LACTIC ACID, ETHYL ESTER

Other names:	(+-)-ethyl 2-hydroxypropionate
	(+-)-ethyl lactate
	(.+/-.)-Ethyl lactate
	(S)-(-)-ethyl lactate
	(dl) ethyl lactate
	2-Hydroxypropanoic acid ethyl ester
	Actylol
	Acytol
	DL-ethyl 2-hydroxypropionate
	DL-ethyl lactate
	Ethyl 2-hydroxypropionate
	Ethyl ester of lactic acid
	Ethyl racemic-lactate
	Ethyl «alpha»-hydroxypropionate
	Ethylester kyseliny mlecne
	Eusolvan
	L-ethyl 2-hydroxypropanoate
	L-ethyl lactate
	L-lactic acid, ethyl ester
	Lactate d'ethyle
	NSC 8850
	Solactol
	UN 1192
	ethyl 2-hydroxypropanoate
	ethyl lactate
Inchi:	InChI=1S/C5H10O3/c1-3-8-5(7)4(2)6/h4,6H,3H2,1-2H3
InchiKey:	LZCLXQDLBQLTDK-UHFFFAOYSA-N
Formula:	C5H10O3
SMILES:	CCOC(=O)C(C)O
Mol. weight [g/mol]:	118.13
CAS:	97-64-3

Physical Properties

Property code	Value	Unit	Source
af	0.5909		Cheméo Relay (1.0)
gf	-381.96	kJ/mol	Joback Method

hf	-653.86	kJ/mol	Cheméo Relay (1.0)
hfus	12.06	kJ/mol	Joback Method
hvap	55.04	kJ/mol	Cheméo Relay (1.0)
ie	10.19	eV	Cheméo Relay (1.0)
log10ws	0.85		Cheméo Relay (1.0)
logp	-0.070		Crippen Method
mcvol	94.620	ml/mol	McGowan Method
pc	4151.61	kPa	Joback Method
rinpol	764.00		NIST Webbook
rinpol	821.00		NIST Webbook
rinpol	801.00		NIST Webbook
rinpol	813.00		NIST Webbook
rinpol	815.00		NIST Webbook
rinpol	815.00		NIST Webbook
rinpol	826.00		NIST Webbook
rinpol	815.00		NIST Webbook
rinpol	789.00		NIST Webbook
rinpol	836.00		NIST Webbook
rinpol	798.00		NIST Webbook
rinpol	821.00		NIST Webbook
rinpol	832.00		NIST Webbook
rinpol	815.00		NIST Webbook
rinpol	797.00		NIST Webbook
rinpol	799.00		NIST Webbook
rinpol	798.00		NIST Webbook
rinpol	788.00		NIST Webbook
rinpol	798.00		NIST Webbook
rinpol	813.00		NIST Webbook
rinpol	801.00		NIST Webbook
rinpol	803.00		NIST Webbook
rinpol	803.00		NIST Webbook
rinpol	764.00		NIST Webbook
rinpol	821.00		NIST Webbook
rinpol	801.00		NIST Webbook
rinpol	797.00		NIST Webbook
rinpol	787.00		NIST Webbook
rinpol	787.00		NIST Webbook
rinpol	787.00		NIST Webbook
rinpol	806.00		NIST Webbook
rinpol	803.00		NIST Webbook
ripol	1356.00		NIST Webbook
ripol	1354.00		NIST Webbook
ripol	1333.00		NIST Webbook
ripol	1345.00		NIST Webbook

ripol	1347.00	NIST Webbook
ripol	1347.00	NIST Webbook
ripol	1325.00	NIST Webbook
ripol	1341.00	NIST Webbook
ripol	1339.00	NIST Webbook
ripol	1316.00	NIST Webbook
ripol	1317.00	NIST Webbook
ripol	1353.00	NIST Webbook
ripol	1353.00	NIST Webbook
ripol	1347.00	NIST Webbook
ripol	1331.00	NIST Webbook
ripol	1353.00	NIST Webbook
ripol	1353.00	NIST Webbook
ripol	1339.00	NIST Webbook
ripol	1353.00	NIST Webbook
ripol	1372.00	NIST Webbook
ripol	1329.00	NIST Webbook
ripol	1362.00	NIST Webbook
ripol	1338.00	NIST Webbook
ripol	1334.00	NIST Webbook
ripol	1334.00	NIST Webbook
ripol	1334.00	NIST Webbook
ripol	1349.00	NIST Webbook
ripol	1371.00	NIST Webbook
ripol	1349.00	NIST Webbook
ripol	1349.00	NIST Webbook
ripol	1356.00	NIST Webbook
ripol	1362.00	NIST Webbook
ripol	1331.00	NIST Webbook
ripol	1337.00	NIST Webbook
ripol	1312.00	NIST Webbook
ripol	1367.00	NIST Webbook
ripol	1355.00	NIST Webbook
ripol	1341.00	NIST Webbook
ripol	1334.00	NIST Webbook
ripol	1339.00	NIST Webbook
ripol	1353.00	NIST Webbook
ripol	1333.00	NIST Webbook
ripol	1353.00	NIST Webbook
ripol	1356.00	NIST Webbook
ripol	1348.00	NIST Webbook
ripol	1363.00	NIST Webbook
ripol	1353.00	NIST Webbook
ripol	1363.00	NIST Webbook

ripol	1348.00		NIST Webbook
ripol	1348.00		NIST Webbook
ripol	1321.00		NIST Webbook
ripol	1363.00		NIST Webbook
ripol	1341.00		NIST Webbook
ripol	1349.00		NIST Webbook
ripol	1364.00		NIST Webbook
ripol	1348.00		NIST Webbook
ripol	1334.00		NIST Webbook
ripol	1338.00		NIST Webbook
ripol	1353.00		NIST Webbook
ripol	1338.00		NIST Webbook
ripol	1371.00		NIST Webbook
ripol	1339.00		NIST Webbook
ripol	1330.00		NIST Webbook
ripol	1356.00		NIST Webbook
ripol	1358.00		NIST Webbook
ripol	1312.00		NIST Webbook
ripol	1342.00		NIST Webbook
ripol	1347.00		NIST Webbook
ripol	1316.00		NIST Webbook
ripol	1353.00		NIST Webbook
ripol	1309.00		NIST Webbook
ripol	1342.00		NIST Webbook
ripol	1353.00		NIST Webbook
ripol	1352.00		NIST Webbook
ripol	1340.00		NIST Webbook
ripol	1312.00		NIST Webbook
ripol	1309.00		NIST Webbook
ripol	1340.00		NIST Webbook
tb	417.37	K	Cheméo Relay (1.0)
tc	603.48	K	Cheméo Relay (1.0)
tf	248.74	K	Cheméo Relay (1.0)
vc	0.368	m3/kmol	Cheméo Relay (1.0)

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	248.43	J/mol×K	657.66	Joback Method
cpg	241.86	J/mol×K	628.35	Joback Method
cpg	235.00	J/mol×K	599.05	Joback Method

cpg	227.87	J/mol×K	569.74	Joback Method
cpg	220.46	J/mol×K	540.44	Joback Method
cpg	212.77	J/mol×K	511.13	Joback Method
cpg	204.80	J/mol×K	481.83	Joback Method
dvisc	0.0023980	Pa×s	298.15	Densities and Viscosities for Binary Mixtures of Ethyl Lactate with Methacrylic Acid, Benzyl Methacrylate, and 2-Hydroxyethyl Methacrylate at (298.15, 308.15, and 318.15) K
dvisc	0.0014940	Pa×s	318.15	Densities and Viscosities for Binary Mixtures of Ethyl Lactate with Methacrylic Acid, Benzyl Methacrylate, and 2-Hydroxyethyl Methacrylate at (298.15, 308.15, and 318.15) K
dvisc	0.0018630	Pa×s	308.15	Densities and Viscosities for Binary Mixtures of Ethyl Lactate with Methacrylic Acid, Benzyl Methacrylate, and 2-Hydroxyethyl Methacrylate at (298.15, 308.15, and 318.15) K
hvapt	51.30	kJ/mol	375.50	NIST Webbook
hvapt	49.20	kJ/mol	367.00	NIST Webbook
pvap	0.53	kPa	307.20	Renewable platform chemicals: Evaluation of thermochemical data of alkyl lactates with complementary experimental and computational methods

pvap	0.69	kPa	311.30	Renewable platform chemicals: Evaluation of thermochemical data of alkyl lactates with complementary experimental and computational methods
pvap	0.63	kPa	310.10	Renewable platform chemicals: Evaluation of thermochemical data of alkyl lactates with complementary experimental and computational methods
pvap	0.63	kPa	310.10	Renewable platform chemicals: Evaluation of thermochemical data of alkyl lactates with complementary experimental and computational methods
pvap	0.58	kPa	308.20	Renewable platform chemicals: Evaluation of thermochemical data of alkyl lactates with complementary experimental and computational methods
pvap	0.48	kPa	305.30	Renewable platform chemicals: Evaluation of thermochemical data of alkyl lactates with complementary experimental and computational methods

pvap	0.45	kPa	304.50	Renewable platform chemicals: Evaluation of thermochemical data of alkyl lactates with complementary experimental and computational methods
pvap	0.38	kPa	302.50	Renewable platform chemicals: Evaluation of thermochemical data of alkyl lactates with complementary experimental and computational methods
pvap	0.37	kPa	301.50	Renewable platform chemicals: Evaluation of thermochemical data of alkyl lactates with complementary experimental and computational methods
pvap	0.28	kPa	298.50	Renewable platform chemicals: Evaluation of thermochemical data of alkyl lactates with complementary experimental and computational methods
pvap	0.24	kPa	296.40	Renewable platform chemicals: Evaluation of thermochemical data of alkyl lactates with complementary experimental and computational methods

pvap	0.19	kPa	293.50	Renewable platform chemicals: Evaluation of thermochemical data of alkyl lactates with complementary experimental and computational methods
pvap	0.16	kPa	291.10	Renewable platform chemicals: Evaluation of thermochemical data of alkyl lactates with complementary experimental and computational methods
pvap	0.15	kPa	290.30	Renewable platform chemicals: Evaluation of thermochemical data of alkyl lactates with complementary experimental and computational methods
pvap	0.15	kPa	290.20	Renewable platform chemicals: Evaluation of thermochemical data of alkyl lactates with complementary experimental and computational methods
pvap	0.13	kPa	288.40	Renewable platform chemicals: Evaluation of thermochemical data of alkyl lactates with complementary experimental and computational methods

pvap	0.13	kPa	287.60	Renewable platform chemicals: Evaluation of thermochemical data of alkyl lactates with complementary experimental and computational methods
pvap	0.13	kPa	287.60	Renewable platform chemicals: Evaluation of thermochemical data of alkyl lactates with complementary experimental and computational methods
pvap	0.10	kPa	285.80	Renewable platform chemicals: Evaluation of thermochemical data of alkyl lactates with complementary experimental and computational methods
pvap	0.10	kPa	284.60	Renewable platform chemicals: Evaluation of thermochemical data of alkyl lactates with complementary experimental and computational methods
pvap	0.09	kPa	283.60	Renewable platform chemicals: Evaluation of thermochemical data of alkyl lactates with complementary experimental and computational methods

pvap	0.07	kPa	281.40	Renewable platform chemicals: Evaluation of thermochemical data of alkyl lactates with complementary experimental and computational methods
pvap	0.07	kPa	279.60	Renewable platform chemicals: Evaluation of thermochemical data of alkyl lactates with complementary experimental and computational methods
pvap	0.05	kPa	276.60	Renewable platform chemicals: Evaluation of thermochemical data of alkyl lactates with complementary experimental and computational methods
pvap	0.04	kPa	274.60	Renewable platform chemicals: Evaluation of thermochemical data of alkyl lactates with complementary experimental and computational methods
rfi	1.41290		293.15	Vapor liquid equilibria and excess volumes of the binary systems ethanol + ethyl lactate, isopropanol + isopropyl lactate and n-butanol + n-butyl lactate at 101.325 kPa

rfi	1.41050		298.15	Density, Refractive Index, Speed of Sound at 298.15 K, and Vapor-Liquid Equilibria at 101.3 kPa for Binary Mixtures of Ethyl Acetate + Ethyl Lactate and Methyl Acetate + Ethyl Lactate
rfi	1.41057		298.15	Isobaric Vapor Liquid Equilibrium of 3-Methyl-1-butanol + Ethyl Lactate and 1-Pentanol + Ethyl Lactate at (13.0 and 101.3) kPa
rhol	1041.96	kg/m3	285.65	Thermophysical Properties of Lactates
rhol	1044.68	kg/m3	283.15	Thermophysical Properties of Lactates
rhol	995.19	kg/m3	328.15	Thermophysical Properties of Lactates
rhol	997.99	kg/m3	325.65	Thermophysical Properties of Lactates
rhol	1000.78	kg/m3	323.15	Thermophysical Properties of Lactates
rhol	1003.57	kg/m3	320.65	Thermophysical Properties of Lactates
rhol	1006.34	kg/m3	318.15	Thermophysical Properties of Lactates
rhol	1009.12	kg/m3	315.65	Thermophysical Properties of Lactates
rhol	1011.88	kg/m3	313.15	Thermophysical Properties of Lactates
rhol	1014.64	kg/m3	310.65	Thermophysical Properties of Lactates
rhol	1017.40	kg/m3	308.15	Thermophysical Properties of Lactates
rhol	1020.15	kg/m3	305.65	Thermophysical Properties of Lactates
rhol	1022.89	kg/m3	303.15	Thermophysical Properties of Lactates

rhol	1025.63	kg/m3	300.65	Thermophysical Properties of Lactates
rhol	1028.37	kg/m3	298.15	Thermophysical Properties of Lactates
rhol	1031.09	kg/m3	295.65	Thermophysical Properties of Lactates
rhol	1033.82	kg/m3	293.15	Thermophysical Properties of Lactates
rhol	1036.54	kg/m3	290.65	Thermophysical Properties of Lactates
rhol	1039.26	kg/m3	288.15	Thermophysical Properties of Lactates
rhol	986.76	kg/m3	335.65	Thermophysical Properties of Lactates
rhol	992.39	kg/m3	330.65	Thermophysical Properties of Lactates
rhol	1047.37	kg/m3	280.65	Thermophysical Properties of Lactates
rhol	989.58	kg/m3	333.15	Thermophysical Properties of Lactates
rhol	1050.05	kg/m3	278.15	Thermophysical Properties of Lactates
rhol	1028.37	kg/m3	298.15	Self-aggregation of liquids from biomass in aqueous solution
rhol	983.94	kg/m3	338.15	Thermophysical Properties of Lactates
rhol	1028.08	kg/m3	298.15	Separation Effects of Renewable Solvent Ethyl Lactate on the Vapor Liquid Equilibria of the Methanol + Dimethyl Carbonate Azeotropic System

rhol	1039.28	kg/m3	288.15	Volumetric and viscometric behavior of the binary systems ethyl lactate + 1,2- propanediol, + 1,3-propanediol, + tetrahydrofuran and + tetraethylene glycol dimethyl ether. New UNIFAC-VISCO and ASOG-VISCO parameters determination	
rhol	1033.84	kg/m3	293.15	Volumetric and viscometric behavior of the binary systems ethyl lactate + 1,2- propanediol, + 1,3-propanediol, + tetrahydrofuran and + tetraethylene glycol dimethyl ether. New UNIFAC-VISCO and ASOG-VISCO parameters determination	
rhol	1028.08	kg/m3	298.15	Vapor-liquid equilibria of binary and ternary mixtures containing ethyl lactate and effect of ethyl lactate as entrainer	

rhol	1028.39	kg/m3	298.15	Experimental measurements and modelling of volumetric properties, refractive index and viscosity of binary systems of ethyl lactate with methyl ethyl ketone, toluene and n-methyl-2-pirrolidone at 288.15 323.15 K and atmospheric pressure. New UNIFAC VISCO and ASOG VISCO interaction parameters
rhol	1000.79	kg/m3	323.15	Volumetric and viscometric behavior of the binary systems ethyl lactate + 1,2- propanediol, + 1,3-propanediol, + tetrahydrofuran and + tetraethylene glycol dimethyl ether. New UNIFAC-VISCO and ASOG-VISCO parameters determination
rhol	1006.36	kg/m3	318.15	Volumetric and viscometric behavior of the binary systems ethyl lactate + 1,2- propanediol, + 1,3-propanediol, + tetrahydrofuran and + tetraethylene glycol dimethyl ether. New UNIFAC-VISCO and ASOG-VISCO parameters determination

rhol	1011.90	kg/m3	313.15	Volumetric and viscometric behavior of the binary systems ethyl lactate + 1,2- propanediol, + 1,3-propanediol, + tetrahydrofuran and + tetraethylene glycol dimethyl ether. New UNIFAC-VISCO and ASOG-VISCO parameters determination
rhol	1017.42	kg/m3	308.15	Volumetric and viscometric behavior of the binary systems ethyl lactate + 1,2- propanediol, + 1,3-propanediol, + tetrahydrofuran and + tetraethylene glycol dimethyl ether. New UNIFAC-VISCO and ASOG-VISCO parameters determination
rhol	1022.92	kg/m3	303.15	Volumetric and viscometric behavior of the binary systems ethyl lactate + 1,2- propanediol, + 1,3-propanediol, + tetrahydrofuran and + tetraethylene glycol dimethyl ether. New UNIFAC-VISCO and ASOG-VISCO parameters determination

rhol	1028.39	kg/m3	298.15	Volumetric and viscometric behavior of the binary systems ethyl lactate + 1,2- propanediol, + 1,3-propanediol, + tetrahydrofuran and + tetraethylene glycol dimethyl ether. New UNIFAC-VISCO and ASOG-VISCO parameters determination
speedsl	1206.90	m/s	318.15	Densities, speed of sound, and IR studies of Ethyl lactate with 2-alkoxyethanols at different temperatures
speedsl	1224.80	m/s	313.15	Densities, speed of sound, and IR studies of Ethyl lactate with 2-alkoxyethanols at different temperatures
speedsl	1243.80	m/s	308.15	Densities, speed of sound, and IR studies of Ethyl lactate with 2-alkoxyethanols at different temperatures
speedsl	1261.10	m/s	303.15	Densities, speed of sound, and IR studies of Ethyl lactate with 2-alkoxyethanols at different temperatures

Correlations

Information	Value
Property code	pvap
Equation	ln(Pvp) = A + B/(T + C)
Coeff. A	1.89834e+01
Coeff. B	-6.73793e+03
Coeff. C	4.18990e+01

Temperature range (K), min.	318.50
Temperature range (K), max.	450.93

Datasets

Mass density, kg/m3

Temperature, K - Liquid	Pressure, kPa - Liquid	Mass density, kg/m3 - Liquid
283.15	100.00	1045.06
288.15	100.00	1039.64
293.15	100.00	1034.25
298.15	100.00	1028.78
303.15	100.00	1023.32
308.15	100.00	1017.84
313.15	100.00	1012.33
318.15	100.00	1006.72
323.15	100.00	1001.23
328.15	100.00	995.54
333.15	100.00	989.91
338.15	100.00	984.3
283.15	2500.00	1046.77
288.15	2500.00	1041.39
293.15	2500.00	1036.05
298.15	2500.00	1030.66
303.15	2500.00	1025.21
308.15	2500.00	1019.82
313.15	2500.00	1014.31
318.15	2500.00	1008.86
323.15	2500.00	1003.36
328.15	2500.00	997.8
333.15	2500.00	992.19
338.15	2500.00	986.71
283.15	5000.00	1048.51
288.15	5000.00	1043.21
293.15	5000.00	1037.86
298.15	5000.00	1032.56
303.15	5000.00	1027.24
308.15	5000.00	1021.87
313.15	5000.00	1016.42

318.15	5000.00	1011.01
323.15	5000.00	1005.56
328.15	5000.00	1000.11
333.15	5000.00	994.55
338.15	5000.00	989.18
283.15	7500.00	1050.24
288.15	7500.00	1044.99
293.15	7500.00	1039.7
298.15	7500.00	1034.43
303.15	7500.00	1029.11
308.15	7500.00	1023.84
313.15	7500.00	1018.41
318.15	7500.00	1013.1
323.15	7500.00	1007.68
328.15	7500.00	1002.34
333.15	7500.00	996.87
338.15	7500.00	991.49
283.15	10000.00	1051.88
288.15	10000.00	1046.74
293.15	10000.00	1041.5
298.15	10000.00	1036.23
303.15	10000.00	1031.0
308.15	10000.00	1025.7
313.15	10000.00	1020.39
318.15	10000.00	1015.13
323.15	10000.00	1009.78
328.15	10000.00	1004.46
333.15	10000.00	999.06
338.15	10000.00	993.65
283.15	20000.00	1058.39
288.15	20000.00	1053.28
293.15	20000.00	1048.3
298.15	20000.00	1043.21
303.15	20000.00	1038.26
308.15	20000.00	1033.08
313.15	20000.00	1027.93
318.15	20000.00	1022.87
323.15	20000.00	1017.76
328.15	20000.00	1012.65
333.15	20000.00	1007.62
338.15	20000.00	1002.34
283.15	30000.00	1064.45
288.15	30000.00	1059.46
293.15	30000.00	1054.58

298.15	30000.00	1049.76
303.15	30000.00	1044.91
308.15	30000.00	1039.92
313.15	30000.00	1034.97
318.15	30000.00	1030.04
323.15	30000.00	1025.13
328.15	30000.00	1020.17
333.15	30000.00	1015.4
338.15	30000.00	1010.27
283.15	40000.00	1070.13
288.15	40000.00	1065.24
293.15	40000.00	1060.54
298.15	40000.00	1055.69
303.15	40000.00	1051.19
308.15	40000.00	1046.28
313.15	40000.00	1041.52
318.15	40000.00	1036.74
323.15	40000.00	1031.99
328.15	40000.00	1027.16
333.15	40000.00	1022.5
338.15	40000.00	1017.75
283.15	50000.00	1075.5
288.15	50000.00	1070.74
293.15	50000.00	1066.26
298.15	50000.00	1061.53
303.15	50000.00	1056.95
308.15	50000.00	1052.19
313.15	50000.00	1047.69
318.15	50000.00	1042.96
323.15	50000.00	1038.42
328.15	50000.00	1033.75
333.15	50000.00	1029.24
338.15	50000.00	1024.55
283.15	60000.00	1080.55
288.15	60000.00	1076.04
293.15	60000.00	1071.55
298.15	60000.00	1066.96
303.15	60000.00	1062.52
308.15	60000.00	1057.98
313.15	60000.00	1053.46
318.15	60000.00	1048.96
323.15	60000.00	1044.49
328.15	60000.00	1039.99
333.15	60000.00	1035.71

338.15	60000.00	1031.04

Reference *https://www.doi.org/10.1016/j.jct.2012.11.002*

Temperature, K	Pressure, kPa	Mass density, kg/m3
298.15	100.00	1028.45

Reference *https://www.doi.org/10.1016/j.jct.2018.07.013*

Temperature, K	Pressure, kPa	Mass density, kg/m3
308.00	10000.00	1029.1
308.00	20000.00	1034.4
308.00	30000.00	1042.6
323.00	10000.00	1009.5
323.00	20000.00	1016.8
323.00	30000.00	1023.2

Reference *https://www.doi.org/10.1021/acs.jced.7b00540*

Sources

Solubility of CO2 in Ethyl Lactate and Modeling of the Phase Behavior of the CO2 + Ethyl Lactate Mixture: https://www.doi.org/10.1021/je301039e

The Yaws Handbook of Vapor Pressure: https://www.sciencedirect.com/book/9780128029992/the-yaws-handbook-of-vapor-pressure

High-Pressure Phase Behavior of Methyl Lactate and Ethyl Lactate in Supercritical Carbon Dioxide: https://www.doi.org/10.1021/je200299s

Liquid–liquid equilibria of mixtures with ethyl lactate and various hydrocarbons: https://www.doi.org/10.1016/j.fluid.2012.02.004

The pαT behaviour of the lactate family: https://www.doi.org/10.1016/j.jct.2012.11.002

High pressure phase behavior of the binary system (ethyl lactate + carbon dioxide): https://www.doi.org/10.1016/j.fluid.2013.09.024

Densities and Viscosities for Binary Mixtures of Ethyl Lactate with Methacrylic Acid, Benzyl Methacrylate, and 2-Hydroxyethyl Methacrylate at (298.15, 308.15, and 318.15) K: https://www.doi.org/10.1021/je600568w

Mono-Liquid Equilibria in the Systems Ethyl Lactate + Ethanol and Ethyl Lactate + Water at 298.15 K: https://www.doi.org/10.1021/je050537y

Cheméo Relay (1.0, beta):

Cheméo Relay (1.0):

Density, Refractive Index, Speed of Sound at 298.15 K, and Vapor-Liquid Equilibria at 101.3 kPa for Binary Mixtures of Ethyl Acetate + Ethyl Lactate and Methyl Acetate + Ethyl Lactate: https://www.doi.org/10.1021/je060052p

Comparative studies of intermolecular interactio of aromatic amines with ethyl lactate: https://www.doi.org/10.1016/j.jct.2016.09.010

Partitioning of amino acids in the novel biphasic systems based on environmentally friendly ethyl lactate: https://www.doi.org/10.1016/j.fluid.2018.01.016

Liquid–liquid equilibria of binary and ternary mixtures containing ethyl lactate and effect of ethyl lactate as entrainer: https://www.doi.org/10.1016/j.fluid.2015.12.029

Solubility of high-value compounds in ethyl lactate: Measurements and modelling: https://www.doi.org/10.1016/j.jct.2011.12.005

Experimental measurements and modelling of volumetric properties, refractive index and viscosity of binary systems of ethyl lactate with ethyl ketone, toluene and 1-methyl-2-pirrolidone at 288.15 323.15 K and atmospheric pressure. New UNIFAC VISCO and ASOG VISCO interaction parameters: https://www.doi.org/10.1016/j.fluid.2015.04.017

Separation Effects of Renewable Solvent Ethyl Lactate on the Vapor–Liquid Equilibrium of the Methanol + Dimethyl Carbonate Azeotropic System: https://www.doi.org/10.1021/acs.jced.7b00185

McGowan Method: http://link.springer.com/article/10.1007/BF02311772

Thermodynamic behaviour of alkyl lactate-alkanol systems:	https://www.doi.org/10.1016/j.jct.2018.07.013
Volumetric and viscometric behavior of the binary systems ethyl lactate + 1,2-propanediol, + 1,3-propanediol, + tetrahydrofuran, and + tetraethylene glycol dimethyl ether: new experimental and computational data:	https://www.doi.org/10.1016/j.fluid.2014.04.002
Renewable platform chemicals; Evaluation of thermochemical data of Crippen Method:	https://www.doi.org/10.1016/j.jct.2018.07.029
Crippen Method:	https://www.chemeo.com/doc/models/crippen_log10ws
Vapor liquid equilibria and excess volumes of the binary systems ethanol + ethyl lactate, isopropanol + isopropyl lactate and n-butanol + n-butyl lactate at 101.325 kPa:	https://www.doi.org/10.1016/j.fluid.2005.02.015
NIST Webbook:	http://webbook.nist.gov/cgi/cbook.cgi?ID=C97643&Units=SI
Vapor-Liquid Equilibrium of Ethyl Lactate Highly Diluted in Ethanol-Water Mixtures at 101.3 kPa: Experimental Measurements and Thermodynamic Modeling Using Semiempirical Models:	https://www.doi.org/10.1021/acs.jced.7b00770
Density Measurements of CO2-Expanded Liquids:	https://www.doi.org/10.1021/acs.jced.7b00540
Thermophysical Properties of Lactates:	https://www.doi.org/10.1016/j.tca.2013.11.010
Crippen Method:	http://pubs.acs.org/doi/abs/10.1021/ci990307l
Isobaric Vapor Liquid Equilibrium of 3-Methyl-1-butanol + Ethyl Lactate and 1-Pentanol + Ethyl Lactate at (13.0 and 101.3) kPa:	https://www.doi.org/10.1021/je200111a
Joback Method:	https://en.wikipedia.org/wiki/Joback_method
Self-aggregation of liquids from biomass in aqueous solution:	https://www.doi.org/10.1016/j.jct.2013.06.020
Densities, speed of sound, and IR studies of Ethyl lactate with 2-alkoxyethanols at different temperatures:	https://www.doi.org/10.1016/j.tca.2015.09.021

Legend

af:	Acentric Factor
cpg:	Ideal gas heat capacity
dvisc:	Dynamic viscosity
gf:	Standard Gibbs free energy of formation
hf:	Enthalpy of formation at standard conditions
hfus:	Enthalpy of fusion at standard conditions
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
rinpol:	Non-polar retention indices
ripol:	Polar retention indices
speedsl:	Speed of sound in fluid
tb:	Normal Boiling Point Temperature
tc:	Critical Temperature
tf:	Normal melting (fusion) point
vc:	Critical Volume