

potassium chloride

Inchi: InChI=1S/ClH.K/h1H;/q;+1/p-1
InchiKey: WCUXLLCKKVVCTQ-UHFFFAOYSA-M
Formula: ClK
SMILES: [Cl-].[K+]
Mol. weight [g/mol]: 74.55
CAS: 7447-40-7

Physical Properties

Property code	Value	Unit	Source
ea	0.58 ± 0.01	eV	NIST Webbook
ea	0.63	eV	NIST Webbook
ea	1.27	eV	NIST Webbook
ie	8.40 ± 0.10	eV	NIST Webbook
ie	10.50	eV	NIST Webbook
ie	8.30	eV	NIST Webbook
ie	8.40 ± 0.10	eV	NIST Webbook
ie	10.10	eV	NIST Webbook
ie	8.00 ± 0.30	eV	NIST Webbook
ie	8.70	eV	NIST Webbook
tt	1045.15	K	Fusion characterization of biomass ash

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
rhos	1805.80	kg/m ³	973.00	Density of Crystalline Alkali Chlorides and Their Eutectic Mixtures Near the Melting Point
rhos	1803.60	kg/m ³	983.00	Density of Crystalline Alkali Chlorides and Their Eutectic Mixtures Near the Melting Point

rhos	1800.60	kg/m3	993.00	Density of Crystalline Alkali Chlorides and Their Eutectic Mixtures Near the Melting Point
rhos	1797.10	kg/m3	1003.00	Density of Crystalline Alkali Chlorides and Their Eutectic Mixtures Near the Melting Point
rhos	1794.50	kg/m3	1013.00	Density of Crystalline Alkali Chlorides and Their Eutectic Mixtures Near the Melting Point
rhos	1793.60	kg/m3	1023.00	Density of Crystalline Alkali Chlorides and Their Eutectic Mixtures Near the Melting Point
rhos	1793.60	kg/m3	1033.00	Density of Crystalline Alkali Chlorides and Their Eutectic Mixtures Near the Melting Point
rhos	1796.60	kg/m3	1043.00	Density of Crystalline Alkali Chlorides and Their Eutectic Mixtures Near the Melting Point
srf	0.09	N/m	1230.00	Surface tension of light rare earth fluoride molten salts electrolytesystem

Correlations

Information	Value
Property code	pvap
Equation	$\ln(P_{vp}) = A + B/(T + C)$
Coeff. A	1.39492e+01
Coeff. B	-1.33788e+04
Coeff. C	-2.55170e+02
Temperature range (K), min.	1044.00
Temperature range (K), max.	3470.00

Activity of Water and Osmotic Coefficients for Two- and Three- Basic Anions on Solid-Liquid Phase Equilibria in Ionic Liquid 1. The solubility of alkali fluoride (LiF, NaF, KF) in ionic liquid EMFS: ash: THE LIMITING PARTIAL MOLAR VOLUME AND APPARENT MOLAR VOLUME OF GLUCYL GLYCINE IN AQUEOUS SYSTEMS $\text{CH}_2\text{PO}_4\text{H} \cdot \text{KCl}$ at 298.15 K Coefficients of N-(N-Glycylglycyl)glycine in Aqueous Solutions of Diuretic Potassium N-Glycylglycine in Aqueous Sodium Sulfate and Potassium Chloride and Betaine Chloride in Water + Ethanol Mixtures from the Solubility of five different amino acids in water: Salt-effects in aqueous surface-active ionic liquid Solid-Liquid Phase Equilibrium Ternary System (Potassium Chloride + Potassium Nitrate) in Aqueous Solutions with a Neutral Water Stream (5 to 90) Molarity of Methanolic Alkali Halide Salt Solutions by Experiment and Molecular Measurement and Correlation of Surface Tension for Single Aqueous Dependence of Refractive Index on Concentration and Temperature in Effect of the Common Ion Volumetric and osmotic behavior of procaine sodium chloride in aqueous solution at compressibility of $\text{MgCl}_2 \cdot 6\text{H}_2\text{O}$ in aqueous solution The Thermodynamic Activity Quantities in Aqueous Sodium Salt Water Phase Equilibria in Ternary Systems $\text{K}^+(\text{Mg}^{2+})$, $\text{NH}_4^+/\text{Cl}^-/\text{H}_2\text{O}$ at $T = 273.15$ K: thermo-chemical properties of some electrolytes in water and aqueous solutions Dependence of the Solubility of Aqueous Alkali Halide Salt Solutions by Experimental and Molecular Solubility of $\text{Na}_2\text{SiO}_3 \cdot 9\text{H}_2\text{O}$ in the $\text{NaCl} \cdot \text{KCl}/\text{H}_2\text{O}$ System: the Micellization and Clouding Phenomenon of the Amphiphilic Polyacrylamide Dynamic Model in the $\text{Na}^+/\text{Ca}^{2+}/\text{Mg}^{2+}$ System for Heat Exchanger Systems at Heat Capacities $\text{K}^+(\text{Mg}^{2+})$ and CaCl_2 Solutions from 0.1 to 3.0 M HCl Drug in Aqueous NaCl and KCl Solutions at Different Temperatures containing model compounds of amino acid and their densities at 298.15 K: Refractive Indices for the Ternary Systems with CaCl_2 , NaCl + H_2O , Solutions with Mixed Salts of NaCl and KCl and their Densities of L-Aspartic Acid and L-Glutamic Acid in Ethanol and Glycerol Solutions of Aqueous Solutions of α -Cyclodextrin at 298.15 K and 323.15 K Liquid Equilibria in the Quaternary System $\text{LiCl}-\text{KCl}-\text{Li}_2\text{SO}_4-\text{H}_2\text{O}$ at Quaternary System Investigation of Surface Properties for Electrode Solution Measurement and Prediction of Surface Tension for NaCl , NH_4Cl , H_2O , KCl , NH_4Cl , NaCl , NaCl , LiCl , H_2O , KCl , LiCl + H_2O and data (c) in the preparation process for the $\text{LiCl}-\text{H}_2\text{O}$ system: the equilibria in the ternary system water + aspartic acid + L-glutamic acid: Acid/L-Tryptophan/Glycylglycine + 2 M Aqueous KOH and NaOH and Liquid-Liquid Equilibria for water + 1-propanol (or 1-butanol) + potassium sulfate in the ternary and the Quaternary Systems at 298.15 K: Effect of CaCl_2 on the Ternary System CaCl_2 - BrCl_2 - H_2O and the Quaternary System CaCl_2 - BrCl_2 - H_2O and H_2O at 273.15 K: Measurements and Model Simulation for the $\text{KCl}-\text{SrCl}_2-\text{H}_2\text{O}$ System at 323.15 K: <https://www.doi.org/10.1021/je300701m>
<https://www.doi.org/10.1016/j.fluid.2006.10.018>
<https://www.doi.org/10.1016/j.tca.2016.06.008>
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<https://www.doi.org/10.1021/acs.jced.5b00018>
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<https://www.doi.org/10.1021/je800188a>
<https://www.doi.org/10.1021/acs.jced.6b00981>
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Electrical Conductivity of LiCl-KCl-CsCl Melts: <https://www.doi.org/10.1021/acs.jced.5b00682>

Solubility of n-Hexane and Setchenov's Constants in Aqueous Solutions of KOH , LiCl , NaCl , and KCl : <https://www.doi.org/10.1021/acs.jced.9b00384>

KCl , NaCl , and KCl : <https://www.doi.org/10.1021/je400911m>

and Their Mixture Solutions: <https://www.doi.org/10.1016/j.jct.2015.11.028>

Enthalpic pairwise self-association of L-carnitine in aqueous solutions of some salts: <https://www.doi.org/10.1016/j.fluid.2016.08.030>

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Surface Tension Measurements of Binary Equilibria in the Quaternary System KCl - K_2SO_4 - H_2O and KCl - K_2SO_4 - CaCl_2 - H_2O at 298.15 K: <https://www.doi.org/10.1021/acs.jced.6b00926>

Aqueous KCl at High Pressures: <https://www.doi.org/10.1021/je200808q>

Measurement of the Pairwise Interaction Energies of Dilution and Dissociation of Potassium Chloride in Aqueous Solution: <https://www.doi.org/10.1016/j.jct.2015.07.029>

SAFT-VR Mie analysis of the effect of salt on the solubility behaviour of some hydrophobic compounds in water with electrolytes: <https://www.doi.org/10.1016/j.jct.2006.06.014>

Densities of aqueous solutions of MES, MOPS, and MOPS in water and in CaCl_2 solution: <https://www.doi.org/10.1016/j.jct.2008.12.011>

Pentahydrate in Different Solvents: <https://www.doi.org/10.1016/j.tca.2010.04.004>

Solubility and Chemical Thermodynamics of d,l-Alanine and Mesosartan and their Potassium Chloride Solutions in Water: <https://www.doi.org/10.1021/je050242k>

Thermodynamics of d,l-Alanine and Mesosartan and their Potassium Chloride Solutions in Water: <https://www.doi.org/10.1021/acs.jced.5b00351>

Indices for the Ternary Systems CaCl_2 - KCl - H_2O and CaCl_2 - KCl - H_2O and the Quaternary System CaCl_2 - KCl - H_2O - H_2O : <https://www.doi.org/10.1016/j.fluid.2004.07.019>

Electrical conductivity investigation of diluted potassium chloride solutions in binary and ternary systems: <https://www.doi.org/10.1021/je200443t>

Density and refractive index-water near measurements of critical mixture CaCl_2 - KCl - H_2O : <https://www.doi.org/10.1021/acs.jced.9b00421>

Solubility of Water in Saturated KCl in Binary Systems Containing the Ionic Liquid $\text{1-butyl-3-methylimidazolium tetrakis(pentafluorophenyl)borate}$ ($\text{BMIM}^+\text{PF}_6^-$): <https://www.doi.org/10.1016/j.fluid.2008.02.014>

Solutions of KCl , K_2SO_4 , and CaCl_2 as a Function of Concentration and Solubility of Potassium Chloride and Potassium Sulfate in Aqueous Solutions: <https://www.doi.org/10.1016/j.fluid.2011.03.031>

Thermochemistry of Potassium Strontium Tetraborate Dehydrated: <https://www.doi.org/10.1016/j.fluid.2010.02.018>

Salting-out effect of alkali metal chlorides (lithium, sodium, and potassium) and strontium hexafluoroantimonate ($\text{Sr}(\text{SbF}_6)_2$) in NaCl , KCl , CaCl_2 , and MgCl_2 solutions: <https://www.doi.org/10.1021/je1010592>

Hydrophilic Alcohols with Three Different Salts of Chloride: <https://www.doi.org/10.1021/je034031w>

Binary and Ternary Systems: <https://www.doi.org/10.1021/je200238s>

Binary and Ternary Systems: <https://www.doi.org/10.1021/je049582g>

Binary and Ternary Systems: <https://www.doi.org/10.1016/j.tca.2007.08.004>

Binary and Ternary Systems: <https://www.doi.org/10.1016/j.fluid.2015.09.005>

Binary and Ternary Systems: <https://www.doi.org/10.1021/je800438p>

Binary and Ternary Systems: <https://www.doi.org/10.1021/acs.jced.5b00771>

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Binary and Ternary Systems: <https://www.doi.org/10.1016/j.fluid.2006.10.027>

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Binary and Ternary Systems: <https://www.doi.org/10.1016/j.tca.2007.03.007>

Binary and Ternary Systems: <https://www.doi.org/10.1021/acs.jced.5b00941>

Binary and Ternary Systems: <https://www.doi.org/10.1021/je800638f>

Binary and Ternary Systems: <https://www.doi.org/10.1016/j.tca.2006.08.010>

Binary and Ternary Systems: <https://www.doi.org/10.1021/acs.jced.5b00579>

Binary and Ternary Systems: <https://www.doi.org/10.1016/j.jct.2010.11.003>

Binary and Ternary Systems: <https://www.doi.org/10.1021/acs.jced.5b00366>

Binary and Ternary Systems: <https://www.doi.org/10.1021/acs.jced.5b00366>

Solubility of KCl and MgCl₂ in Binary Solvents Formed by Acetone and Water
 Interfacial Free Energy Interactions in
 2019.04.03.26150116, and
 Equilibrium aqueous solution of
 apyruercolosis Isoniazid in aqueous
 and in aqueous solution of the
 of the Aqueous Ternary Systems LiCl +
 R₂SO₂ (R = n-C₄H₉, n-C₆H₁₃)
 Solutions I. LiFSI with Valeronitrile,
 Ethylene Glycol, and Methoxyethane,
 Expanded on the Ternary System
 Thermodynamic Modeling of
 Solid-Liquid Equilibria of
 on thermal stability of ammonium
 NaCl, LiCl, and CsCl at 298.15 K
 chain alcohols + n-octane mixtures:
 Measuring and modeling aqueous
 electrolyte/amino-acid solutions with
 G₀ and G₁ study of the entropy
 relation in the NaCl - KCl system:
 Isoopiestic Measurements of Osmotic
 and Activity Coefficients of
 NaCl and KCl in the NaCl-KCl-H₂O
 NaBr, NaI, NaBPh₄, and Bu₄NI in Water
 Salt Mixtures at 298.15 K:
 liquid-liquid equilibrium: Measuring
 and modeling the liquid-liquid
 equilibrium of binary mixtures of
 NaCl and KCl in the NaCl-KCl-H₂O
 or KCl + 2-Methyl 2-Propanol at the
 boiling temperature of the
 liquids in aqueous salt solutions at
 298 K: effect on liquid-liquid equilibria of
 tetrahydrofuran/water/5-hydroxymethylfurfural
 Solubility of Sodium Oxalate in
 Concentrated Electrolyte Solutions:
 Volumetric properties of betaine
 hydrochloride drug in aqueous NaCl
 and KCl solutions
 Solubility of NaCl, NaBr, and KCl in
 Water, Methanol, Ethanol, and Their
 Mixed Solvents
 liquid-liquid equilibrium (SLE) of the
 N,N-Dimethylacetamide (DMA) + MCl (M
 = Na, K, Cs) and Cl₂ + Water Ternary
 systems at various temperatures:
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 properties of some saccharides in aqueous
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 quaternary systems (288.15 to 318.15) K:
 LiCl-NaCl-MgCl₂-H₂O, the Ternary
 Systems MgCl₂-K₂SO₄-H₂O and
 K₂SO₄-CaCl₂-H₂O at 298.15 K
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 MgCl₂-K₂SO₄-H₂O at 298.15 K:
 equilibrium of the high concentration
 solutions of NaCl in the NaCl-H₂O system
 in Aqueous Alkali Metal Salt and
 Ethanol Ternary Systems: Partial Molal
 Volumes and Partial Molal
 Entropies of NaCl, KCl, and MgCl₂ on
 Ethanol at Different Temperatures and
 Pressures
 KH₂PO₄ + KCl + H₃PO₄ at 298.15 K and
 Solubility and Metastable Zone Width
 Measurement of Borax Dehydrate in
 Potassium Chloride Solution
 Osmotic Coefficients, and Excess
 Gibbs Free Energies of NaCl and KCl
 in the molal aqueous
 solutions
 Temperature Dependence of Vapor
 Pressures over Saturated Aqueous
 Solutions in Various Ternary Systems
 Solutions with and without NaCl at
 298.15 K: coefficients of Potassium
 Chloride in Ethylene Glycol-Water
 Mixtures Using Electrode Potentials
 Measurements of the 1,3-diphenyl-4-
 selenazone in the aqueous solutions
 derivatives of 1,3-selenazine in
 aqueous solutions
 NaCl(aq), KCl(aq), NaCl(aq)-KCl(aq),
 and KCl(aq)-NaCl(aq) Some Metal
 Ions in Glycerol-Water Mixtures
 and 7 diagrams of the quaternary
 system NaCl-NH₄Cl-SO₄(2)-H₂O at
 298.15 K and their applications
 in the Quaternary Systems KCl MgCl₂
 ZnCl₂ H₂O and KCl MgCl₂ PbCl₂ H₂O
 at 373 K:

<https://www.doi.org/10.1021/je700017b>
<https://www.doi.org/10.1016/j.jct.2006.03.009>
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Enthalpies of formation and lattice enthalpies of alkaline metal acetates: <https://www.doi.org/10.1016/j.tca.2004.11.004>
Buffers and Ionic Salts: Densities and Solubilities of Aqueous and Electrolyte Salt Effect on the Liquid-Liquid Equilibrium for the Water-Ethylene Glycol-Ethylene Glycol Diacetate System: <https://www.doi.org/10.1021/je900260g>
Solubilities of Aqueous and Electrolyte Salt Effect on the Liquid-Liquid Equilibrium for the Water-Ethylene Glycol-Ethylene Glycol Diacetate System: <https://www.doi.org/10.1021/acs.jced.8b01248>

Legend

ea: Electron affinity
ie: Ionization energy
pvap: Vapor pressure
rhos: Solid Density
srf: Surface Tension
tt: Triple Point Temperature

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