

potassium chloride

Inchi:

InchiKey:

Formula:

SMILES:

Mol. weight [g/mol]:

CAS:

InChI=1S/ClH.K/h1H;/q;+1/p-1

WCUXLLCKKVVCTQ-UHFFFAOYSA-M

ClK

[Cl-].[K+]

74.55

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	1793.60	kg/m3	1023.00	Density of Crystalline Alkali Chlorides and Their Eutectic Mixtures Near the Melting Point
rhos	1805.80	kg/m3	973.00	Density of Crystalline Alkali Chlorides and Their Eutectic Mixtures Near the Melting Point

rhos	1803.60	kg/m3	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	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

Sources

Determination and Modeling of the Solubility of Na₂SiO₃·9H₂O in the NaCl-H₂O Mixtures of Sodium Chloride and Potassium Chloride in Water + Ethanol Solutions from KH₂PO₄ to K₂HPO₄, H₃PO₄, and Their Mixture Solutions: Stable (solid + liquid) phase equilibrium for the ternary systems (K₂SO₄ + R₁H₂PO₄-H₂O), (K₂SO₄+R₂H₂PO₄-H₂O), (K₂SO₄+R₃H₂PO₄-H₂O) indices for the ternary systems composition densities ρ = Na, K, R relative indices for the Ternary Systems with Frame Glycol-Silica-Glycol-Nin-Dimethylacetamide (DMA)-Ethylmethylacetate (EMAc)-Methylcyclopentasiloxane (MCPMS)-polydimethylsiloxane (PDMS) water for hydroxyethyl systems solubilities of salts in the three quaternary systems:

The NaCl-KNO₃-H₂O phase equilibrium at the 20°C concentration Experimental Data for the Solution System KCl-RbCl-H₂O at T = 298.15 K to T = 323.15 K velocity and Adiabatic Compressibility of Molten KCl + NdCl₃ Mixtures in the Calculation of five different amino acids in water: Phase Equilibrium for the Ternary Systems (KCl + K₂SO₄ + H₂O) and Na₂HPO₄-K₂SO₄ Equilibria in Ternary Systems of Li-Mg-2-p-Bu-1-CI-H₂O at T = 270 K: Simultaneous determination of enthalpies of dilution and dissociation Mutual diffusion coefficients aqueous salt solutions of taurine and histidine in the presence of high salinary phosphate solutions II. Ternary Mutual Diffusion Coefficients of 3-methyl-1-butanol + n-heptane and tri-n-propylamine in heptane in basic liquids: 1,3-proline-, and Butyramine-Based Equilibria in the Ternary System LiCl-SrCl₂-H₂O and the Quaternary System KCl-LiCl-SrCl₂-H₂O dilute potassium chloride solutions in binary equilibria in the quaternary systems KCl-KBr-O₂-K₂SO₄-H₂O and NaCl-MgBr-O₂-Na₂SO₄-H₂O at 273 K: Chloride in Ethylene Glycol-Water mixture using ethylpotassium salts as thermal stability ammonium perchlorate and metastable Zone Width Measurement of Borax Decahydrate in Potassium Chloride solution: Quaternary System K+//H₂PO₄²⁻, SO₄²⁻ Study on Solid Liquid Phase Equilibria in ionic liquid I. The solubility of alkali chlorides in imidazole liquid based ionic liquids in aqueous salt solutions at Equilibrium Diagrams of Water + NaCl or KCl + 2-Methyl 2-Propanol at the Boiling Temperature Properties of some electrolytes in water and aqueous mixtures of Surface Bromines for Biphenyltetracyanobenzenes for Biphenyltetracyanobenzenes for Acrylonitrile-divinylbenzene-Glycidyl methacrylate copolymer films: An experimental study on compounds of amino acids and organic bases with electrolytes: Densities of aqueous Solutions of Some Amino Acids, Alanine, Aminobutyric Acid, γ-Aminobutyric acid, Naphthalene-2-sulfonic acid and p-Toluenesulfonate in Aqueous Solutions of Strong Electrolytes at Concentration Ranges up to 0.1 mol/L Dissolution Equilibria of o-Iodoaniline and p-Iodoaniline in Pure Solvents:

[illegible]

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11. // 11. 10. 1991/ 11. 10. 1991/

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Viscosities of L-Histidine/L-Glutamic Acid/L-Tryptophan/Glycylglycine+2 M Phosphate/KCl/KNO₃ Solutions at Various Temperatures
 System Na₂SO₄-KCl + H₂O in Aqueous Solution at 298.15 K
 Thermodynamic Study of the Ternary System KCl-CuCl₂-H₂O at 298.15 K by Electrical Conductivity Method
 Melts: Resistivity viscosity relationship in liquid liquid critical mixtures with various solvents
 Studies of (L-alanine-, L-proline, L-valine, L-leucine + aqueous potassium chloride) ternary systems
 Thermodynamic Study of (KCl + N,N-Dimethylformamide + Water) System Based on Potentiometric Measurements
 Partial Molal Compressibilities of Some Amino Acids in Aqueous Solutions
 Thermodynamic Properties of (HMT) in Aqueous Solution at 298.15 K
 Liquid equilibria for the ternary system water-Dimethyl sulfoxide-ethanol: solubility data (I) in the preparation phase diagrams of the ternary system
 Extraction of Glycylglycine from Aqueous Solution with NaCl at 298.15 K
 Phase Equilibria Measurements and Model Simulation for the MOPSO-MOBS System at 298.15 K
 MOPSO, and MOBS in water and in aqueous solutions
 Density of Aqueous Alkali Halide Salt Solutions as a Function of Temperature
 Liquid-liquid-solid equilibria for (water + 2-propanol) in the NaCl-H₂O ternary system
 Isoniazid in aqueous solution: thermodynamic properties
 biologically relevant cation mixtures: Salting-out effect of alkali metal chlorides (lithium, sodium, and potassium) on 2,6-dimethyl-4-nitrophenol
 Diffusion Coefficients of Aqueous Solutions of Sodium Nitrate, Potassium Nitrate, and Sodium Chloride
 Aqueous Alkali Metal Salt and Ammonium Chloride Solutions: Pressures over Saturated Aqueous Solutions as a Function of the Molality of the Salt
 NaCl + H₂O, NaCl + H₂SO₄ + H₂O, and NaCl + H₂SO₄ + H₂O
 Aqueous Systems Containing the Ionic Salt NaCl, KCl, NaBr, Na₂SO₄ and Measurements and Correlation of Solubilities of Potassium Chloride and Potassium Bromide in Aqueous Glycerol
 Hydrochloride drug in aqueous NaCl and KCl solutions at different temperatures
 Thermodynamic Properties and Viscosity of B-Coefficients for the Ternary Systems Ethanol-Water-Glycerol
 Ternary System Na₂SO₄-KCl-H₂O at 298.15 K
 Ternary System KH₂PO₄-KCl+H₂O at 298.15 K
 Constants in Aqueous Solutions of Electrolytes with an Electrolyte Found in Natural Waters from (5 to 90) °C
 Mean Activity Coefficients and Osmotic Coefficients in Dilute Aqueous Sodium Salt Solutions
 Surface Tension of Aqueous Solutions of Potassium Chloride from (0 to 70) degC: Experimental Determination and Thermodynamic Modeling
 Solubility and Equilibrium of Mesquite Seed Extract in Aqueous NaCl, KCl, and Na₂SO₄ Solutions
 Equilibrium of binary, ternary and quaternary systems in aqueous solution
 Some carbohydrates in aqueous solutions: Potassium Chloride Solutions over Water
 Thermodynamic Properties of LiFSI Solutions I. LiFSI with Valeronitrile, Dichloromethane, 1,2-Dichloroethane, and 1,2-Dichlorobenzene:

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<https://www.doi.org/10.1021/je800438p>
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<https://www.doi.org/10.1016/j.jct.2008.11.009>
<https://www.doi.org/10.1021/je049922y>
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Enthalpies of Dilution of
N-Glycylglycine in Aqueous Sodium
Chloride and Potassium Chloride Metal
Halides in Glycerol + Water Mixtures:
Solubility of CO₂ in Aqueous Solutions
of KCl and in Aqueous Solutions of
KBr;
Acoustic Velocities and Densities of
L-Histidine or L-Glutamic Acid or
Proline in Selected Organic and
Aqueous Systems; Various Chloride
Solutions from (238.60-420.15) K:
Pentahydrate in Different Solvents
Solubilities, Densities and Refractive
Indices for the Ternary Systems
Glycerol + NaCl(aq) + KCl(aq);
Equilibrium Behavior of Procaine
Hydrochloride in Aqueous Solution in
different System Temperatures (238.60-420.15)
and 500.15 K; SO₂-H₂O at 313.15 K:
Thermodynamics of d,l-Alanine and
D,L-Serine Equilibria in the NaCl(aq)-H₂O
Salt-H₂O-CO₂-H₂O and the Quaternary
System at 0°C and 25°C and 0.1 MPa;
On the solubility behaviour of some
proteins and organic salts in water and
solubilities of aqueous and electrolyte
solutions of Oxygen in Aqueous
Solutions of KCl, KNO₃(aq), and CaCl₂ and
in the presence of organic substances such as butanes
Phase separation ability of KCl in
aqueous solution Phase Activity Coefficients of
Organic Compounds in Aqueous and Excess
Concentrations of Alkali Halides
and their Thermodynamic Extension for
aqueous mixtures of Alkali Salts Near the
Melting Point of Temperature and
Inorganic Salts on the Aqueous
Density of the NaCl-H₂O, H₂O,
and NaNO₃ + KCl + H₂O Systems and
Mass Generation and Growth of Model:
Solubilities and Solution
Enthalpy Pairwise self-association of
L-histidine in aqueous solutions of NaCl, KCl,
KBr and KSCN Phase Separation of the
1,4-Dioxane + Water Mixtures Studied
by Electrical Conductivity and Salt type,
solid solubility and thermal stability
effects of potassium fertilization and
chloride phenomenon of the
Methylamine-Peptide formation of
Potentially of Morphoalkoxide Some
Thermodynamic Properties at 238.15 K:
characterization of aqueous amino acid
Binary Mutual Diffusion Coefficients of
Aqueous Solutions of α-Cyclodextrin at
Temperatures in the range of 313.15 K:
K₂Sr(B₄O₅(OH)₄)₂·10H₂O:
Solubilities for Six Ternary Systems:
NaCl + NH₄Cl + H₂O, KCl + NH₄Cl +
H₂O, NaCl + KCl + H₂O, LiCl +
NH₄Cl + H₂O, NaCl + NH₄Cl +
LiCl + H₂O, and NaCl + NH₄Cl +
KCl + H₂O at High Temperatures and
High Pressure molten salts electrolyte system:
Salt Effect on the Liquid-Liquid
Equilibrium for the Water-Ethylene
Glycol-Water-Glycol Diacetate
System:
Solid-Liquid Equilibria in the Ternary
Systems NaCl SrCl₂ H₂O and KCl SrCl₂
H₂O at 300 K
Partial molar volume and partial molar
isotropic compressibility study of
glycerol dynamics properties and
partial molar volumes of glycerol in
mutual diffusion behavior of short
chain alcohols + n-octane mixtures:
Knudsen thermogravimetry approach
to the thermodynamics of aqueous
Solutions: Data in the System KCl +
K₂CrO₄ + H₂O:
Density and refractive index
measurements of critical mixture
Measurement and Correlation of
Surface Tension of Aqueous
Electrolyte Solutions MgCl₂(aq),
CaCl₂(aq), KI(aq), NaCl(aq), KCl(aq),
AuCl₃(aq), and (0.94 wt % NaCl + 0.06 wt %
KI)(aq) at Temperatures Between (283
and 472) K, Pressures up to 68.5 MPa,
and Molalities up to 6 mol% kg⁻¹ :

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Solubility of Sodium Oxalate in Concentrated Electrolyte Solutions: Dortmund Data Bank Vapor-Liquid Equilibrium Data: Solubilities of six lithium salts in five non-aqueous solvents and in a few of their binary mixtures:

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<https://www.doi.org/10.1016/j.fluid.2017.12.034>

Legend

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

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