1,4-Butanediol

Other names:	1,4-BD
	1,4-BUTYLENE GLYCOL
	1,4-Dihydroxybutane
	1,4-Tetramethylene glycol
	BDO
	Butane diol-1,4
	Butane-1,4-diol
	Butanediol
	Butylene glycol
	Dabco BDO
	Diol 14B
	NSC 406696
	SUCOL B
	TETRAMETHYLENE GLYCOL
	Tetramethylene 1,4-diol
Inchi:	InChI=1S/C4H10O2/c5-3-1-2-4-6/h5-6H,1-4H2
InchiKey:	WERYXYBDKMZEQL-UHFFFAOYSA-N
Formula:	C4H10O2
SMILES:	OCCCCO
Mol. weight [g/mol]:	90.12
CAS:	110-63-4

Physical Properties

Property code	Value	Unit	Source
affp	871.70	kJ/mol	NIST Webbook
affp	884.30 ± 0.50	kJ/mol	NIST Webbook
affp	915.60	kJ/mol	NIST Webbook
affp	875.00	kJ/mol	NIST Webbook
basg	854.90	kJ/mol	NIST Webbook
basg	852.90 ± 0.50	kJ/mol	NIST Webbook
basg	843.50	kJ/mol	NIST Webbook
basg	841.20	kJ/mol	NIST Webbook
chl	-2495.50 ± 5.70	kJ/mol	NIST Webbook
chl	-2499.90 ± 2.00	kJ/mol	NIST Webbook

cpl	203.79	J/mol×K	Molar heat capacities for {isomer of butanediol + methanol} as function of mixture composition and temperature
gf	-290.84	kJ/mol	Joback Method
hf	-426.00 ± 5.70	kJ/mol	NIST Webbook
hf	-427.00 ± 3.00	kJ/mol	NIST Webbook
hfl	-503.00 ± 2.00	kJ/mol	NIST Webbook
hfl	-505.30 ± 5.70	kJ/mol	NIST Webbook
hfus	14.29	kJ/mol	Joback Method
hvap	57.86	kJ/mol	Joback Method
log10ws	-0.02		Crippen Method
logp	-0.249		Crippen Method
mcvol	78.960	ml/mol	McGowan Method
nfpaf	%!d(float64=1)		KDB
nfpah	%!d(float64=1)		KDB
pc	6220.00 ± 150.00	kPa	NIST Webbook
rinpol	922.00		NIST Webbook
rinpol	900.00		NIST Webbook
rinpol	922.00		NIST Webbook
rinpol	912.40		NIST Webbook
rinpol	900.00		NIST Webbook
rinpol	912.40		NIST Webbook
rinpol	931.00		NIST Webbook
ripol	1870.00		NIST Webbook
ripol	1911.00		NIST Webbook
ripol	1861.00		NIST Webbook
ripol	1890.00		NIST Webbook
ripol	1911.00		NIST Webbook
sl	223.40	J/mol×K	NIST Webbook
tb	502.88 ± 0.05	K	NIST Webbook
tb	501.15	K	Isobaric Vapor-Liquid Equilibrium for Binary System of Tetrahydrofuran + 1,4-Butanediol and gamma-Butyrolactone at 50.0 and 70.0 kPa
tb	503.15 ± 2.00	K	NIST Webbook
tb	501.15 ± 1.00	K	NIST Webbook
tb	501.05	K	Isobaric Vapor Liquid Equilibrium for Two Binary Systems (n-Butanol + 1,4-Butanediol and .gamma.-Butyrolactone + 1,4-Butanediol) at p = (30.0, 50.0, and 70.0) kPa
tb	501.15 ± 2.00	K	NIST Webbook
tb	503.20	K	NIST Webbook

tc	727.00 ± 3.00	K	NIST Webbook
tc	728.00	K	Critical temperatures and pressures of straight-chain alkanediols (C3 to C12)
tf	289.40 ± 1.20	K	NIST Webbook
tf	294.05 ± 0.60	K	NIST Webbook
tf	355.40 ± 1.00	K	NIST Webbook
tf	292.80 ± 0.50	K	NIST Webbook
tf	289.90 ± 3.00	K	NIST Webbook
tf	292.15 ± 2.00	K	NIST Webbook
tf	292.40 ± 0.70	K	NIST Webbook
tt	293.38 ± 0.10	K	NIST Webbook
tt	293.58 ± 0.02	K	NIST Webbook
tt	289.90 ± 0.10	K	NIST Webbook
tt	293.58 ± 0.05	K	NIST Webbook
vc	0.297	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	202.87	J/mol×K	607.39	Joback Method
cpg	208.17	J/mol×K	633.81	Joback Method
cpg	197.36	J/mol×K	580.97	Joback Method
cpg	191.63	J/mol×K	554.54	Joback Method
cpg	185.68	J/mol×K	528.12	Joback Method
cpg	179.49	J/mol×K	501.70	Joback Method
cpg	173.07	J/mol×K	475.28	Joback Method
cpl	230.33	J/mol×K	342.65	Heat Capacities of Some Liquid alpha,omega-Alkanediols within the Temperature Range between (293.15 and 353.15) K
cpl	229.34	J/mol×K	341.15	Heat Capacities of Some Liquid alpha,omega-Alkanediols within the Temperature Range between (293.15 and 353.15) K

cpl	231.32	J/mol×K	344.15	Heat Capacities of Some Liquid alpha,omega-Alkanediols within the Temperature Range between (293.15 and 353.15) K
cpl	232.32	J/mol×K	345.65	Heat Capacities of Some Liquid alpha,omega-Alkanediols within the Temperature Range between (293.15 and 353.15) K
cpl	233.32	J/mol×K	347.15	Heat Capacities of Some Liquid alpha,omega-Alkanediols within the Temperature Range between (293.15 and 353.15) K
cpl	234.32	J/mol×K	348.65	Heat Capacities of Some Liquid alpha,omega-Alkanediols within the Temperature Range between (293.15 and 353.15) K
cpl	235.34	J/mol×K	350.15	Heat Capacities of Some Liquid alpha,omega-Alkanediols within the Temperature Range between (293.15 and 353.15) K
cpl	203.82	J/mol×K	299.15	Heat Capacities of Some Liquid alpha,omega-Alkanediols within the Temperature Range between (293.15 and 353.15) K
cpl	236.35	J/mol×K	351.65	Heat Capacities of Some Liquid alpha,omega-Alkanediols within the Temperature Range between (293.15 and 353.15) K

cpl	228.36	J/mol×K	339.65	Heat Capacities of Some Liquid alpha,omega-Alkanediols within the Temperature Range between (293.15 and 353.15) K
cpl	227.38	J/mol×K	338.15	Heat Capacities of Some Liquid alpha,omega-Alkanediols within the Temperature Range between (293.15 and 353.15) K
cpl	226.41	J/mol×K	336.65	Heat Capacities of Some Liquid alpha,omega-Alkanediols within the Temperature Range between (293.15 and 353.15) K
cpl	225.45	J/mol×K	335.15	Heat Capacities of Some Liquid alpha,omega-Alkanediols within the Temperature Range between (293.15 and 353.15) K
cpl	224.49	J/mol×K	333.65	Heat Capacities of Some Liquid alpha,omega-Alkanediols within the Temperature Range between (293.15 and 353.15) K
cpl	223.53	J/mol×K	332.15	Heat Capacities of Some Liquid alpha,omega-Alkanediols within the Temperature Range between (293.15 and 353.15) K
cpl	222.58	J/mol×K	330.65	Heat Capacities of Some Liquid alpha,omega-Alkanediols within the Temperature Range between (293.15 and 353.15) K

cpl	221.64	J/mol×K	329.15	Heat Capacities of Some Liquid alpha,omega-Alkanediols within the Temperature Range between (293.15 and 353.15) K
cpl	220.70	J/mol×K	327.65	Heat Capacities of Some Liquid alpha,omega-Alkanediols within the Temperature Range between (293.15 and 353.15) K
cpl	219.76	J/mol×K	326.15	Heat Capacities of Some Liquid alpha,omega-Alkanediols within the Temperature Range between (293.15 and 353.15) K
cpl	218.83	J/mol×K	324.65	Heat Capacities of Some Liquid alpha,omega-Alkanediols within the Temperature Range between (293.15 and 353.15) K
cpl	217.91	J/mol×K	323.15	Heat Capacities of Some Liquid alpha,omega-Alkanediols within the Temperature Range between (293.15 and 353.15) K
cpl	216.99	J/mol×K	321.65	Heat Capacities of Some Liquid alpha,omega-Alkanediols within the Temperature Range between (293.15 and 353.15) K
cpl	216.08	J/mol×K	320.15	Heat Capacities of Some Liquid alpha,omega-Alkanediols within the Temperature Range between (293.15 and 353.15) K

cpl	215.17	J/mol×K	318.65	Heat Capacities of Some Liquid alpha,omega-Alkanediols within the Temperature Range between (293.15 and 353.15) K
cpl	214.26	J/mol×K	317.15	Heat Capacities of Some Liquid alpha,omega-Alkanediols within the Temperature Range between (293.15 and 353.15) K
cpl	213.36	J/mol×K	315.65	Heat Capacities of Some Liquid alpha,omega-Alkanediols within the Temperature Range between (293.15 and 353.15) K
cpl	212.47	J/mol×K	314.15	Heat Capacities of Some Liquid alpha,omega-Alkanediols within the Temperature Range between (293.15 and 353.15) K
cpl	211.58	J/mol×K	312.65	Heat Capacities of Some Liquid alpha,omega-Alkanediols within the Temperature Range between (293.15 and 353.15) K
cpl	210.70	J/mol×K	311.15	Heat Capacities of Some Liquid alpha,omega-Alkanediols within the Temperature Range between (293.15 and 353.15) K
cpl	209.82	J/mol×K	309.65	Heat Capacities of Some Liquid alpha,omega-Alkanediols within the Temperature Range between (293.15 and 353.15) K

cpl	208.95	J/mol×K	308.15	Heat Capacities of Some Liquid alpha,omega-Alkanediols within the Temperature Range between (293.15 and 353.15) K
cpl	214.55	J/mol×K	318.15	Molar heat capacities for (1-butanol + 1,4-butanediol, 2,3-butanediol, 1,2-butanediol, and 2-methyl-2,4-pentanediol) as function of temperature
cpl	208.08	J/mol×K	306.65	Heat Capacities of Some Liquid alpha,omega-Alkanediols within the Temperature Range between (293.15 and 353.15) K
cpl	207.22	J/mol×K	305.15	Heat Capacities of Some Liquid alpha,omega-Alkanediols within the Temperature Range between (293.15 and 353.15) K
cpl	206.36	J/mol×K	303.65	Heat Capacities of Some Liquid alpha,omega-Alkanediols within the Temperature Range between (293.15 and 353.15) K
cpl	205.51	J/mol×K	302.15	Heat Capacities of Some Liquid alpha,omega-Alkanediols within the Temperature Range between (293.15 and 353.15) K
cpl	204.67	J/mol×K	300.65	Heat Capacities of Some Liquid alpha,omega-Alkanediols within the Temperature Range between (293.15 and 353.15) K
cpl	178.00	J/mol×K	297.79	NIST Webbook

cpl	200.39	J/mol×K	293.15	Molar heat capacities for (1-butanol + 1,4-butanediol, 2,3-butanediol, 1,2-butanediol, and 2-methyl-2,4-pentanediol) as function of temperature
cpl	203.06	J/mol×K	298.15	Molar heat capacities for (1-butanol + 1,4-butanediol, 2,3-butanediol, 1,2-butanediol, and 2-methyl-2,4-pentanediol) as function of temperature
cpl	205.82	J/mol×K	303.15	Molar heat capacities for (1-butanol + 1,4-butanediol, 2,3-butanediol, 1,2-butanediol, and 2-methyl-2,4-pentanediol) as function of temperature
cpl	208.65	J/mol×K	308.15	Molar heat capacities for (1-butanol + 1,4-butanediol, 2,3-butanediol, 1,2-butanediol, and 2-methyl-2,4-pentanediol) as function of temperature
cpl	211.57	J/mol×K	313.15	Molar heat capacities for (1-butanol + 1,4-butanediol, 2,3-butanediol, 1,2-butanediol, and 2-methyl-2,4-pentanediol) as function of temperature
cpl	203.27	J/mol×K	298.15	Heat Capacities of Some Liquid alpha,omega-Alkanediols within the Temperature Range between (293.15 and 353.15) K

cpl	217.61	J/mol×K	323.15	Molar heat capacities for (1-butanol + 1,4-butanediol, 2,3-butanediol, 1,2-butanediol, and 2-methyl-2,4-pentanediol) as function of temperature
cpl	220.72	J/mol×K	328.15	Molar heat capacities for (1-butanol + 1,4-butanediol, 2,3-butanediol, 1,2-butanediol, and 2-methyl-2,4-pentanediol) as function of temperature
cpl	223.90	J/mol×K	333.15	Molar heat capacities for (1-butanol + 1,4-butanediol, 2,3-butanediol, 1,2-butanediol, and 2-methyl-2,4-pentanediol) as function of temperature
cpl	227.12	J/mol×K	338.15	Molar heat capacities for (1-butanol + 1,4-butanediol, 2,3-butanediol, 1,2-butanediol, and 2-methyl-2,4-pentanediol) as function of temperature
cpl	230.40	J/mol×K	343.15	Molar heat capacities for (1-butanol + 1,4-butanediol, 2,3-butanediol, 1,2-butanediol, and 2-methyl-2,4-pentanediol) as function of temperature
cpl	233.72	J/mol×K	348.15	Molar heat capacities for (1-butanol + 1,4-butanediol, 2,3-butanediol, 1,2-butanediol, and 2-methyl-2,4-pentanediol) as function of temperature

cpl	237.07	J/mol×K	353.15	Molar heat capacities for (1-butanol + 1,4-butanediol, 2,3-butanediol, 1,2-butanediol, and 2-methyl-2,4-pentanediol) as function of temperature
cpl	200.51	J/mol×K	293.15	Heat Capacities of Some Liquid alpha,omega-Alkanediols within the Temperature Range between (293.15 and 353.15) K
cpl	201.33	J/mol×K	294.65	Heat Capacities of Some Liquid alpha,omega-Alkanediols within the Temperature Range between (293.15 and 353.15) K
cpl	202.16	J/mol×K	296.15	Heat Capacities of Some Liquid alpha,omega-Alkanediols within the Temperature Range between (293.15 and 353.15) K
cpl	202.99	J/mol×K	297.65	Heat Capacities of Some Liquid alpha,omega-Alkanediols within the Temperature Range between (293.15 and 353.15) K
cpl	200.10	J/mol×K	298.15	NIST Webbook
cpl	237.38	J/mol×K	353.15	Heat Capacities of Some Liquid alpha,omega-Alkanediols within the Temperature Range between (293.15 and 353.15) K

dvisc	0.0727454	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	0.0568860	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	0.0448850	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	0.0358106	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	0.0290542	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	0.0972620	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	18.70	kJ/mol	293.60	NIST Webbook
hfust	18.70	kJ/mol	293.60	NIST Webbook
hfust	18.70	kJ/mol	293.58	NIST Webbook
hvapt	77.10	kJ/mol	298.15	Vaporization Enthalpies of the r,o-Alkanediols by Correlation Gas Chromatography
hvapt	72.00	kJ/mol	445.00	NIST Webbook
hvapt	77.00 ± 2.00	kJ/mol	419.00	NIST Webbook
pvap	0.04	kPa	341.20	Thermodynamic Properties of Mixtures Containing Ionic Liquids. Activity Coefficients of Ethers and Alcohols in 1-Methyl-3-Ethyl-Imidazolium Bis(trifluoromethyl-sulfonyl) Imide Using the Transpiration Method
pvap	0.06	kPa	346.30	Thermodynamic Properties of Mixtures Containing Ionic Liquids. Activity Coefficients of Ethers and Alcohols in 1-Methyl-3-Ethyl-Imidazolium Bis(trifluoromethyl-sulfonyl) Imide Using the Transpiration Method

pvap	0.05	kPa	343.60	Thermodynamic Properties of Mixtures Containing Ionic Liquids. Activity Coefficients of Ethers and Alcohols in 1-Methyl-3-Ethyl-Imidazolium Bis(trifluoromethyl-sulfonyl) Imide Using the Transpiration Method
pvap	0.05	kPa	343.60	Thermodynamic Properties of Mixtures Containing Ionic Liquids. Activity Coefficients of Ethers and Alcohols in 1-Methyl-3-Ethyl-Imidazolium Bis(trifluoromethyl-sulfonyl) Imide Using the Transpiration Method
pvap	0.05	kPa	343.20	Thermodynamic Properties of Mixtures Containing Ionic Liquids. Activity Coefficients of Ethers and Alcohols in 1-Methyl-3-Ethyl-Imidazolium Bis(trifluoromethyl-sulfonyl) Imide Using the Transpiration Method
pvap	0.07	kPa	348.20	Thermodynamic Properties of Mixtures Containing Ionic Liquids. Activity Coefficients of Ethers and Alcohols in 1-Methyl-3-Ethyl-Imidazolium Bis(trifluoromethyl-sulfonyl) Imide Using the Transpiration Method
pvap	0.04	kPa	339.60	Thermodynamic Properties of Mixtures Containing Ionic Liquids. Activity Coefficients of Ethers and Alcohols in 1-Methyl-3-Ethyl-Imidazolium Bis(trifluoromethyl-sulfonyl) Imide Using the Transpiration Method

pvap	0.04	kPa	339.60	Thermodynamic Properties of Mixtures Containing Ionic Liquids. Activity Coefficients of Ethers and Alcohols in 1-Methyl-3-Ethyl-Imidazolium Bis(trifluoromethyl-sulfonyl) Imide Using the Transpiration Method
pvap	0.03	kPa	338.20	Thermodynamic Properties of Mixtures Containing Ionic Liquids. Activity Coefficients of Ethers and Alcohols in 1-Methyl-3-Ethyl-Imidazolium Bis(trifluoromethyl-sulfonyl) Imide Using the Transpiration Method
pvap	0.02	kPa	335.20	Thermodynamic Properties of Mixtures Containing Ionic Liquids. Activity Coefficients of Ethers and Alcohols in 1-Methyl-3-Ethyl-Imidazolium Bis(trifluoromethyl-sulfonyl) Imide Using the Transpiration Method
pvap	0.07	kPa	348.60	Thermodynamic Properties of Mixtures Containing Ionic Liquids. Activity Coefficients of Ethers and Alcohols in 1-Methyl-3-Ethyl-Imidazolium Bis(trifluoromethyl-sulfonyl) Imide Using the Transpiration Method

pvap	0.01	kPa	329.20	Thermodynamic Properties of Mixtures Containing Ionic Liquids. Activity Coefficients of Ethers and Alcohols in 1-Methyl-3-Ethyl-Imidazolium Bis(trifluoromethyl-sulfonyl) Imide Using the Transpiration Method
pvap	0.07	kPa	348.60	Thermodynamic Properties of Mixtures Containing Ionic Liquids. Activity Coefficients of Ethers and Alcohols in 1-Methyl-3-Ethyl-Imidazolium Bis(trifluoromethyl-sulfonyl) Imide Using the Transpiration Method
pvap	0.08	kPa	351.20	Thermodynamic Properties of Mixtures Containing Ionic Liquids. Activity Coefficients of Ethers and Alcohols in 1-Methyl-3-Ethyl-Imidazolium Bis(trifluoromethyl-sulfonyl) Imide Using the Transpiration Method
pvap	0.10	kPa	353.20	Thermodynamic Properties of Mixtures Containing Ionic Liquids. Activity Coefficients of Ethers and Alcohols in 1-Methyl-3-Ethyl-Imidazolium Bis(trifluoromethyl-sulfonyl) Imide Using the Transpiration Method
pvap	0.10	kPa	353.60	Thermodynamic Properties of Mixtures Containing Ionic Liquids. Activity Coefficients of Ethers and Alcohols in 1-Methyl-3-Ethyl-Imidazolium Bis(trifluoromethyl-sulfonyl) Imide Using the Transpiration Method

pvap	0.10	kPa	353.60	Thermodynamic Properties of Mixtures Containing Ionic Liquids. Activity Coefficients of Ethers and Alcohols in 1-Methyl-3-Ethyl-Imidazolium Bis(trifluoromethyl-sulfonyl) Imide Using the Transpiration Method
pvap	0.12	kPa	356.20	Thermodynamic Properties of Mixtures Containing Ionic Liquids. Activity Coefficients of Ethers and Alcohols in 1-Methyl-3-Ethyl-Imidazolium Bis(trifluoromethyl-sulfonyl) Imide Using the Transpiration Method
pvap	0.14	kPa	358.60	Thermodynamic Properties of Mixtures Containing Ionic Liquids. Activity Coefficients of Ethers and Alcohols in 1-Methyl-3-Ethyl-Imidazolium Bis(trifluoromethyl-sulfonyl) Imide Using the Transpiration Method
pvap	0.14	kPa	358.60	Thermodynamic Properties of Mixtures Containing Ionic Liquids. Activity Coefficients of Ethers and Alcohols in 1-Methyl-3-Ethyl-Imidazolium Bis(trifluoromethyl-sulfonyl) Imide Using the Transpiration Method

pvap	0.17	kPa	361.20	Thermodynamic Properties of Mixtures Containing Ionic Liquids. Activity Coefficients of Ethers and Alcohols in 1-Methyl-3-Ethyl-Imidazolium Bis(trifluoromethyl-sulfonyl) Imide Using the Transpiration Method
pvap	0.19	kPa	363.20	Thermodynamic Properties of Mixtures Containing Ionic Liquids. Activity Coefficients of Ethers and Alcohols in 1-Methyl-3-Ethyl-Imidazolium Bis(trifluoromethyl-sulfonyl) Imide Using the Transpiration Method
pvap	0.66	kPa	383.15	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
pvap	0.14	kPa	358.30	Thermodynamic Properties of Mixtures Containing Ionic Liquids. Activity Coefficients of Ethers and Alcohols in 1-Methyl-3-Ethyl-Imidazolium Bis(trifluoromethyl-sulfonyl) Imide Using the Transpiration Method

pvap	0.02	kPa	332.30	Thermodynamic Properties of Mixtures Containing Ionic Liquids. Activity Coefficients of Ethers and Alcohols in 1-Methyl-3-Ethyl-Imidazolium Bis(trifluoromethyl-sulfonyl) Imide Using the Transpiration Method
rfi	1.43520		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	1.44470		298.15	The effect of temperature and pressure on acoustic and thermodynamic properties of 1,4-butanediol. The comparison with 1,2- and 1,3-butanediols
rfi	1.44570		298.20	A thermodynamic study of solute solvent interactions through dielectric properties of the mixtures consisting of 1,4-butanediol, 1-octanol, and 1,4-dioxane at different temperatures
rfi	1.44220		308.20	A thermodynamic study of solute solvent interactions through dielectric properties of the mixtures consisting of 1,4-butanediol, 1-octanol, and 1,4-dioxane at different temperatures

rfi	1.44170	308.20	A thermodynamic study of solute solvent interactions through dielectric properties of the mixtures consisting of 1,4-butanediol, 1-octanol, and 1,4-dioxane at different temperatures	
rfi	1.43860	318.20	A thermodynamic study of solute solvent interactions through dielectric properties of the mixtures consisting of 1,4-butanediol, 1-octanol, and 1,4-dioxane at different temperatures	
rfi	1.44420	298.15	Densities, Dynamic Viscosities, Speeds of Sound, and Relative Permittivities for Water + Alkanediols (Propane-1,2- and -1,3-diol and Butane-1,2-, -1,3-, -1,4-, and -2,3-Diol) at Different Temperatures	
rfi	1.44510	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	1.44310	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	1.44110	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	1.43910	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	1.43720	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	1009.60	kg/m3	303.15	Densities, Ultrasonic Speeds, and Excess Properties of Binary Mixtures of Diethylene Glycol with 1-Butanol, 2-Butanol, and 1,4-Butanediol at Different Temperatures
rhol	1012.60	kg/m3	298.15	Densities, Ultrasonic Speeds, and Excess Properties of Binary Mixtures of Diethylene Glycol with 1-Butanol, 2-Butanol, and 1,4-Butanediol at Different Temperatures
rhol	997.80	kg/m3	323.15	Densities and Excess Molar Volumes for Binary Mixtures of 1,4-Butanediol + 1,2-Propanediol, + 1,3-Propanediol, and + Ethane-1,2-diol from (293.15 to 328.15) K
rhol	1006.70	kg/m3	308.15	Densities, Ultrasonic Speeds, and Excess Properties of Binary Mixtures of Diethylene Glycol with 1-Butanol, 2-Butanol, and 1,4-Butanediol at Different Temperatures
rhol	1003.70	kg/m3	313.15	Densities, Ultrasonic Speeds, and Excess Properties of Binary Mixtures of Diethylene Glycol with 1-Butanol, 2-Butanol, and 1,4-Butanediol at Different Temperatures

rhol	1022.21	kg/m3	283.15	Excess volumes and excess heat capacities for alkanediol + water systems in the temperature interval (283.15-313.15) K	
rhol	1016.11	kg/m3	293.15	Excess volumes and excess heat capacities for alkanediol + water systems in the temperature interval (283.15-313.15) K	
rhol	1013.06	kg/m3	298.15	Excess volumes and excess heat capacities for alkanediol + water systems in the temperature interval (283.15-313.15) K	
rhol	1009.99	kg/m3	303.15	Excess volumes and excess heat capacities for alkanediol + water systems in the temperature interval (283.15-313.15) K	
rhol	1003.85	kg/m3	313.15	Excess volumes and excess heat capacities for alkanediol + water systems in the temperature interval (283.15-313.15) K	
rhol	1003.95	kg/m3	308.15	Effect of placement of hydroxyl groups in isomeric butanediol on the behaviour of thermophysical and spectroscopic properties of pyrrolidin-2-one	

rhol	1003.95	kg/m3	308.15	A comparative study of thermophysical and spectroscopic properties in mixtures of isomeric butanediol and N,N-dimethylformamide
rhol	1003.95	kg/m3	308.15	Thermodynamic, transport, and spectroscopic studies for mixtures of isomeric butanediol and N-methyl-2-pyrrolidinone
rhol	1003.95	kg/m3	308.15	Effect of B-cyclodextrin on the behaviour of thermophysical and spectroscopic properties of binary mixtures of (isomeric butanediol + pyrrolidin-2-one)
rhol	1013.90	kg/m3	298.15	Investigation on some thermophysical properties of poly(ethylene glycol) binary mixtures at different temperatures
rhol	1010.60	kg/m3	303.15	Investigation on some thermophysical properties of poly(ethylene glycol) binary mixtures at different temperatures
rhol	1007.50	kg/m3	308.15	Investigation on some thermophysical properties of poly(ethylene glycol) binary mixtures at different temperatures

rhol	1012.80	kg/m3	298.15	Acoustic and volumetric study of renewable oxygenated fuel additives at (298.15-323.15) K: Isomeric butanediols with ethylbutyrate
rhol	1009.77	kg/m3	303.15	Acoustic and volumetric study of renewable oxygenated fuel additives at (298.15-323.15) K: Isomeric butanediols with ethylbutyrate
rhol	1006.74	kg/m3	308.15	Acoustic and volumetric study of renewable oxygenated fuel additives at (298.15-323.15) K: Isomeric butanediols with ethylbutyrate
rhol	1003.70	kg/m3	313.15	Acoustic and volumetric study of renewable oxygenated fuel additives at (298.15-323.15) K: Isomeric butanediols with ethylbutyrate
rhol	1000.67	kg/m3	318.15	Acoustic and volumetric study of renewable oxygenated fuel additives at (298.15-323.15) K: Isomeric butanediols with ethylbutyrate
rhol	997.63	kg/m3	323.15	Acoustic and volumetric study of renewable oxygenated fuel additives at (298.15-323.15) K: Isomeric butanediols with ethylbutyrate

rhol	1012.96	kg/m3	298.15	Isobaric Vapor Liquid Equilibrium for Two Binary Systems, (3-Methyl-1-butanol + 1,4-Butanediol) and (Hexylene Glycol + 1,4-Butanediol), at p = 40.0, 60.0, and 80.0 kPa
rhol	1015.76	kg/m3	293.15	Excess Molar Volume, Viscosity, and Heat Capacity for the Mixtures of 1,4-Butanediol + Water at Different Temperatures
rhol	1012.68	kg/m3	298.15	Excess Molar Volume, Viscosity, and Heat Capacity for the Mixtures of 1,4-Butanediol + Water at Different Temperatures
rhol	1009.54	kg/m3	303.15	Excess Molar Volume, Viscosity, and Heat Capacity for the Mixtures of 1,4-Butanediol + Water at Different Temperatures
rhol	1006.43	kg/m3	308.15	Excess Molar Volume, Viscosity, and Heat Capacity for the Mixtures of 1,4-Butanediol + Water at Different Temperatures
rhol	1003.37	kg/m3	313.15	Excess Molar Volume, Viscosity, and Heat Capacity for the Mixtures of 1,4-Butanediol + Water at Different Temperatures
rhol	1000.45	kg/m3	318.15	Excess Molar Volume, Viscosity, and Heat Capacity for the Mixtures of 1,4-Butanediol + Water at Different Temperatures

rhol	997.14	kg/m3	323.15	Excess Molar Volume, Viscosity, and Heat Capacity for the Mixtures of 1,4-Butanediol + Water at Different Temperatures
rhol	994.02	kg/m3	328.15	Excess Molar Volume, Viscosity, and Heat Capacity for the Mixtures of 1,4-Butanediol + Water at Different Temperatures
rhol	990.93	kg/m3	333.15	Excess Molar Volume, Viscosity, and Heat Capacity for the Mixtures of 1,4-Butanediol + Water at Different Temperatures
rhol	987.93	kg/m3	338.15	Excess Molar Volume, Viscosity, and Heat Capacity for the Mixtures of 1,4-Butanediol + Water at Different Temperatures
rhol	984.81	kg/m3	343.15	Excess Molar Volume, Viscosity, and Heat Capacity for the Mixtures of 1,4-Butanediol + Water at Different Temperatures
rhol	981.70	kg/m3	348.15	Excess Molar Volume, Viscosity, and Heat Capacity for the Mixtures of 1,4-Butanediol + Water at Different Temperatures
rhol	978.59	kg/m3	353.15	Excess Molar Volume, Viscosity, and Heat Capacity for the Mixtures of 1,4-Butanediol + Water at Different Temperatures

rhol	972.71	kg/m3	363.15	Excess Molar Volume, Viscosity, and Heat Capacity for the Mixtures of 1,4-Butanediol + Water at Different Temperatures
rhol	1013.04	kg/m3	298.15	Isobaric Vapor-Liquid Equilibrium for Four Binary Systems of Ethane-1,2-diol, Butane-1,4-diol, 2-(2-Hydroxyethoxy)ethan-1-ol and 2-[2-(2-Hydroxyethoxy)ethoxy]ethanol at 10.0 kPa, 20.0 kPa and 40.0 kPa
rhol	1016.37	kg/m3	293.15	Densities and Excess Molar Volumes for Binary Mixtures of 1,4-Butanediol + 1,2-Propanediol, + 1,3-Propanediol, and + Ethane-1,2-diol from (293.15 to 328.15) K
rhol	1013.04	kg/m3	298.15	Densities and Excess Molar Volumes for Binary Mixtures of 1,4-Butanediol + 1,2-Propanediol, + 1,3-Propanediol, and + Ethane-1,2-diol from (293.15 to 328.15) K
rhol	1009.96	kg/m3	303.15	Densities and Excess Molar Volumes for Binary Mixtures of 1,4-Butanediol + 1,2-Propanediol, + 1,3-Propanediol, and + Ethane-1,2-diol from (293.15 to 328.15) K

rhol	1006.75	kg/m3	308.15	Densities and Excess Molar Volumes for Binary Mixtures of 1,4-Butanediol + 1,2-Propanediol, + 1,3-Propanediol, and + Ethane-1,2-diol from (293.15 to 328.15) K
rhol	1003.55	kg/m3	313.15	Densities and Excess Molar Volumes for Binary Mixtures of 1,4-Butanediol + 1,2-Propanediol, + 1,3-Propanediol, and + Ethane-1,2-diol from (293.15 to 328.15) K
rhol	1000.72	kg/m3	318.15	Densities and Excess Molar Volumes for Binary Mixtures of 1,4-Butanediol + 1,2-Propanediol, + 1,3-Propanediol, and + Ethane-1,2-diol from (293.15 to 328.15) K
rhol	994.41	kg/m3	328.15	Densities and Excess Molar Volumes for Binary Mixtures of 1,4-Butanediol + 1,2-Propanediol, + 1,3-Propanediol, and + Ethane-1,2-diol from (293.15 to 328.15) K
sfust	63.72	J/mol×K	293.58	NIST Webbook

Pressure Dependent Properties

Property code	Value	Unit	Pressure [kPa]	Source

tbrp	393.20	K	1.30	NIST Webbook

Correlations

Information	Value
Property code	pvap
Equation	ln(Pvp) = A + B/(T + C)
Coeff. A	1.61683e+01
Coeff. B	-4.88254e+03
Coeff. C	-8.04700e+01
Temperature range (K), min.	387.92
Temperature range (K), max.	530.19

Information	Value
Property code	pvap
Equation	ln(Pvp) = A + B/T + C*ln(T) + D*T^2
Coeff. A	5.07189e+01
Coeff. B	-9.72020e+03
Coeff. C	-4.35830e+00
Coeff. D	1.55136e-06
Temperature range (K), min.	293.05
Temperature range (K), max.	667.00

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Legend

affp:	Proton affinity
basg:	Gas basicity
chl:	Standard liquid enthalpy of combustion
cpg:	Ideal gas heat capacity
cpl:	Liquid phase heat capacity
dvisc:	Dynamic viscosity
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
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
rhol:	Liquid Density
rinpol:	Non-polar retention indices
ripol:	Polar retention indices
sfust:	Entropy of fusion at a given temperature
sl:	Liquid phase molar entropy at standard conditions
tb:	Normal Boiling Point Temperature
tbrp:	Boiling point at reduced pressure
tc:	Critical Temperature
tf:	Normal melting (fusion) point
tt:	Triple Point Temperature
vc:	Critical Volume