Butane, 1-chloro-

Other names:	1-Chlorobutane
	Butyl chloride
	Chlorure de butyle
	N-BUTYL CHLORIDE
	N-PROPYLCARBINYL CHLORIDE
	NBC wormer
	NCI-C06155
	NSC 8419
	Sure Shot
	n-C4H9Cl
Inchi:	InChI=1S/C4H9Cl/c1-2-3-4-5/h2-4H2,1H3
InchiKey:	VFWCMGCRMGJXDK-UHFFFAOYSA-N
Formula:	C4H9Cl
SMILES:	CCCCCl
Mol. weight [g/mol]:	92.57
CAS:	109-69-3

Physical Properties

Property code	Value	Unit	Source
af	0.2180		KDB
chl	-2695.80 ± 1.10	kJ/mol	NIST Webbook
chl	-2704.10 ± 8.40	kJ/mol	NIST Webbook
dm	2.00	debye	KDB
gf	-38.81	kJ/mol	KDB
hf	-154.60 ± 1.20	kJ/mol	NIST Webbook
hf	-147.40	kJ/mol	KDB
hfl	-188.20 ± 1.20	kJ/mol	NIST Webbook
hfus	10.31	kJ/mol	Joback Method
hvap	28.88	kJ/mol	Joback Method
ie	10.67 ± 0.03	eV	NIST Webbook
ie	10.84	eV	NIST Webbook
ie	10.94	eV	NIST Webbook
ie	10.63	eV	NIST Webbook
ie	10.64 ± 0.19	eV	NIST Webbook
ie	10.46 ± 0.05	eV	NIST Webbook
ie	10.50 ± 0.07	eV	NIST Webbook

log10ws	-2.03		Aqueous Solubility Prediction Method
log10ws	-2.03		Estimated Solubility Method
logp	2.025		Crippen Method
mcvol	79.460	ml/mol	McGowan Method
nfpaf	%!d(float64=3)		KDB
nfpah	%!d(float64=2)		KDB
pc	3680.00	kPa	KDB
rinpol	647.30		NIST Webbook
rinpol	641.00		NIST Webbook
rinpol	631.00		NIST Webbook
rinpol	648.00		NIST Webbook
rinpol	644.00		NIST Webbook
rinpol	641.00		NIST Webbook
rinpol	641.00		NIST Webbook
rinpol	653.00		NIST Webbook
rinpol	644.00		NIST Webbook
rinpol	646.00		NIST Webbook
rinpol	648.00		NIST Webbook
rinpol	641.00		NIST Webbook
rinpol	607.00		NIST Webbook
rinpol	612.00		NIST Webbook
rinpol	638.00		NIST Webbook
rinpol	637.00		NIST Webbook
rinpol	637.00		NIST Webbook
rinpol	639.50		NIST Webbook
rinpol	637.00		NIST Webbook
rinpol	641.00		NIST Webbook
rinpol	637.00		NIST Webbook
rinpol	641.00		NIST Webbook
rinpol	642.00		NIST Webbook
rinpol	635.00		NIST Webbook
rinpol	642.00		NIST Webbook
rinpol	648.30		NIST Webbook
rinpol	639.10		NIST Webbook
rinpol	631.00		NIST Webbook
rinpol	637.00		NIST Webbook
rinpol	648.30		NIST Webbook
rinpol	639.00		NIST Webbook
rinpol	659.61		NIST Webbook
rinpol	654.00		NIST Webbook
rinpol	630.40		NIST Webbook
rinpol	638.30		NIST Webbook
rinpol	639.00		NIST Webbook

rinpol	639.60		NIST Webbook
rinpol	637.00		NIST Webbook
rinpol	646.10		NIST Webbook
rinpol	641.60		NIST Webbook
rinpol	640.00		NIST Webbook
rinpol	642.50		NIST Webbook
ripol	832.00		NIST Webbook
ripol	858.00		NIST Webbook
ripol	842.00		NIST Webbook
tb	351.53	K	Isobaric vapor liquid equilibria for binary systems of butyl chlorides with heptane, toluene and cyclohexane at 101.3, 80.0 and 53.3 kPa
tb	351.60	K	KDB
tb	351.52	K	Vapor-Liquid Equilibrium and Volumetric Measurements for Binary Mixtures of 1,4-Dioxane with Isomeric Chlorobutanes
tb	351.52	K	Study of tetrahydropyran-chlorobutane VLE using the a o and o o approaches
tc	542.00	K	KDB
tc	542.00	K	NIST Webbook
tf	150.10	K	KDB
tf	150.12	K	Aqueous Solubility Prediction Method
tf	150.05	K	NIST Webbook
tf	150.05 ± 0.20	K	NIST Webbook
tf	149.95 ± 0.05	K	NIST Webbook
vc	0.312	m3/kmol	KDB
zc	0.2547810		KDB

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	153.56	J/mol×K	471.93	Joback Method
cpg	118.92	J/mol×K	328.35	Joback Method
cpg	126.38	J/mol×K	357.07	Joback Method
cpg	133.57	J/mol×K	385.78	Joback Method
cpg	140.49	J/mol×K	414.50	Joback Method
cpg	147.15	J/mol×K	443.22	Joback Method

cpg	159.72	J/mol×K	500.65	Joback Method	
cpl	167.29	J/mol×K	331.65	Heat Capacities of 1-chloroalkanes and 1-bromoalkanes within the temperature range from 284.15 K to 353.15 K. A group additivity and molecular connectivity analysis	
cpl	164.82	J/mol×K	321.65	Heat Capacities of 1-chloroalkanes and 1-bromoalkanes within the temperature range from 284.15 K to 353.15 K. A group additivity and molecular connectivity analysis	
cpl	158.27	J/mol×K	294.15	Heat Capacities of 1-chloroalkanes and 1-bromoalkanes within the temperature range from 284.15 K to 353.15 K. A group additivity and molecular connectivity analysis	
cpl	157.70	J/mol×K	291.65	Heat Capacities of 1-chloroalkanes and 1-bromoalkanes within the temperature range from 284.15 K to 353.15 K. A group additivity and molecular connectivity analysis	

cpl	157.28	J/mol×K	289.15	Heat Capacities of 1-chloroalkanes and 1-bromoalkanes within the temperature range from 284.15 K to 353.15 K. A group additivity and molecular connectivity analysis
cpl	156.75	J/mol×K	286.65	Heat Capacities of 1-chloroalkanes and 1-bromoalkanes within the temperature range from 284.15 K to 353.15 K. A group additivity and molecular connectivity analysis
cpl	156.22	J/mol×K	284.15	Heat Capacities of 1-chloroalkanes and 1-bromoalkanes within the temperature range from 284.15 K to 353.15 K. A group additivity and molecular connectivity analysis
cpl	159.48	J/mol×K	299.15	Heat Capacities of 1-chloroalkanes and 1-bromoalkanes within the temperature range from 284.15 K to 353.15 K. A group additivity and molecular connectivity analysis

cpl	164.11	J/mol×K	319.15	Heat Capacities of 1-chloroalkanes and 1-bromoalkanes within the temperature range from 284.15 K to 353.15 K. A group additivity and molecular connectivity analysis	
cpl	165.00	J/mol×K	324.15	Heat Capacities of 1-chloroalkanes and 1-bromoalkanes within the temperature range from 284.15 K to 353.15 K. A group additivity and molecular connectivity analysis	
cpl	165.97	J/mol×K	326.65	Heat Capacities of 1-chloroalkanes and 1-bromoalkanes within the temperature range from 284.15 K to 353.15 K. A group additivity and molecular connectivity analysis	
cpl	166.72	J/mol×K	329.15	Heat Capacities of 1-chloroalkanes and 1-bromoalkanes within the temperature range from 284.15 K to 353.15 K. A group additivity and molecular connectivity analysis	

cpl	160.05	J/mol×K	301.65	Heat Capacities of 1-chloroalkanes and 1-bromoalkanes within the temperature range from 284.15 K to 353.15 K. A group additivity and molecular connectivity analysis	
cpl	167.78	J/mol×K	334.15	Heat Capacities of 1-chloroalkanes and 1-bromoalkanes within the temperature range from 284.15 K to 353.15 K. A group additivity and molecular connectivity analysis	
cpl	168.53	J/mol×K	336.65	Heat Capacities of 1-chloroalkanes and 1-bromoalkanes within the temperature range from 284.15 K to 353.15 K. A group additivity and molecular connectivity analysis	
cpl	169.12	J/mol×K	339.15	Heat Capacities of 1-chloroalkanes and 1-bromoalkanes within the temperature range from 284.15 K to 353.15 K. A group additivity and molecular connectivity analysis	

cpl	170.01	J/mol×K	341.65	Heat Capacities of 1-chloroalkanes and 1-bromoalkanes within the temperature range from 284.15 K to 353.15 K. A group additivity and molecular connectivity analysis	
cpl	170.43	J/mol×K	344.15	Heat Capacities of 1-chloroalkanes and 1-bromoalkanes within the temperature range from 284.15 K to 353.15 K. A group additivity and molecular connectivity analysis	
cpl	170.49	J/mol×K	346.65	Heat Capacities of 1-chloroalkanes and 1-bromoalkanes within the temperature range from 284.15 K to 353.15 K. A group additivity and molecular connectivity analysis	
cpl	160.50	J/mol×K	304.15	Heat Capacities of 1-chloroalkanes and 1-bromoalkanes within the temperature range from 284.15 K to 353.15 K. A group additivity and molecular connectivity analysis	

cpl	161.06	J/mol×K	306.65	Heat Capacities of 1-chloroalkanes and 1-bromoalkanes within the temperature range from 284.15 K to 353.15 K. A group additivity and molecular connectivity analysis	
cpl	161.59	J/mol×K	309.15	Heat Capacities of 1-chloroalkanes and 1-bromoalkanes within the temperature range from 284.15 K to 353.15 K. A group additivity and molecular connectivity analysis	
cpl	173.09	J/mol×K	353.15	Heat Capacities of 1-chloroalkanes and 1-bromoalkanes within the temperature range from 284.15 K to 353.15 K. A group additivity and molecular connectivity analysis	
cpl	162.24	J/mol×K	311.65	Heat Capacities of 1-chloroalkanes and 1-bromoalkanes within the temperature range from 284.15 K to 353.15 K. A group additivity and molecular connectivity analysis	

cpl	163.42	J/mol×K	316.65	Heat Capacities of 1-chloroalkanes and 1-bromoalkanes within the temperature range from 284.15 K to 353.15 K. A group additivity and molecular connectivity analysis	
cpl	162.92	J/mol×K	314.15	Heat Capacities of 1-chloroalkanes and 1-bromoalkanes within the temperature range from 284.15 K to 353.15 K. A group additivity and molecular connectivity analysis	
cpl	171.50	J/mol×K	349.15	Heat Capacities of 1-chloroalkanes and 1-bromoalkanes within the temperature range from 284.15 K to 353.15 K. A group additivity and molecular connectivity analysis	
cpl	173.02	J/mol×K	351.65	Heat Capacities of 1-chloroalkanes and 1-bromoalkanes within the temperature range from 284.15 K to 353.15 K. A group additivity and molecular connectivity analysis	
cpl	159.53	J/mol×K	298.15	NIST Webbook	
cpl	158.90	J/mol×K	298.15	NIST Webbook	
cpl	159.64	J/mol×K	298.15	NIST Webbook	

cpl	158.86	J/mol×K	296.65	Heat Capacities of 1-chloroalkanes and 1-bromoalkanes within the temperature range from 284.15 K to 353.15 K. A group additivity and molecular connectivity analysis	
dvisc	0.0003900	Pa×s	308.15	Densities and Viscosities of Binary Mixtures of 1-Chlorobutane with Butanol Isomers at Several Temperatures	
dvisc	0.0004433	Pa×s	293.15	Experimental and Predicted Viscosities of Binary Mixtures Containing Chlorinated and Oxygenated Compounds	
dvisc	0.0004701	Pa×s	288.15	Experimental and Predicted Viscosities of Binary Mixtures Containing Chlorinated and Oxygenated Compounds	
dvisc	0.0004214	Pa×s	298.15	Experimental and Predicted Viscosities of Binary Mixtures Containing Chlorinated and Oxygenated Compounds	
dvisc	0.0003642	Pa×s	313.15	Viscosities of Binary Mixtures Containing Isomeric Chlorobutanes and Diisopropylether: Experimental and Predicted Values	

dvisc	0.0003885	Pa×s	308.15	Viscosities of Binary Mixtures Containing Isomeric Chlorobutanes and Diisopropylether: Experimental and Predicted Values
dvisc	0.0004050	Pa×s	303.15	Experimental and Predicted Viscosities of Binary Mixtures Containing Chlorinated and Oxygenated Compounds
dvisc	0.0004050	Pa×s	303.15	Viscosities of Binary Mixtures Containing Isomeric Chlorobutanes and Diisopropylether: Experimental and Predicted Values
dvisc	0.0004214	Pa×s	298.15	Viscosities of Binary Mixtures Containing Isomeric Chlorobutanes and Diisopropylether: Experimental and Predicted Values
dvisc	0.0003885	Pa×s	308.15	Experimental and Predicted Viscosities of Binary Mixtures Containing Chlorinated and Oxygenated Compounds
dvisc	0.0003642	Pa×s	313.15	Experimental and Predicted Viscosities of Binary Mixtures Containing Chlorinated and Oxygenated Compounds
dvisc	0.0003645	Pa×s	313.15	Measurements, Correlations, and Predictions of Viscosities for the Ternary Mixture (2-Butanol + Hexane + 1-Chlorobutane) at 298.15 K and 313.15 K

dvisc	0.0004433	Pa×s	293.15	Viscosities of Binary Mixtures Containing Isomeric Chlorobutanes and Diisopropylether: Experimental and Predicted Values
dvisc	0.0004770	Pa×s	288.15	Densities and Viscosities of Binary Mixtures of 1-Chlorobutane with Butanol Isomers at Several Temperatures
dvisc	0.0004290	Pa×s	298.15	Densities and Viscosities of Binary Mixtures of 1-Chlorobutane with Butanol Isomers at Several Temperatures
dvisc	0.0004090	Pa×s	303.15	Densities and Viscosities of Binary Mixtures of 1-Chlorobutane with Butanol Isomers at Several Temperatures
dvisc	0.0003720	Pa×s	313.15	Densities and Viscosities of Binary Mixtures of 1-Chlorobutane with Butanol Isomers at Several Temperatures
dvisc	0.0003540	Pa×s	318.15	Densities and Viscosities of Binary Mixtures of 1-Chlorobutane with Butanol Isomers at Several Temperatures
dvisc	0.0004212	Pa×s	298.15	Densities and Viscosities of the Binary Mixtures of Tetrahydrofuran with Isomeric Chlorobutanes at 298.15 K and 313.15 K

dvisc	0.0003640	Pa×s	313.15	Densities and Viscosities of the Binary Mixtures of Tetrahydrofuran with Isomeric Chlorobutanes at 298.15 K and 313.15 K
dvisc	0.0004701	Pa×s	288.15	Viscosities of Binary Mixtures Containing Isomeric Chlorobutanes and Diisopropylether: Experimental and Predicted Values
dvisc	0.0004273	Pa×s	298.15	Measurements, Correlations, and Predictions of Viscosities for the Ternary Mixture (2-Butanol + Hexane + 1-Chlorobutane) at 298.15 K and 313.15 K
dvisc	0.0004993	Pa×s	283.15	Viscosities of Binary Mixtures Containing Isomeric Chlorobutanes and Diisopropylether: Experimental and Predicted Values
dvisc	0.0004993	Pa×s	283.15	Experimental and Predicted Viscosities of Binary Mixtures Containing Chlorinated and Oxygenated Compounds
hvapt	30.90	kJ/mol	349.50	NIST Webbook
hvapt	37.20	kJ/mol	318.00	NIST Webbook
hvapt	35.60	kJ/mol	304.00	NIST Webbook
hvapt	29.40 ± 0.10	kJ/mol	358.00	NIST Webbook
hvapt	30.00 ± 0.10	kJ/mol	358.00	NIST Webbook
hvapt	30.90 ± 0.10	kJ/mol	343.00	NIST Webbook
hvapt	31.80 ± 0.10	kJ/mol	328.00	NIST Webbook
hvapt	35.00	kJ/mol	323.00	NIST Webbook
hvapt	30.39	kJ/mol	351.70	NIST Webbook
hvapt	30.00	kJ/mol	351.60	KDB
hvapt	32.70 ± 0.10	kJ/mol	313.00	NIST Webbook

kvisc	0.0000004	m2/s	313.15	Thermophysical Properties of Mixtures of Tetrahydropyran with Chlorobutanes
kvisc	0.0000005	m2/s	298.15	Viscosities of Binary Mixtures of Isomeric Butanols or Isomeric Chlorobutanes with 2-Methyltetrahydrofuran
kvisc	0.0000004	m2/s	313.15	Viscosities of Binary Mixtures of Isomeric Butanols or Isomeric Chlorobutanes with 2-Methyltetrahydrofuran
kvisc	0.0000006	m2/s	283.15	Experimental and Predicted Kinematic Viscosities for Alkane + Chloroalkane Mixtures
kvisc	0.0000005	m2/s	298.15	Thermophysical Properties of Mixtures of Tetrahydropyran with Chlorobutanes
kvisc	0.0000005	m2/s	298.15	Experimental and Predicted Kinematic Viscosities for Alkane + Chloroalkane Mixtures
kvisc	0.0000004	m2/s	313.15	Experimental and Predicted Kinematic Viscosities for Alkane + Chloroalkane Mixtures
pvap	21.04	kPa	308.15	Experimental and predicted properties of the binary mixtures containing an isomeric chlorobutane and butyl ethyl ether

pvap	8.40	kPa	288.15	Experimental and predicted vapour-liquid equilibrium of the binary mixtures n-heptane + chlorobutane isomers
pvap	13.52	kPa	298.15	Experimental and predicted vapour-liquid equilibrium of the binary mixtures n-heptane + chlorobutane isomers
pvap	21.04	kPa	308.15	Experimental and predicted vapour-liquid equilibrium of the binary mixtures n-heptane + chlorobutane isomers
pvap	13.52	kPa	298.15	Isothermal vapour-liquid equilibria and excess enthalpies for the binary mixtures containing an isomeric chlorobutane and diisopropyl ether
pvap	6.51	kPa	283.15	Isothermal (vapour + liquid) equilibrium at several temperatures of (1-chlorobutane + 1-octanol, or 1-decanol)
pvap	8.38	kPa	288.15	Isothermal (vapour + liquid) equilibrium at several temperatures of (1-chlorobutane + 1-octanol, or 1-decanol)
pvap	8.40	kPa	288.15	Isothermal vapour-liquid equilibria and excess enthalpies for the binary mixtures containing an isomeric chlorobutane and diisopropyl ether

pvap	101.40	kPa	351.61	Isobaric vapor liquid equilibria for binary systems of butyl chlorides with heptane, toluene and cyclohexane at 101.3, 80.0 and 53.3 kPa
pvap	101.30	kPa	351.53	Isobaric vapor liquid equilibria for binary systems of butyl chlorides with heptane, toluene and cyclohexane at 101.3, 80.0 and 53.3 kPa
pvap	92.35	kPa	348.63	Isobaric vapor liquid equilibria for binary systems of butyl chlorides with heptane, toluene and cyclohexane at 101.3, 80.0 and 53.3 kPa
pvap	87.52	kPa	346.84	Isobaric vapor liquid equilibria for binary systems of butyl chlorides with heptane, toluene and cyclohexane at 101.3, 80.0 and 53.3 kPa
pvap	46.87	kPa	328.66	Isobaric vapor liquid equilibria for binary systems of butyl chlorides with heptane, toluene and cyclohexane at 101.3, 80.0 and 53.3 kPa
pvap	80.00	kPa	344.14	Isobaric vapor liquid equilibria for binary systems of butyl chlorides with heptane, toluene and cyclohexane at 101.3, 80.0 and 53.3 kPa
pvap	72.23	kPa	341.04	Isobaric vapor liquid equilibria for binary systems of butyl chlorides with heptane, toluene and cyclohexane at 101.3, 80.0 and 53.3 kPa

pvap	65.42	kPa	338.11	Isobaric vapor liquid equilibria for binary systems of butyl chlorides with heptane, toluene and cyclohexane at 101.3, 80.0 and 53.3 kPa
pvap	59.61	kPa	335.44	Isobaric vapor liquid equilibria for binary systems of butyl chlorides with heptane, toluene and cyclohexane at 101.3, 80.0 and 53.3 kPa
pvap	54.07	kPa	332.68	Isobaric vapor liquid equilibria for binary systems of butyl chlorides with heptane, toluene and cyclohexane at 101.3, 80.0 and 53.3 kPa
pvap	4.98	kPa	278.15	Isothermal (vapour + liquid) equilibrium at several temperatures of (1-chlorobutane + 1-octanol, or 1-decanol)
pvap	53.30	kPa	332.28	Isobaric vapor liquid equilibria for binary systems of butyl chlorides with heptane, toluene and cyclohexane at 101.3, 80.0 and 53.3 kPa
pvap	51.33	kPa	331.28	Isobaric vapor liquid equilibria for binary systems of butyl chlorides with heptane, toluene and cyclohexane at 101.3, 80.0 and 53.3 kPa
pvap	48.83	kPa	329.78	Isobaric vapor liquid equilibria for binary systems of butyl chlorides with heptane, toluene and cyclohexane at 101.3, 80.0 and 53.3 kPa

pvap	48.37	kPa	329.60	Isobaric vapor liquid equilibria for binary systems of butyl chlorides with heptane, toluene and cyclohexane at 101.3, 80.0 and 53.3 kPa
pvap	44.16	kPa	327.14	Isobaric vapor liquid equilibria for binary systems of butyl chlorides with heptane, toluene and cyclohexane at 101.3, 80.0 and 53.3 kPa
pvap	13.50	kPa	298.15	Isothermal (vapour + liquid) equilibrium at several temperatures of (1-chlorobutane + 1-octanol, or 1-decanol)
pvap	10.69	kPa	293.15	Isothermal (vapour + liquid) equilibrium at several temperatures of (1-chlorobutane + 1-octanol, or 1-decanol)
pvap	16.97	kPa	303.15	Isothermal (vapour + liquid) equilibrium at several temperatures of (1-chlorobutane + 1-octanol, or 1-decanol)
pvap	21.05	kPa	308.15	Isothermal (vapour + liquid) equilibrium at several temperatures of (1-chlorobutane + 1-octanol, or 1-decanol)
pvap	25.88	kPa	313.15	Isothermal (vapour + liquid) equilibrium at several temperatures of (1-chlorobutane + 1-octanol, or 1-decanol)

pvap	31.59	kPa	318.15	Isothermal (vapour + liquid) equilibrium at several temperatures of (1-chlorobutane + 1-octanol, or 1-decanol)
pvap	38.26	kPa	323.15	Isothermal (vapour + liquid) equilibrium at several temperatures of (1-chlorobutane + 1-octanol, or 1-decanol)
pvap	25.72	kPa	313.15	(Vapour + liquid) equilibria and excess molar enthalpies for binary mixtures containing N,N-dialkylamides and 1-chloroalkanes
pvap	40.87	kPa	325.00	Isobaric vapor liquid equilibria for binary systems of butyl chlorides with heptane, toluene and cyclohexane at 101.3, 80.0 and 53.3 kPa
pvap	13.52	kPa	298.15	(Vapour + liquid) equilibrium and excess Gibbs functions of ternary mixtures containing 1-butanol or 2-butanol, n-hexane, and 1-chlorobutane at T = 298.15 K
pvap	13.72	kPa	298.15	(Vapour + liquid) equilibria and excess Gibbs free energies of (cyclohexanone + 1- chlorobutane and + 1,1,1-trichloroethane) binary mixtures at temperatures from (298.15 to 318.15) K

pvap	20.66	kPa	308.15	(Vapour + liquid) equilibria and excess Gibbs free energies of (cyclohexanone + 1- chlorobutane and + 1,1,1-trichloroethane) binary mixtures at temperatures from (298.15 to 318.15) K
pvap	31.46	kPa	318.15	(Vapour + liquid) equilibria and excess Gibbs free energies of (cyclohexanone + 1- chlorobutane and + 1,1,1-trichloroethane) binary mixtures at temperatures from (298.15 to 318.15) K
pvap	8.40	kPa	288.15	Experimental and predicted properties of the binary mixtures containing an isomeric chlorobutane and butyl ethyl ether
pvap	13.52	kPa	298.15	Experimental and predicted properties of the binary mixtures containing an isomeric chlorobutane and butyl ethyl ether
pvap	25.72	kPa	313.15	Excess enthalpies and isothermal (vapour + liquid) equilibria of (1-methyl-2-pyrrolidone + 1-chloroalkane or +,?-dichloroalkane) mixtures
pvap	21.04	kPa	308.15	Isothermal vapour-liquid equilibria and excess enthalpies for the binary mixtures containing an isomeric chlorobutane and diisopropyl ether

rfi	1.39950	298.15	Volumetric, Acoustic, and Refractive Properties of Isomeric Chlorobutanes with Diisopropyl Ether
rfi	1.39953	298.15	Isothermal vapor liquid equilibria and excess Gibbs free energies in some binary nitroalkane + chloroalkane mixtures at temperatures from 298.15 K to 318.15 K
rfi	1.39950	298.15	Volumetric and refractive properties of binary mixtures containing 1,4-dioxane and chloroalkanes
rfi	1.39133	313.15	Volumetric and refractive properties of binary mixtures containing 1,4-dioxane and chloroalkanes
rfi	1.39910	298.15	Isothermal (vapour + liquid) equilibria and excess Gibbs free energies in some binary (cyclopentanone + chloroalkane) mixtures at temperatures from 298.15 K to 318.15 K
rfi	1.40450	288.15	Excess Molar Volumes, Viscosities, and Refractive Indexes for Binary Mixtures of 1-Chlorobutane with Four Alcohols at T = (288.15, 298.15 and 308.15) K

rfi	1.39930	298.15	Excess Molar Volumes, Viscosities, and Refractive Indexes for Binary Mixtures of 1-Chlorobutane with Four Alcohols at T = (288.15, 298.15 and 308.15) K
rfi	1.39395	308.15	Volumetric, Acoustic, and Refractive Properties of Isomeric Chlorobutanes with Diisopropyl Ether
rfi	1.39410	308.15	Excess Molar Volumes, Viscosities, and Refractive Indexes for Binary Mixtures of 1-Chlorobutane with Four Alcohols at T = (288.15, 298.15 and 308.15) K
rfi	1.40750	283.15	Volumetric, Acoustic, and Refractive Properties of Isomeric Chlorobutanes with Diisopropyl Ether
rfi	1.40481	288.15	Volumetric, Acoustic, and Refractive Properties of Isomeric Chlorobutanes with Diisopropyl Ether
rfi	1.39131	313.15	Volumetric, Acoustic, and Refractive Properties of Isomeric Chlorobutanes with Diisopropyl Ether
rfi	1.39953	298.15	Isothermal Vapor-Liquid Equilibrium of Binary Mixtures Containing 1-Chlorobutane, Ethanol, or Acetonitrile

rfi	1.39672		303.15	Volumetric, Acoustic, and Refractive Properties of Isomeric Chlorobutanes with Diisopropyl Ether
rfi	1.40212		293.15	Volumetric, Acoustic, and Refractive Properties of Isomeric Chlorobutanes with Diisopropyl Ether
rfi	1.39960		298.15	Densities, Excess Molar Volumes, Viscosities, and Refractive Indices of Binary Mixtures of n-Butyl Acetate with 1-Chloroalkanes (C4 C8) at 298.15 K
rhol	874.90	kg/m3	303.15	Density of Some 1-Chloroalkanes within the Temperature Range from (253.15 to 423.15) K
rhol	881.05	kg/m3	298.15	Densities and Excess Molar Volumes of the Binary Mixtures of Cyclohexanone with Chloroalkanes at Temperatures between (288.15 and 318.15) K
rhol	892.10	kg/m3	288.15	Densities and Excess Molar Volumes of the Binary Mixtures of Cyclohexanone with Chloroalkanes at Temperatures between (288.15 and 318.15) K

rhol	880.69	kg/m3	298.15	Densities and Viscosities of the Ternary Mixtures 2-Methyl-1-propanol (or 2-Methyl-2-propanol) + N-Hexane + 1-Chlorobutane at 298.15 K
rhol	835.30	kg/m3	338.15	Density of Some 1-Chloroalkanes within the Temperature Range from (253.15 to 423.15) K
rhol	852.10	kg/m3	323.15	Density of Some 1-Chloroalkanes within the Temperature Range from (253.15 to 423.15) K
rhol	863.90	kg/m3	313.15	Density of Some 1-Chloroalkanes within the Temperature Range from (253.15 to 423.15) K
rhol	869.86	kg/m3	308.15	Densities and Excess Molar Volumes of the Binary Mixtures of Cyclohexanone with Chloroalkanes at Temperatures between (288.15 and 318.15) K
rhol	880.40	kg/m3	298.15	Density of Some 1-Chloroalkanes within the Temperature Range from (253.15 to 423.15) K
rhol	885.90	kg/m3	293.15	Density of Some 1-Chloroalkanes within the Temperature Range from (253.15 to 423.15) K
rhol	896.60	kg/m3	283.15	Density of Some 1-Chloroalkanes within the Temperature Range from (253.15 to 423.15) K

rhol	907.30	kg/m3	273.15	Density of Some 1-Chloroalkanes within the Temperature Range from (253.15 to 423.15) K
rhol	917.40	kg/m3	263.15	Density of Some 1-Chloroalkanes within the Temperature Range from (253.15 to 423.15) K
rhol	858.52	kg/m3	318.15	Densities and Excess Molar Volumes of the Binary Mixtures of Cyclohexanone with Chloroalkanes at Temperatures between (288.15 and 318.15) K
rhol	858.67	kg/m3	318.15	Volumetric Study for the Binary Nitromethane with Chloroalkane Mixtures at Temperatures in the Range (298.15 to 318.15) K
rhol	870.00	kg/m3	308.15	Volumetric Study for the Binary Nitromethane with Chloroalkane Mixtures at Temperatures in the Range (298.15 to 318.15) K
rhol	881.17	kg/m3	298.15	Volumetric Study for the Binary Nitromethane with Chloroalkane Mixtures at Temperatures in the Range (298.15 to 318.15) K
rhol	880.69	kg/m3	298.15	Surface Tensions of the Ternary Mixtures Containing an Isomeric Butanol + n-Hexane + 1-Chlorobutane at 298.15 K

rhol	863.83	kg/m3	313.15	Excess molar volumes of (1-chlorobutane +heptane + 2-butanone or 2-pentanone) at 288.15 , 303.15 and 313.15 K . Measurements and correlations.
rhol	875.10	kg/m3	303.15	Excess molar volumes of (1-chlorobutane +heptane + 2-butanone or 2-pentanone) at 288.15 , 303.15 and 313.15 K . Measurements and correlations.
rhol	891.75	kg/m3	288.15	Excess molar volumes of (1-chlorobutane +heptane + 2-butanone or 2-pentanone) at 288.15 , 303.15 and 313.15 K . Measurements and correlations.
rhol	880.86	kg/m3	298.15	Volumetric properties for binary and ternary systems consist of 1-chlorobutane, n-butylamine and isobutanol at 298.15 K with application of the Prigogine-Flory-Patterson theory and ERAS-Model
rhol	880.69	kg/m3	298.15	Thermodynamic study of 2-methyl-tetrahydrofuran with isomeric chlorobutanes
rhol	880.69	kg/m3	298.15	Surface study of mixtures containing cyclic ethers and isomeric chlorobutanes

rhol	881.12	kg/m3	298.15	Densities and Excess Molar Volumes of the Binary Mixtures of Cyclopentanone with Chloroalkanes at T = (288.15, 298.15, 308.15, and 318.15) K
rhol	886.00	kg/m3	293.00	KDB
rhol	869.93	kg/m3	308.15	Densities and Excess Molar Volumes of the Binary Mixtures of Cyclopentanone with Chloroalkanes at T = (288.15, 298.15, 308.15, and 318.15) K
rhol	858.58	kg/m3	318.15	Densities and Excess Molar Volumes of the Binary Mixtures of Cyclopentanone with Chloroalkanes at T = (288.15, 298.15, 308.15, and 318.15) K
rhol	892.18	kg/m3	288.15	Densities and Excess Molar Volumes of the Binary Mixtures of Cyclopentanone with Chloroalkanes at T = (288.15, 298.15, 308.15, and 318.15) K
rhol	880.69	kg/m3	298.15	Surface Tension of Mixtures of Tetrahydrofuran or Tetrahydropyran with Isomeric Chlorobutanes
rhol	925.80	kg/m3	253.15	Density of Some 1-Chloroalkanes within the Temperature Range from (253.15 to 423.15) K

speedsl	1119.00	m/s	298.15	Speeds of sound, isentropic compressibilities and refractive indices for some binary mixtures of nitromethane with chloroalkane at temperatures from 298.15 to 318.15 K. Comparison with theories	
speedsl	1078.01	m/s	308.15	Speeds of sound, isentropic compressibilities and refractive indices for some binary mixtures of nitromethane with chloroalkane at temperatures from 298.15 to 318.15 K. Comparison with theories	
speedsl	1037.26	m/s	318.15	Speeds of sound, isentropic compressibilities and refractive indices for some binary mixtures of nitromethane with chloroalkane at temperatures from 298.15 to 318.15 K. Comparison with theories	
srf	0.02	N/m	303.15	Surface and bulk behaviour of some (n-hexane + chloroalkane) mixtures	
srf	0.02	N/m	298.15	Surface and bulk behaviour of some (n-hexane + chloroalkane) mixtures	
srf	0.02	N/m	308.15	Surface and bulk behaviour of some (n-hexane + chloroalkane) mixtures	
srf	0.02	N/m	313.15	Surface and bulk behaviour of some (n-hexane + chloroalkane) mixtures	
srf	0.02	N/m	293.20	KDB	

srf	0.02	N/m	283.15	Surface and bulk behaviour of some (n-hexane + chloroalkane) mixtures
srf	0.02	N/m	288.15	Surface and bulk behaviour of some (n-hexane + chloroalkane) mixtures
srf	0.02	N/m	293.15	Surface and bulk behaviour of some (n-hexane + chloroalkane) mixtures

Correlations

Information	Value
Property code	pvap
Equation	ln(Pvp) = A + B/(T + C)
Coeff. A	1.45467e+01
Coeff. B	-3.09635e+03
Coeff. C	-3.81330e+01
Temperature range (K), min.	255.28
Temperature range (K), max.	373.41

Information	Value
Property code	pvap
Equation	ln(Pvp) = A + B/T + C*ln(T) + D*T^2
Coeff. A	7.92413e+01
Coeff. B	-6.56700e+03
Coeff. C	-9.70121e+00
Coeff. D	7.48517e-06
Temperature range (K), min.	150.05
Temperature range (K), max.	537.00

Datasets

Mass density, kg/m3

Pressure, kPa - Liquid	Temperature, K - Liquid	Mass density, kg/m3 - Liquid
100.00	283.15	897.36
100.00	288.15	892.04
100.00	293.15	886.36
100.00	298.15	880.82
100.00	303.15	875.21
100.00	308.15	869.76
100.00	313.15	863.9
100.00	318.15	858.39
100.00	323.15	852.47
100.00	328.15	846.87
2000.00	283.15	899.21
2000.00	288.15	893.99
2000.00	293.15	888.35
2000.00	298.15	882.9
2000.00	303.15	877.35
2000.00	308.15	871.94
2000.00	313.15	866.24
2000.00	318.15	860.79
2000.00	323.15	854.85
2000.00	328.15	849.38
5000.00	283.15	902.05
5000.00	288.15	896.87
5000.00	293.15	891.37
5000.00	298.15	886.01
5000.00	303.15	880.6
5000.00	308.15	875.3
5000.00	313.15	869.77
5000.00	318.15	864.38
5000.00	323.15	858.68
5000.00	328.15	853.41
7000.00	283.15	903.87
7000.00	288.15	898.76
7000.00	293.15	893.36
7000.00	298.15	888.03
7000.00	303.15	882.68
7000.00	308.15	877.49
7000.00	313.15	871.92
7000.00	318.15	866.7
7000.00	323.15	861.15

7000.00	328.15	855.89
10000.00	283.15	906.6
10000.00	288.15	901.58
10000.00	293.15	896.28
10000.00	298.15	890.99
10000.00	303.15	885.78
10000.00	308.15	880.77
10000.00	313.15	875.27
10000.00	318.15	870.14
10000.00	323.15	864.65
10000.00	328.15	859.47
20000.00	283.15	915.16
20000.00	288.15	910.38
20000.00	293.15	905.24
20000.00	298.15	900.33
20000.00	303.15	895.41
20000.00	308.15	890.56
20000.00	313.15	885.35
20000.00	318.15	880.62
20000.00	323.15	875.43
20000.00	328.15	870.67
30000.00	283.15	923.05
30000.00	288.15	918.48
30000.00	293.15	913.5
30000.00	298.15	908.81
30000.00	303.15	904.1
30000.00	308.15	899.63
30000.00	313.15	894.59
30000.00	318.15	890.1
30000.00	323.15	885.16
30000.00	328.15	880.58
40000.00	283.15	930.41
40000.00	288.15	925.97
40000.00	293.15	921.24
40000.00	298.15	916.74
40000.00	303.15	912.24
40000.00	308.15	907.72
40000.00	313.15	903.08
40000.00	318.15	898.75
40000.00	323.15	894.16
40000.00	328.15	889.73
50000.00	283.15	937.2
50000.00	288.15	932.96
50000.00	293.15	928.33

50000.00	298.15	924.0
50000.00	303.15	919.76
50000.00	308.15	915.48
50000.00	313.15	910.86
50000.00	318.15	906.72
50000.00	323.15	902.27
50000.00	328.15	897.97
60000.00	283.15	943.68
60000.00	288.15	939.57
60000.00	293.15	935.0
60000.00	298.15	930.86
60000.00	303.15	926.77
60000.00	308.15	922.6
60000.00	313.15	918.16
60000.00	318.15	914.22
60000.00	323.15	910.0
60000.00	328.15	905.8
65000.00	283.15	946.75
65000.00	288.15	942.66
65000.00	293.15	938.38
65000.00	298.15	934.15
65000.00	303.15	930.08
65000.00	308.15	925.91
65000.00	313.15	921.77
65000.00	318.15	917.73
65000.00	323.15	913.54
65000.00	328.15	909.45

Reference *https://www.doi.org/10.1021/je3003805*

Temperature, K	Pressure, kPa	Mass density, kg/m3
288.15	100.00	891.8
288.15	2000.00	893.6
288.15	4100.00	895.6
288.15	6100.00	897.5
288.15	8100.00	899.4
288.15	10100.00	901.3
288.15	12100.00	903.0
288.15	14100.00	904.9
288.15	16300.00	906.7
288.15	18400.00	908.5
288.15	20200.00	910.3
298.15	100.00	880.6

298.15	2000.00	882.6
298.15	4100.00	884.9
298.15	6100.00	886.8
298.15	8100.00	888.7
298.15	10100.00	890.9
298.15	12100.00	892.8
298.15	14200.00	894.7
298.15	16200.00	896.5
298.15	18300.00	898.5
298.15	20400.00	900.2
308.15	100.00	870.0
308.15	2000.00	872.1
308.15	4100.00	874.4
308.15	6100.00	876.5
308.15	8100.00	878.6
308.15	10100.00	880.8
308.15	12100.00	882.9
308.15	14200.00	884.9
308.15	16200.00	886.8
308.15	18300.00	888.8
308.15	20200.00	890.6
318.15	100.00	859.1
318.15	2000.00	861.5
318.15	4000.00	863.8
318.15	6100.00	866.3
318.15	8100.00	868.7
318.15	10100.00	870.9
318.15	12100.00	873.1
318.15	14100.00	875.1
318.15	16200.00	877.2
318.15	18400.00	879.3
318.15	20200.00	881.2

Reference *https://www.doi.org/10.1021/je700096m*

Temperature, K	Pressure, kPa	Mass density, kg/m3
298.15	100.00	880.6

Reference *https://www.doi.org/10.1021/je7003758*

Temperature, K	Pressure, kPa	Mass density, kg/m3
283.15	100.00	897.21

283.15	2500.00	899.51
283.15	5000.00	901.82
283.15	10000.00	906.3
283.15	15000.00	910.57
283.15	20000.00	914.69
283.15	25000.00	918.63
283.15	30000.00	922.33
283.15	35000.00	926.05
293.15	100.00	886.18
293.15	2500.00	888.63
293.15	5000.00	891.13
293.15	10000.00	895.89
293.15	20000.00	904.73
293.15	25000.00	908.9
293.15	30000.00	912.88
293.15	35000.00	916.77
298.15	100.00	880.63
298.15	2500.00	883.17
298.15	5000.00	885.72
298.15	10000.00	890.65
298.15	15000.00	895.36
298.15	20000.00	899.79
298.15	25000.00	904.09
298.15	30000.00	908.22
298.15	35000.00	912.17
303.15	100.00	874.92
303.15	2500.00	877.59
303.15	5000.00	880.23
303.15	10000.00	885.43
303.15	15000.00	890.24
303.15	20000.00	894.84
303.15	25000.00	899.24
303.15	30000.00	903.46
303.15	35000.00	907.47
313.15	100.00	863.82
313.15	2500.00	866.65
313.15	5000.00	869.49
313.15	10000.00	874.93
313.15	15000.00	880.07
313.15	20000.00	884.94
313.15	25000.00	889.61
313.15	30000.00	894.04
313.15	35000.00	898.33
323.15	100.00	852.43

323.15	2500.00	855.47
323.15	5000.00	858.54
323.15	10000.00	864.35
323.15	15000.00	869.85
323.15	20000.00	875.03
323.15	25000.00	879.94
323.15	30000.00	884.62
323.15	35000.00	889.1
333.15	100.00	840.79
333.15	2500.00	844.06
333.15	5000.00	847.37
333.15	10000.00	853.61
333.15	15000.00	859.47
333.15	20000.00	864.97
333.15	25000.00	870.17
333.15	30000.00	875.12
333.15	35000.00	879.82

Reference *https://www.doi.org/10.1021/je800012v*

Temperature, K	Pressure, kPa	Mass density, kg/m3
298.15	13.52	880.805

Reference *https://www.doi.org/10.1021/je900436f*

Sources

Vapor-Liquid Equilibrium and Volumetric Measurements for Binary Mixtures of 1,4-Dioxane with Isomeric Chlorobutanes:	https://www.doi.org/10.1021/je020185k
Volumetric Study for the Binary Mixtures of 1,4-Dioxane with Isomeric Chlorobutanes:	https://www.doi.org/10.1021/je3013342
Nitromethane with Chloroalkane Mixtures at Temperatures in the Range (298.15 to 318.15) K: McGowan Method	http://link.springer.com/article/10.1007/BF02311772
Heat Capacities of 1-chloroalkanes and 1-bromoalkanes within the temperature range from 284.15 K to 353.15 K: A group additivity and molecular connectivity analysis.	https://www.doi.org/10.1021/je049652j
Excess molar volume and viscosity study for the ternary system tetrahydrofuran (1) + 1-chlorobutane (2) + 2-butanol (3) at 283.15, 298.15 and 313.15 K	https://www.doi.org/10.1016/j.fluid.2005.11.018
Surface study of mixtures containing cyclic ethers and isomeric chlorobutanes:	https://www.cheric.org/files/research/kdb/mol/mol1608.mol
Densities and Isothermal Compressibilities at Pressures up to 20 MPa of the Systems Tetrahydrofuran or Tetrahydropyran with Chloroalkanes:	https://www.doi.org/10.1016/j.jct.2006.10.003
Surface Tension of Mixtures of Tetrahydrofuran or Tetrahydropyran with Chloroalkanes:	https://www.doi.org/10.1021/je700096m
Densities, Excess Molar Volumes, Viscosities, and Refractive Indices of Binary Mixtures of n-Butyl Acetate with 1-Chloroalkane Isomers at Various Temperatures:	https://www.doi.org/10.1007/s10765-007-0169-z
Densities, isentropic compressibilities, and refractive indices for some binary mixtures of Chloroalkanes (C4, C8) at 298.15 K:	https://www.doi.org/10.1007/s10765-010-0902-x
KDB Pure (Korean Thermophysical Properties Database)	https://www.doi.org/10.1016/j.fluid.2014.10.004
Isothermal Vapor-Liquid Equilibrium of Ternary Mixtures Containing 2-Methyl-1-propanol or 2-Methyl-2-propanol, n-Hexane, and 1-Chlorobutane at 298.15 K: Comparison with theories.	https://www.cheric.org/research/kdb/hcprop/showprop.php?cmpid=1608
Thiomethanol with Chloroalkane at temperatures from 298.15 to 318.15 K.	https://www.doi.org/10.1021/je900436f

Phase Behavior, Densities, and Isothermal Compressibility of Carbon Dioxide + 1-Bromobutane, Carbon Dioxide + 1-Chlorobutane, and Carbon Dioxide + 1-Methylimidazole:	https://www.doi.org/10.1021/je900387e
Densities and Viscosities of Binary Mixtures of 1-Chlorobutane with Butanol Isomers at Several Temperatures:	https://www.doi.org/10.1021/je0496140
(Vapour + liquid) equilibria and excess Gibbs free energies of (cyclohexanone + 1-chlorobutane and + 1,1,1-trichloroethane) binary mixtures at temperatures from (298.15 to 318.15) K:	https://www.doi.org/10.1016/j.jct.2009.04.006
Isothermal (vapour + liquid) equilibrium at several temperatures of (1-chlorobutane + 1-decanol):	https://www.doi.org/10.1016/j.jct.2003.09.009
Limiting activity coefficients of 1-chlorobutane in water and in aqueous solutions of substances involved in synthesis of ionic liquids:	https://www.doi.org/10.1016/j.fluid.2010.09.026
Aqueous Solubility Prediction Method:	http://onschallenge.wikispaces.com/file/view/AqueousDataset002.xlsx/351826032/AqueousDa
Densities and Viscosities of the Binary Mixtures of Tetrahydrofuran with Isomeric Chlorobutanes at 298.15 K and 313.15 K:	https://www.doi.org/10.1021/je0600653
Volumetric properties for binary and ternary systems consist of 1-chlorobutane, n-butylamine and isobutanol at 298.15 K with application of the Prigogine-Flory-Patterson theory and ERAS-Model:	https://www.doi.org/10.1016/j.tca.2010.02.010
Estimated Solubility Method:	http://pubs.acs.org/doi/suppl/10.1021/ci034243x/suppl_file/ci034243xsi20040112_053635.txt
The Yaws Handbook of Vapor Pressure:	https://www.sciencedirect.com/book/9780128029992/the-yaws-handbook-of-vapor-pressure
Viscosities of Binary Mixtures of Isomeric Butanols or Isomeric Chlorobutanes with 2-Methyltetrahydrofuran:	https://www.doi.org/10.1021/je030167i
Measurement and prediction of multicomponent diffusion coefficients in four ternary liquid systems:	https://www.doi.org/10.1016/j.fluid.2009.12.009
Measurements, Correlations, and Predictions of Viscosities for the Ternary Mixture (2-Butanol + Hexane + 1-Chlorobutane) at 298.15 K and 313.15 K:	https://www.doi.org/10.1021/je020114l
Solubility of chlorobutane, ethyl methacrylate and trifluoroethyl acrylate in supercritical carbon dioxide:	https://www.doi.org/10.1016/j.fluid.2005.10.023
Volumetric and acoustic behaviour of systems containing n-hexane, or n-heptane and isomeric chlorobutanes	https://www.doi.org/10.1016/j.jct.2010.06.008
Experimental and Predicted Viscosities of Binary Mixtures Containing Chlorinated and Oxygenated Compounds:	https://www.doi.org/10.1007/s10765-012-1371-1
Surface and bulk behaviour of some (n-hexane + chloroalkane) mixtures:	https://www.doi.org/10.1016/j.jct.2008.10.016
Densities and Excess Molar Volumes of the Binary Mixtures of Cyclopentanone with Chloroalkanes at T = (288.15, 298.15, 308.15, and 318.15) K:	https://www.doi.org/10.1021/je901052w
Volumetric Properties of Short-Chain Chloroalkanes:	https://www.doi.org/10.1021/je3003805
(Vapour + liquid) equilibria and excess molar enthalpies for binary mixtures containing N,N-dialkylamides and 1-chloroalkanes:	https://www.doi.org/10.1016/j.jct.2007.01.017
Activity Coefficients at Infinite Dilution by GLC in Alkanediamines as Stationary Phases:	https://www.doi.org/10.1021/je200628n
Experimental and predicted properties of the binary mixtures containing an isomeric chlorobutane and butyl ethyl ether:	https://www.doi.org/10.1016/j.jct.2012.02.039
Study of tetrahydropyran-chlorobutane VLE using the a o and o o approaches:	https://www.doi.org/10.1016/j.fluid.2005.02.014
Solubilities of Some Long-Chain n-Alkanes in Dipropyl Ether, Dibutyl Ether, 1-Chlorobutane, and 1-Chlorooctane as Functions of Temperature:	https://www.doi.org/10.1021/je030206q
NIST Webbook:	http://webbook.nist.gov/cgi/cbook.cgi?ID=C109693&Units=SI
Volumetric, Acoustic, and Refractive Properties of Isomeric Chlorobutanes with Diisopropyl Ether:	https://www.doi.org/10.1021/je100765j
(Vapour + liquid) equilibrium and excess Gibbs functions of ternary mixtures containing 1-butanol or 2-butanol, n-hexane, and 1-chlorobutane at T = 298.15 K:	https://www.doi.org/10.1016/j.jct.2009.04.005
Excess Molar Volumes, Viscosities, and Refractive Indexes for Binary Mixtures of 1-Chlorobutane with Four Alcohols at T = (288.15, 298.15, and 308.15) K:	https://www.doi.org/10.1021/je030226s
Abraham model correlations for describing the thermodynamic properties of solute transfer into pentyl acetate based on headspace chromatographic and solubility measurements:	https://www.doi.org/10.1016/j.jct.2018.05.003
Isothermal vapour-liquid equilibria and excess enthalpies for the binary mixtures containing isomeric chlorobutanes and diisopropyl ether:	https://www.doi.org/10.1016/j.fluid.2011.06.001
Solubility of Imidazoles, Benzimidazoles, and Phenylimidazoles in Dichloromethane, 1-Chlorobutane, Toluene, and 2-Nitrotoluene:	https://www.doi.org/10.1021/je049907t
Experimental and predicted vapour-liquid equilibrium of the binary mixtures n-heptane + chlorobutane isomers:	https://www.doi.org/10.1016/j.fluid.2015.09.031
Densities and Excess Volumes of the 1-Chlorobutane + n-Hexane System at Temperatures from (283.15 to 333.15) K and Pressures from (0.1 to 35) MPa:	https://www.doi.org/10.1021/je800012v
Isothermal vapor liquid equilibria and excess Gibbs free energies in some binary nitroalkane + chloroalkane mixtures at temperatures from 298.15 K to 318.15 K:	https://www.doi.org/10.1016/j.fluid.2012.10.015
Thermophysical Properties of Mixtures of Tetrahydropyran with Chlorobutanes:	https://www.doi.org/10.1007/s10765-006-0100-z
Densities and Excess Molar Volumes of the Binary Mixtures of Cyclohexanone with Chloroalkanes at Temperatures between (288.15 and 318.15) K:	https://www.doi.org/10.1021/je900404r
Abraham model linear free energy relationships for describing the partitioning and solubility behavior of nonelectrolyte organic solutes dissolved in pyridine at 298.15 K:	https://www.doi.org/10.1016/j.fluid.2016.10.009
Volumetric and refractive properties of binary mixtures containing 1,4-dioxane and chloroalkanes:	https://www.doi.org/10.1016/j.jct.2006.05.003
Isothermal (vapour + liquid) equilibria and excess Gibbs free energies in some binary (cyclopentanone + chloroalkane) mixtures at temperatures from 298.15 K to 318.15 K:	https://www.doi.org/10.1016/j.jct.2007.03.008
Experimental and Predicted Kinematic Viscosities for Alkane + Chloroalkane Mixtures:	https://www.doi.org/10.1021/je200213h
Excess enthalpies and isothermal (vapour + liquid) equilibria of (1-methyl-2-pyrrolidone + 1-chloroalkane or + , -dichloroalkane) mixtures:	https://www.doi.org/10.1016/j.jct.2008.01.024
Densities and Viscosities of the Ternary Mixtures 2-Methyl-1-propanol or 2-Methyl-2-propanol + N-Hexane + 1-Chlorobutane at 298.15 K:	https://www.doi.org/10.1021/je800048f
KDB Vapor Pressure Data:	https://www.cheric.org/research/kdb/hcprop/showprop.php?cmpid=1608

Activity Coefficients at Infinite Dilution for Hydrocarbons in Fatty Alcohols	https://www.doi.org/10.1021/je1005517
The Critical Temperatures of a Number of (i) Chloroalkane (C3 C4) + Hydrocarbon (C6 C7)) Binary Mixtures and (ii) (Aromatic Halocarbon (Chlorobenzene, 1,2-Dichlorobenzene, or 1,3-Dichlorobenzene) + Alkane (C8)) Binary Mixtures Containing Isomeric Chlorobutanes Determined by Gas-Liquid Chromatography.	https://www.doi.org/10.1021/acs.jced.7b00191
Critical Constants and Acentric Factor Determined by Group Contribution Methods.	http://pubs.acs.org/doi/abs/10.1021/ci990307l
Density of Some 1-Chloroalkanes (Chlorobenzene, 1,2-Dichlorobenzene, or 1,3-Dichlorobenzene) + Alkane (C8) Binary Mixtures within the Temperature Range from 293.15 to 313.15 K: Measurements and Correlations.	https://www.doi.org/10.1021/je700325c
Liquid–liquid equilibria for binary systems of butyl chlorides with heptane, toluene and cyclohexane at 313.15, 323 and 333.15 K.	https://www.doi.org/10.1007/s10765-010-0737-5
Excess molar volumes of (1-chlorobutane + heptane + 2-butanone or 2-pentanone) at 298.15, 303.15 and 313.15 K: Measurements and correlations.	https://www.doi.org/10.1016/j.fluid.2006.02.009
Excess molar volumes of (1-chlorobutane + heptane + 2-butanone or 2-pentanone) at 298.15, 303.15 and 313.15 K: Measurements and correlations.	https://www.doi.org/10.1016/j.tca.2012.04.001
Surface Tensions of the Ternary Mixtures Containing an Isomeric Butyl Chloride + Heptane + Toluene or Cyclohexane at 298.15 K	https://www.doi.org/10.1021/je100177u
Joback Method	https://en.wikipedia.org/wiki/Joback_method
Excess properties from p.rho.T data for n-heptane + isomeric chlorobutane mixtures	https://www.doi.org/10.1016/j.tca.2015.06.017
Thermodynamic study of 2-methyl-tetrahydrofuran with isomeric chlorobutanes.	https://www.doi.org/10.1016/j.tca.2004.11.034
Densities and Isothermal Compressibilities at Pressures up to 20 MPa for the Systems 1-Methyl-2-pyrrolidone + 1-Chloroalkane or + 1,ω-Dichloroalkane: Acetonitrile	https://www.doi.org/10.1021/je7003758
Isothermal Vapor-Liquid Equilibrium of Binary Mixtures Containing 1-Chlorobutane, Ethanol or	https://www.doi.org/10.1021/je800535c

Legend

af:	Acentric Factor
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
hf:	Enthalpy of formation at standard conditions
hfl:	Liquid phase 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
kvisc:	Kinematic viscosity
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

speedsl:	Speed of sound in fluid
srf:	Surface Tension
tb:	Normal Boiling Point Temperature
tc:	Critical Temperature
tf:	Normal melting (fusion) point
vc:	Critical Volume
zc:	Critical Compressibility