.020
Liquid-Liquid Equilibria at 298.15 K for Systems Containing Ethylene Glycol, Monofunctional Benzene Derivative, and Benzyl Acetate	https://www.doi.org/10.1021/je100921h
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Vapor−Liquid Equilibria on Seven Binary Systems: Ethylene Oxide + 2-Methylpropane, Acetophenone + 1,2-Ethanediol, cis-1,3-Dichloropropene + 2,2′-Oxybispropane, 1,3-Hexadiene + Ethyl Chloride, Isopropyl Acetate + Acetonitrile, Vinyl Chloride + Methyl Chloride, and 1,4-Butanediol + γ-Butyrolactone.	https://www.doi.org/10.1021/je050317k
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Densities, Viscosities, Speeds of Sound, and Relative Permittivities for Binary Mixtures of Diethyl Carbonate, Acetophenone, and 1-Hexanol at (293.15, 303.15, 313.15, and 323.15) K for the Liquid Region and at Ambient Pressure.	https://www.doi.org/10.1021/je600519p

Legend

af:	Acentric Factor
affp:	Proton affinity
aigt:	Autoignition Temperature
basg:	Gas basicity
chl:	Standard liquid enthalpy of combustion
cpg:	Ideal gas heat capacity
cpl:	Liquid phase heat capacity
dm:	Dipole Moment
dvisc:	Dynamic viscosity
ea:	Electron affinity
fpc:	Flash Point (Closed Cup Method)
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
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
nfpaf:	NFPA Fire Rating
nfpah:	NFPA Health Rating
pc:	Critical Pressure
pvap:	Vapor pressure
rfi:	Refractive Index
rhoc:	Critical density

rhol:	Liquid Density
rinpol:	Non-polar retention indices
ripol:	Polar retention indices
sg:	Molar entropy at standard conditions
speedsl:	Speed of sound in fluid
tb:	Normal Boiling Point Temperature
tbrp:	Boiling point at reduced pressure
tc:	Critical Temperature
tf:	Normal melting (fusion) point
vc:	Critical Volume
zc:	Critical Compressibility