Benzene, n-butyl-

Other names:	1-PHENYLBUTANE
	1-butylbenzene
	Benzene, butyl-
	Butylbenzene
	UN 2709
	n-Butylbenzene
Inchi:	InChI=1S/C10H14/c1-2-3-7-10-8-5-4-6-9-10/h4-6,8-9H,2-3,7H2,1H3
InchiKey:	OCKPCBLVNKHBMX-UHFFFAOYSA-N
Formula:	C10H14
SMILES:	CCCCc1ccccc1
Mol. weight [g/mol]:	134.22
CAS:	104-51-8

Physical Properties

Property code	Value	Unit	Source
af	0.3930		KDB
affp	791.90	kJ/mol	NIST Webbook
basg	764.20	kJ/mol	NIST Webbook
chl	-5873.00 ± 1.10	kJ/mol	NIST Webbook
chl	-5872.10 ± 1.10	kJ/mol	NIST Webbook
dm	0.40	debye	KDB
gf	144.80	kJ/mol	KDB
hcg	5872.08	kJ/mol	KDB
hcn	5563.967	kJ/mol	KDB
hf	-13.80 ± 1.30	kJ/mol	NIST Webbook
hf	-13.82	kJ/mol	KDB
hf	-12.80	kJ/mol	NIST Webbook
hfl	-62.90 ± 1.20	kJ/mol	NIST Webbook
hfl	-63.90 ± 1.30	kJ/mol	NIST Webbook
hfus	15.70	kJ/mol	Joback Method
hvap	50.80	kJ/mol	NIST Webbook
hvap	50.10	kJ/mol	NIST Webbook
hvap	51.00 ± 2.90	kJ/mol	NIST Webbook
hvap	50.10	kJ/mol	NIST Webbook
hvap	51.37	kJ/mol	NIST Webbook
ie	8.69 ± 0.01	eV	NIST Webbook
ie	8.69	eV	NIST Webbook

ie	8.71 ± 0.01	eV	NIST Webbook
ie	8.68	eV	NIST Webbook
ie	8.69 ± 0.01	eV	NIST Webbook
ie	8.69 ± 0.05	eV	NIST Webbook
log10ws	-4.06		Estimated Solubility Method
log10ws	-4.06		Aqueous Solubility Prediction Method
logp	3.029		Crippen Method
mcvol	128.000	ml/mol	McGowan Method
nfpaf	%!d(float64=2)		KDB
nfpah	%!d(float64=2)		KDB
pc	2887.00 ± 7.00	kPa	NIST Webbook
pc	2890.00	kPa	KDB
pc	2890.00 ± 40.00	kPa	NIST Webbook
rhoc	269.78 ± 5.37	kg/m3	NIST Webbook
rhoc	269.64 ± 10.07	kg/m3	NIST Webbook
rinpol	1047.00		NIST Webbook
rinpol	1046.00		NIST Webbook
rinpol	1048.00		NIST Webbook
rinpol	1048.00		NIST Webbook
rinpol	1022.00		NIST Webbook
rinpol	1047.00		NIST Webbook
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rinpol	1064.00		NIST Webbook
rinpol	1058.00		NIST Webbook
rinpol	1054.00		NIST Webbook
rinpol	1041.00		NIST Webbook
rinpol	1058.00		NIST Webbook
rinpol	1040.00		NIST Webbook
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rinpol	1067.00		NIST Webbook
rinpol	1068.00		NIST Webbook
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rinpol	1042.00	NIST Webbook
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rinpol	1054.00	NIST Webbook
rinpol	1048.00	NIST Webbook
rinpol	1044.00	NIST Webbook

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rinpol	1066.87	NIST Webbook
rinpol	1024.00	NIST Webbook
rinpol	1061.00	NIST Webbook
rinpol	1040.00	NIST Webbook
rinpol	1060.55	NIST Webbook
rinpol	1057.89	NIST Webbook
rinpol	1054.18	NIST Webbook
rinpol	1043.02	NIST Webbook
rinpol	1040.68	NIST Webbook
rinpol	1037.42	NIST Webbook
rinpol	1051.00	NIST Webbook
rinpol	1074.50	NIST Webbook
rinpol	1071.80	NIST Webbook
rinpol	1078.00	NIST Webbook
rinpol	1062.20	NIST Webbook
rinpol	1056.40	NIST Webbook
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rinpol	1042.19	NIST Webbook
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ripol	1291.00	NIST Webbook
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ripol	1308.00		NIST Webbook
ripol	1304.00		NIST Webbook
ripol	1325.00		NIST Webbook
ripol	1324.00		NIST Webbook
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ripol	1335.00		NIST Webbook
ripol	1328.00		NIST Webbook
ripol	1320.00		NIST Webbook
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ripol	1337.60		NIST Webbook
ripol	1284.00		NIST Webbook
ripol	1367.70		NIST Webbook
ripol	1362.10		NIST Webbook
ripol	1356.40		NIST Webbook
ripol	1284.00		NIST Webbook
sg	437.86	J/mol×K	NIST Webbook
sl	321.30	J/mol×K	NIST Webbook
sl	321.21	J/mol×K	NIST Webbook
tb	456.45 ± 0.30	K	NIST Webbook
tb	456.40	K	Isobaric (vapour + liquid) equilibria for N-formylmorpholine with ethylbenzene, n-butylbenzene, iso-propylbenzene and 1,2,4-trimethylbenzene at 101.33 kPa
tb	457.00 ± 4.00	K	NIST Webbook
tb	456.50	K	NIST Webbook
tb	456.00	K	NIST Webbook
tb	456.40	K	NIST Webbook
tb	456.43 ± 0.20	K	NIST Webbook
tb	454.00 ± 4.00	K	NIST Webbook
tb	456.60 ± 1.00	K	NIST Webbook

tb	456.38	K	Isobaric vapour + liquid equilibria for three binary systems (toluene + anisole, nbutylbenzene + anisole, and guaiacol + anisole) at 101.33 kPa
tb	456.46	K	KDB
tb	456.41 ± 0.30	K	NIST Webbook
tb	455.00 ± 3.00	K	NIST Webbook
tb	455.70 ± 1.50	K	NIST Webbook
tb	456.05 ± 0.30	K	NIST Webbook
tb	456.50 ± 0.30	K	NIST Webbook
tb	456.25 ± 0.40	K	NIST Webbook
tb	456.41 ± 0.30	K	NIST Webbook
tb	456.00 ± 0.70	K	NIST Webbook
tb	456.42 ± 0.03	K	NIST Webbook
tb	453.15 ± 2.00	K	NIST Webbook
tb	453.65 ± 2.00	K	NIST Webbook
tb	456.25 ± 0.30	K	NIST Webbook
tb	453.00 ± 5.00	K	NIST Webbook
tb	453.00 ± 4.00	K	NIST Webbook
tb	456.30 ± 0.30	K	NIST Webbook
tb	451.00 ± 5.00	K	NIST Webbook
tb	453.00 ± 3.00	K	NIST Webbook
tb	442.15 ± 2.50	K	NIST Webbook
tb	466.00 ± 2.00	K	NIST Webbook
tb	456.41 ± 0.30	K	NIST Webbook
tb	456.41 ± 0.20	K	NIST Webbook
tb	456.25 ± 0.30	K	NIST Webbook
tb	454.50 ± 0.80	K	NIST Webbook
tb	455.00 ± 3.00	K	NIST Webbook
tb	453.00 ± 2.00	K	NIST Webbook
tb	455.00 ± 2.00	K	NIST Webbook
tb	456.34 ± 0.30	K	NIST Webbook
tb	456.50 ± 0.20	K	NIST Webbook
tb	456.50 ± 0.20	K	NIST Webbook
tb	456.25 ± 0.30	K	NIST Webbook
tb	456.25 ± 0.30	K	NIST Webbook
tb	456.50 ± 0.30	K	NIST Webbook
tb	456.41 ± 0.30	K	NIST Webbook
tb	456.30 ± 0.50	K	NIST Webbook
tb	456.41 ± 0.10	K	NIST Webbook
tb	456.00 ± 3.00	K	NIST Webbook
tc	660.45 ± 0.10	K	NIST Webbook
tc	660.50	K	NIST Webbook
tc	660.50 ± 0.50	K	NIST Webbook

tc	660.50	K	KDB
tc	661.00 ± 0.50	K	NIST Webbook
tc	660.05 ± 0.50	K	NIST Webbook
tf	185.00 ± 0.50	K	NIST Webbook
tf	185.18 ± 0.04	K	NIST Webbook
tf	185.00 ± 0.20	K	NIST Webbook
tf	185.61 ± 0.30	K	NIST Webbook
tf	184.70 ± 1.50	K	NIST Webbook
tf	184.70 ± 1.00	K	NIST Webbook
tf	192.00 ± 0.30	K	NIST Webbook
tf	185.20	K	KDB
tf	185.61 ± 0.20	K	NIST Webbook
tf	185.15 ± 0.20	K	NIST Webbook
tf	185.15 ± 0.20	K	NIST Webbook
tf	185.19	K	Aqueous Solubility Prediction Method
tf	185.18 ± 0.30	K	NIST Webbook
tf	184.97 ± 0.20	K	NIST Webbook
tt	185.14 ± 0.01	K	NIST Webbook
tt	184.60 ± 0.25	K	NIST Webbook
tt	185.30 ± 0.01	K	NIST Webbook
vc	0.497	m3/kmol	KDB
vc	0.497	m3/kmol	NIST Webbook
zc	0.2615440		KDB

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	311.99	J/mol×K	591.26	Joback Method
cpg	256.33	J/mol×K	454.88	Joback Method
cpg	271.45	J/mol×K	488.98	Joback Method
cpg	285.75	J/mol×K	523.07	Joback Method
cpg	323.99	J/mol×K	625.36	Joback Method
cpg	335.30	J/mol×K	659.45	Joback Method
cpg	299.25	J/mol×K	557.17	Joback Method
cpl	243.34	J/mol×K	298.15	NIST Webbook
cpl	203.00	J/mol×K	293.00	NIST Webbook
cpl	240.20	J/mol×K	298.20	NIST Webbook
cpl	241.00	J/mol×K	298.15	NIST Webbook

dvisc	0.0009010	Pa×s	303.15	Physical Properties of Binary Mixtures of Ethyl Formate with Benzene, Isopropyl Benzene, Isobutyl Benzene, and Butylbenzene at (303.15, 308.15, and 313.15) K	
dvisc	0.0008440	Pa×s	308.15	Physical Properties of Binary Mixtures of Ethyl Formate with Benzene, Isopropyl Benzene, Isobutyl Benzene, and Butylbenzene at (303.15, 308.15, and 313.15) K	
dvisc	0.0007870	Pa×s	313.15	Physical Properties of Binary Mixtures of Ethyl Formate with Benzene, Isopropyl Benzene, Isobutyl Benzene, and Butylbenzene at (303.15, 308.15, and 313.15) K	
dvisc	0.0008440	Pa×s	308.15	Density and Viscosity of Propyl Formate + Aromatic Hydrocarbons at T = (303.15, 308.15, and 313.15) K	
dvisc	0.0007870	Pa×s	313.15	Density and Viscosity of Propyl Formate + Aromatic Hydrocarbons at T = (303.15, 308.15, and 313.15) K	
dvisc	0.0009010	Pa×s	303.15	Density and Viscosity of Propyl Formate + Aromatic Hydrocarbons at T = (303.15, 308.15, and 313.15) K	
hfust	11.22	kJ/mol	185.30	NIST Webbook	
hfust	11.22	kJ/mol	185.30	NIST Webbook	
hfust	10.98	kJ/mol	184.60	NIST Webbook	

hvapt	38.87	kJ/mol	456.40	NIST Webbook
hvapt	53.50	kJ/mol	323.00	NIST Webbook
hvapt	37.50 ± 0.70	kJ/mol	422.00	NIST Webbook
hvapt	43.50 ± 0.20	kJ/mol	422.00	NIST Webbook
hvapt	47.40 ± 0.20	kJ/mol	422.00	NIST Webbook
hvapt	45.70	kJ/mol	416.00	NIST Webbook
hvapt	46.80 ± 0.10	kJ/mol	358.00	NIST Webbook
hvapt	46.00 ± 0.10	kJ/mol	368.00	NIST Webbook
hvapt	45.20	kJ/mol	414.00	NIST Webbook
hvapt	40.60 ± 0.40	kJ/mol	422.00	NIST Webbook
hvapt	48.00 ± 0.10	kJ/mol	343.00	NIST Webbook
hvapt	39.25	kJ/mol	456.40	KDB
rfi	1.48740		298.15	Excess Molar Volumes of (propiophenone + benzene, or toluene, or ethylbenzene, or butylbenzene) at temperatures 298.15 K and 328.15 K
rfi	1.48950		293.10	Extraction of propylbenzene or butylbenzene from dodecane using 4-methyl-N-butylpyridinium tetrafluoroborate, [mebupy][BF4], as an ionic liquid at different temperatures
rfi	1.48950		293.15	Densities, Viscosities, and Refractive Indices of Binary Mixtures of Anisole with Benzene, Methylbenzene, Ethylbenzene, Propylbenzene, and Butylbenzene at (293.15 and 303.15) K

rfi	1.48450		303.15	Densities, Viscosities, and Refractive Indices of Binary Mixtures of Anisole with Benzene, Methylbenzene, Ethylbenzene, Propylbenzene, and Butylbenzene at (293.15 and 303.15) K
rfi	1.48940		293.10	Extraction of Butylbenzene from Dodecane Using Hexafluorophosphate-Based Ionic Liquids: Effect of Cation Change
rfi	1.48735		298.15	Effect of Temperature on the Change of Refractive Index on Mixing for Butyl Acetate + Aromatic Hydrocarbons
rfi	1.48742		298.15	KDB
rhol	860.00	kg/m3	293.00	KDB
rhol	856.29	kg/m3	298.15	Excess Enthalpies of Chloroalkylbenzene + Alkylbenzene Mixtures
rhol	856.29	kg/m3	298.15	Thermodynamic study of 1,1,2,2-tetrachloroethane + hydrocarbon mixtures I. Excess and solvation enthalpies

rhol	828.38	kg/m3	333.15	Densities, Viscosities, Speeds of Sound, Bulk Moduli, Surface Tensions, and Flash Points of Quaternary Mixtures of n-Dodecane (1), n-Butylcyclohexane (2), n-Butylbenzene (3), and 2,2,4,4,6,8,8-Heptamethylnonane (4) at 0.1 MPa as Potential Surrogate Mixtures for Military Jet Fuel, JP-5
rhol	836.51	kg/m3	323.15	Densities, Viscosities, Speeds of Sound, Bulk Moduli, Surface Tensions, and Flash Points of Quaternary Mixtures of n-Dodecane (1), n-Butylcyclohexane (2), n-Butylbenzene (3), and 2,2,4,4,6,8,8-Heptamethylnonane (4) at 0.1 MPa as Potential Surrogate Mixtures for Military Jet Fuel, JP-5
rhol	844.60	kg/m3	313.15	Densities, Viscosities, Speeds of Sound, Bulk Moduli, Surface Tensions, and Flash Points of Quaternary Mixtures of n-Dodecane (1), n-Butylcyclohexane (2), n-Butylbenzene (3), and 2,2,4,4,6,8,8-Heptamethylnonane (4) at 0.1 MPa as Potential Surrogate Mixtures for Military Jet Fuel, JP-5

rhol	852.65	kg/m3	303.15	Densities, Viscosities, Speeds of Sound, Bulk Moduli, Surface Tensions, and Flash Points of Quaternary Mixtures of n-Dodecane (1), n-Butylcyclohexane (2), n-Butylbenzene (3), and 2,2,4,4,6,8,8-Heptamethylnonane (4) at 0.1 MPa as Potential Surrogate Mixtures for Military Jet Fuel, JP-5
rhol	856.68	kg/m3	298.15	Densities, Viscosities, Speeds of Sound, Bulk Moduli, Surface Tensions, and Flash Points of Quaternary Mixtures of n-Dodecane (1), n-Butylcyclohexane (2), n-Butylbenzene (3), and 2,2,4,4,6,8,8-Heptamethylnonane (4) at 0.1 MPa as Potential Surrogate Mixtures for Military Jet Fuel, JP-5
rhol	860.69	kg/m3	293.15	Densities, Viscosities, Speeds of Sound, Bulk Moduli, Surface Tensions, and Flash Points of Quaternary Mixtures of n-Dodecane (1), n-Butylcyclohexane (2), n-Butylbenzene (3), and 2,2,4,4,6,8,8-Heptamethylnonane (4) at 0.1 MPa as Potential Surrogate Mixtures for Military Jet Fuel, JP-5

rhol	864.70	kg/m3	288.15	Densities, Viscosities, Speeds of Sound, Bulk Moduli, Surface Tensions, and Flash Points of Quaternary Mixtures of n-Dodecane (1), n-Butylcyclohexane (2), n-Butylbenzene (3), and 2,2,4,4,6,8,8-Heptamethylnonane (4) at 0.1 MPa as Potential Surrogate Mixtures for Military Jet Fuel, JP-5
rhol	860.60	kg/m3	293.15	Density, Viscosity, Speed of Sound, Bulk Modulus, Surface Tension, and Flash Point of Selected Ternary Mixtures of n-Butylcyclohexane + a Linear Alkane (n-Hexadcane or n-Dodecane) + an Aromatic Compound (Toluene, n-Butylbenzene, or n-Hexylbenzene)
rhol	892.80	kg/m3	253.15	Densities, Viscosities, Speeds of Sound, Bulk Moduli, Surface Tensions, and Flash Points of Quaternary Mixtures of n-Dodecane (1), n-Butylcyclohexane (2), n-Butylbenzene (3), and 2,2,4,4,6,8,8-Heptamethylnonane (4) at 0.1 MPa as Potential Surrogate Mixtures for Military Jet Fuel, JP-5

rhol	827.86	kg/m3	333.15	Density, Viscosity, Speed of Sound, Bulk Modulus, Surface Tension, and Flash Point of Binary Mixtures of n-Hexylbenzene (1) or n-Butylbenzene (1) in 2,2,4,6,6-Pentamethylheptane (2) or 2,2,4,4,6,8,8-Heptamethylnonane (2) at 0.1 MPa
rhol	835.98	kg/m3	323.15	Density, Viscosity, Speed of Sound, Bulk Modulus, Surface Tension, and Flash Point of Binary Mixtures of n-Hexylbenzene (1) or n-Butylbenzene (1) in 2,2,4,6,6-Pentamethylheptane (2) or 2,2,4,4,6,8,8-Heptamethylnonane (2) at 0.1 MPa
rhol	844.07	kg/m3	313.15	Density, Viscosity, Speed of Sound, Bulk Modulus, Surface Tension, and Flash Point of Binary Mixtures of n-Hexylbenzene (1) or n-Butylbenzene (1) in 2,2,4,6,6-Pentamethylheptane (2) or 2,2,4,4,6,8,8-Heptamethylnonane (2) at 0.1 MPa
rhol	852.13	kg/m3	303.15	Density, Viscosity, Speed of Sound, Bulk Modulus, Surface Tension, and Flash Point of Binary Mixtures of n-Hexylbenzene (1) or n-Butylbenzene (1) in 2,2,4,6,6-Pentamethylheptane (2) or 2,2,4,4,6,8,8-Heptamethylnonane (2) at 0.1 MPa

rhol	860.17	kg/m3	293.15	Density, Viscosity, Speed of Sound, Bulk Modulus, Surface Tension, and Flash Point of Binary Mixtures of n-Hexylbenzene (1) or n-Butylbenzene (1) in 2,2,4,6,6-Pentamethylheptane (2) or 2,2,4,4,6,8,8-Heptamethylnonane (2) at 0.1 MPa
rhol	864.47	kg/m3	288.15	Density, Viscosity, Speed of Sound, Bulk Modulus, Surface Tension, and Flash Point of Binary Mixtures of n-Hexylbenzene (1) or n-Butylbenzene (1) in 2,2,4,6,6-Pentamethylheptane (2) or 2,2,4,4,6,8,8-Heptamethylnonane (2) at 0.1 MPa
rhol	892.60	kg/m3	253.15	Density, Viscosity, Speed of Sound, Bulk Modulus, Surface Tension, and Flash Point of Binary Mixtures of n-Hexylbenzene (1) or n-Butylbenzene (1) in 2,2,4,6,6-Pentamethylheptane (2) or 2,2,4,4,6,8,8-Heptamethylnonane (2) at 0.1 MPa

rhol	820.30	kg/m3	343.15	Density, Viscosity, Speed of Sound, Bulk Modulus, Surface Tension, and Flash Point of Selected Ternary Mixtures of n-Butylcyclohexane + a Linear Alkane (n-Hexadcane or n-Dodecane) + an Aromatic Compound (Toluene, n-Butylbenzene, or n-Hexylbenzene)
rhol	828.29	kg/m3	333.15	Density, Viscosity, Speed of Sound, Bulk Modulus, Surface Tension, and Flash Point of Selected Ternary Mixtures of n-Butylcyclohexane + a Linear Alkane (n-Hexadcane or n-Dodecane) + an Aromatic Compound (Toluene, n-Butylbenzene, or n-Hexylbenzene)
rhol	836.41	kg/m3	323.15	Density, Viscosity, Speed of Sound, Bulk Modulus, Surface Tension, and Flash Point of Selected Ternary Mixtures of n-Butylcyclohexane + a Linear Alkane (n-Hexadcane or n-Dodecane) + an Aromatic Compound (Toluene, n-Butylbenzene, or n-Hexylbenzene)

rhol	844.50	kg/m3	313.15	Density, Viscosity, Speed of Sound, Bulk Modulus, Surface Tension, and Flash Point of Selected Ternary Mixtures of n-Butylcyclohexane + a Linear Alkane (n-Hexadcane or n-Dodecane) + an Aromatic Compound (Toluene, n-Butylbenzene, or n-Hexylbenzene)	
rhol	852.56	kg/m3	303.15	Density, Viscosity, Speed of Sound, Bulk Modulus, Surface Tension, and Flash Point of Selected Ternary Mixtures of n-Butylcyclohexane + a Linear Alkane (n-Hexadcane or n-Dodecane) + an Aromatic Compound (Toluene, n-Butylbenzene, or n-Hexylbenzene)	
sfust	59.50	J/mol×K	184.60	NIST Webbook	
srf	0.03	N/m	294.20	Density, Viscosity, Speed of Sound, Bulk Modulus, Surface Tension, and Flash Point of Binary Mixtures of Butylbenzene + Linear Alkanes (n-Decane, n-Dodecane, n-Tetradecane, n-Hexadecane, or n-Heptadecane) at 0.1 MPa	
srf	0.03	N/m	293.20	KDB	

Correlations

Information	Value

Property code	pvap
Equation	ln(Pvp) = A + B/(T + C)
Coeff. A	1.45284e+01
Coeff. B	-3.96130e+03
Coeff. C	-5.67370e+01
Temperature range (K), min.	334.90
Temperature range (K), max.	486.52

Information	Value
Property code	pvap
Equation	ln(Pvp) = A + B/T + C*ln(T) + D*T^2
Coeff. A	1.12433e+02
Coeff. B	-1.01044e+04
Coeff. C	-1.42573e+01
Coeff. D	7.81134e-06
Temperature range (K), min.	185.30
Temperature range (K), max.	660.55

Sources

KDB Vapor Pressure Data:	https://www.cheric.org/research/kdb/hcprop/showprop.php?cmpid=665
Saturated Heat Capacities of Some Linear and Branched Alkylbenzenes between (332 and 405) K:	https://www.doi.org/10.1021/je050273f
Excess Molar Volumes of (propiophenone + benzene, or toluene, or chlorobenzene, or butylbenzene) at Temperatures 298.15 K and 328.15 K: Determination of Henry's Law Constants Using Internal Standards and Benchmark Values:	https://www.doi.org/10.1016/j.jct.2005.01.007
Thermodynamic study of 1,1,2,2-tetrachloroethane + Hydrocarbon Mixtures. Excess and Partial Molar Properties:	https://www.doi.org/10.1016/j.fluid.2006.10.013
Paramagnetic Ionic Liquid 1-Butyl-3-methylimidazolium Tetrabromocobaltate(II): Activity Coefficients at Infinite Dilution of Organic Solutes and Gas Solubilities:	https://www.doi.org/10.1021/je3010535
Density, Viscosity, Speed of Sound, Bulk Modulus, Surface Tension, and Phase Equilibria in Binary Mixtures of Butylbenzene + Linear Alkanes (n-Decane, n-Dodecane, n-Tetradecane, and n-Hexadecane) at Temperatures between (293.15 and 323.15) K and at Pressures up to 21MPa:	https://www.doi.org/10.1021/je800846j
Extraction of Butylbenzene from Dodecane Using Hexafluorophosphate Based Ionic Liquids. Effect of Cation Chains:	https://www.doi.org/10.1021/acs.jced.6b00542
Isobaric (vapour + liquid) equilibria for N-formylmorpholine with ethylbenzene, n-butylbenzene, or p-cymene and Properties of Mixtures Containing Ionic Liquids. Activity Coefficients at Infinite Dilution of Hydrocarbons, Alcohols, Esters, and Aldehydes in 1-Ethyl-3-methylimidazolium Bis(trifluoromethylsulfonyl) Imide Using Gas-Liquid Chromatography:	https://www.doi.org/10.1016/j.fluid.2014.12.022
Joback Method:	https://en.wikipedia.org/wiki/Joback_method
Extraction of Butylbenzene from Dodecane Using Isobaric (vapour + liquid) equilibria for N-formylmorpholine with ethylbenzene, n-butylbenzene, or p-cymene and Properties of Mixtures Containing Ionic Liquids. Activity Coefficients at Infinite Dilution of Hydrocarbons, Alcohols, Esters, and Aldehydes in 1-Hexyl-3-methylimidazolium Bis(trifluoromethylsulfonyl) Imide Using Gas-Liquid Chromatography:	https://www.doi.org/10.1021/je3002305
Isobaric (vapour + liquid) equilibria for N-formylmorpholine with ethylbenzene, n-butylbenzene, or p-cymene and Properties of Mixtures Containing Ionic Liquids. Activity Coefficients at Infinite Dilution of Hydrocarbons, Alcohols, Esters, and Aldehydes in 1-Hexyl-3-methylimidazolium Bis(trifluoromethylsulfonyl) Imide Using Gas-Liquid Chromatography:	https://www.doi.org/10.1016/j.jct.2012.04.016
Isobaric vapour-liquid equilibria for three binary systems (toluene + 1,2,4-trimethylbenzene at 101.33 kPa; ethylbenzene + 1,2,4-trimethylbenzene at 101.33 kPa; ethylbenzene + anisole, and guaiacol + anisole) at 101.33 kPa:	https://www.doi.org/10.1021/je0602723
Thermodynamic Properties of Mixtures Containing Ionic Liquids. 9. Activity Coefficients at Infinite Dilution of Hydrocarbons, Alcohols, Esters, and Aldehydes in 1-Hexyl-3-methylimidazolium Bis(trifluoromethylsulfonyl) Imide Using Gas-Liquid Chromatography:	https://www.doi.org/10.1016/j.jct.2008.09.004
Density, Viscosity, Speed of Sound, Bulk Modulus, Surface Tension, and Phase Equilibria in Binary Mixtures of n-Hexylbenzene (1) or n-Butylbenzene (1) + Diethyl Terephthalate (2) at Temperatures from (293.15 to 333.15) K:	https://www.doi.org/10.1016/j.fluid.2014.02.025
NIST Webbook:	http://pubs.acs.org/doi/abs/10.1021/ci990307l
Effect of Temperature on the Change of Refractive Index on Mixing for Butyl Acetate + Aromatic Hydrocarbon Systems:	https://www.doi.org/10.1021/je050440b
Density, Viscosity, Speed of Sound, Bulk Modulus, Surface Tension, and Phase Equilibria in Binary Mixtures of n-Hexylbenzene (1) or n-Butylbenzene (1) + Diethyl Terephthalate (2) at Temperatures from (293.15 to 333.15) K:	https://www.doi.org/10.1021/acs.jced.8b00387
Isobaric vapour-liquid equilibria for three binary systems (toluene + 1,2,4-trimethylbenzene at 101.33 kPa; ethylbenzene + 1,2,4-trimethylbenzene at 101.33 kPa; ethylbenzene + anisole, and guaiacol + anisole) at 101.33 kPa:	http://webbook.nist.gov/cgi/cbook.cgi?ID=C104518&Units=SI
Effect of Temperature on the Change of Refractive Index on Mixing for Butyl Acetate + Aromatic Hydrocarbon Systems:	https://www.doi.org/10.1007/s10765-005-8096-3
Static Method:	https://www.doi.org/10.1021/je0503554
Thermodynamic Properties of Mixtures Containing Ionic Liquids. 8. Activity Coefficients at Infinite Dilution of Hydrocarbons, Alcohols, Esters, and Aldehydes in 1-Hexyl-3-methylimidazolium Bis(trifluoromethylsulfonyl) Imide Using Gas-Liquid Chromatography:	

The Yaws Handbook of Vapor Pressure:	https://www.sciencedirect.com/book/9780128029992/the-yaws-handbook-of-vapor-pressure
Infinite dilution activity coefficients, specific retention volumes and	https://www.doi.org/10.1016/j.fluid.2006.07.015
solvation thermodynamics of	
Density, Viscosity, Speed of Sound, Bulk Modulus, Surface Tension, and	https://www.doi.org/10.1021/acs.jced.7b00466
Density and Viscosity of Selected Ternary	https://www.doi.org/10.1021/je901071x
Mixtures of n-Butylcyclohexane + a Linear Alkane (n-Hexadecane or	http://onschallenge.wikispaces.com/file/view/AqueousDataset002.xlsx/351826032/AqueousDa
Physical Properties of Binary Mixtures of Ethyl Formate with Benzene,	https://www.doi.org/10.1021/je900689m
Isopropyl Benzene, Isobutyl Benzene, and Butylbenzene at (303.15, 308.15,	https://www.cheric.org/files/research/kdb/mol/mol665.mol
Excess Enthalpies of	https://www.doi.org/10.1021/je7002447
Chloroalkylbenzene + Alkylbenzene	https://www.doi.org/10.1016/j.fluid.2017.09.011
Evaluation of	https://www.doi.org/10.1021/acs.jced.8b00635
1-ethyl-3-methylimidazolium	https://www.doi.org/10.1021/acs.jced.8b00356
Determination of Activity Coefficients at Infinite Dilution of Solutes in	http://link.springer.com/article/10.1007/BF02311772
Effect of Solvent Cation Alkyl Chain	https://www.doi.org/10.1021/je0502546
Densities, Viscosities, and Refractive	http://pubs.acs.org/doi/suppl/10.1021/ci034243x/suppl_file/ci034243xsi20040112_053635.txt
Indices of Binary Mixtures of Anisole	https://www.doi.org/10.1021/acs.jced.8b01233
Densities, Viscosities, Speeds of	https://www.doi.org/10.1016/j.jct.2011.06.009
Extraction of propylbenzene or	
Mixtures of n-Dodecane (1),	
4-methyl-N-butylpyridinium	
Density and Viscosity of Binary Mixtures of n-Butylcyclohexane + a	
Aqueous Solubility Prediction Method:	
Evaluation of Potential Surrogate	

Legend

af:	Acentric Factor
affp:	Proton affinity
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
gf:	Standard Gibbs free energy of formation
hcg:	Heat of Combustion, Gross form
hcn:	Heat of Combustion, Net Form
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
sfust:	Entropy of fusion at a given temperature
sg:	Molar entropy at standard conditions
sl:	Liquid phase molar entropy at standard conditions
srf:	Surface Tension
tb:	Normal Boiling Point Temperature
tc:	Critical Temperature
tf:	Normal melting (fusion) point
tt:	Triple Point Temperature
vc:	Critical Volume
zc:	Critical Compressibility