potassium bromide

Inchi: InChI=1S/BrH.K/h1H;/q;+1/p-1
InchiKey: IOLCXVTUBQKXJR-UHFFFAOYSA-M
Formula: BrK
SMILES: [Br-].[K+]
Mol. weight [g/mol]: 119.00
CAS: 7758-02-3

Physical Properties

Property code	Value	Unit	Source
ea	0.64 ± 0.01	eV	NIST Webbook
ea	0.61	eV	NIST Webbook
ie	7.90 ± 0.10	eV	NIST Webbook
ie	7.85	eV	NIST Webbook
ie	7.90 ± 0.10	eV	NIST Webbook
ie	7.90 ± 0.10	eV	NIST Webbook
ie	8.82 ± 0.04	eV	NIST Webbook
ie	8.10	eV	NIST Webbook

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
econd	190.00	S/m	1131.00	Liquid + liquid equilibrium in mixtures of lithium fluoride with potassium and rubidium halides
econd	191.00	S/m	1136.00	Liquid + liquid equilibrium in mixtures of lithium fluoride with potassium and rubidium halides

econd	194.00	S/m	1151.00	Liquid + liquid equilibrium in mixtures of lithium fluoride with potassium and rubidium halides
econd	196.00	S/m	1169.00	Liquid + liquid equilibrium in mixtures of lithium fluoride with potassium and rubidium halides
econd	200.00	S/m	1190.00	Liquid + liquid equilibrium in mixtures of lithium fluoride with potassium and rubidium halides
econd	201.00	S/m	1198.00	Liquid + liquid equilibrium in mixtures of lithium fluoride with potassium and rubidium halides
econd	202.00	S/m	1210.00	Liquid + liquid equilibrium in mixtures of lithium fluoride with potassium and rubidium halides
econd	203.00	S/m	1221.00	Liquid + liquid equilibrium in mixtures of lithium fluoride with potassium and rubidium halides
econd	204.00	S/m	1229.00	Liquid + liquid equilibrium in mixtures of lithium fluoride with potassium and rubidium halides
econd	204.00	S/m	1233.00	Liquid + liquid equilibrium in mixtures of lithium fluoride with potassium and rubidium halides
econd	205.00	S/m	1237.00	Liquid + liquid equilibrium in mixtures of lithium fluoride with potassium and rubidium halides

econd	205.00	S/m	1245.00	Liquid + liquid equilibrium in mixtures of lithium fluoride with potassium and rubidium halides

Correlations

Information	Value
Property code	pvap
Equation	ln(Pvp) = A + B/(T + C)
Coeff. A	1.54973e+01
Coeff. B	-1.67888e+04
Coeff. C	-1.09920e+02
Temperature range (K), min.	1068.15
Temperature range (K), max.	1653.15

Sources

Solid-Liquid Phase Equilibria of Ternary System KBr-LiBr-H2O at 273 and 308 K:	https://www.doi.org/10.1021/acs.jced.9b00517
Solubility and Thermodynamics of Solute-Solvent Interactions of Some Amino Acids in Aqueous Sodium Bromide and Potassium Bromide Solutions:	https://www.doi.org/10.1021/acs.jced.7b00647
NIST Webbook:	http://webbook.nist.gov/cgi/cbook.cgi?ID=C7758023&Units=SI
Effect of NaBr, KCl, KBr, and MgCl2 on Viscosities of Aqueous Glycine and L-Alanine Solutions at 298.15 K:	https://www.doi.org/10.1021/je050048y
Solid-Liquid Equilibria in the Systems CaBr2 MgBr2 H2O and NaBr KBr SrBr2 at 348 K:	https://www.doi.org/10.1021/acs.jced.5b00112
Calorimetric Investigation of $PrBr_3$-MBr Liquid Mixtures (M = Na, K, Rb, Cs) :	https://www.doi.org/10.1021/je200419x
Isopiestic determination of the osmotic and activity coefficients of the {yKBr + (1-y)K2HPO4}(aq) system at T = 298.15 K:	https://www.doi.org/10.1016/j.jct.2013.03.003
Electrical Conductivity of Electrolytes Found In Natural Waters from (5 to 90) deg C:	https://www.doi.org/10.1021/je101012n
Buffers and Ionic Salts: Densities and Solubilities of Aqueous and Electrolyte Solutions of Tris(hydroxymethyl)aminomethane and N-[Tris(hydroxymethyl)]-4-amino-butanesulfonic Acid:	https://www.doi.org/10.1021/je900260g
Measuring and modeling aqueous electrolyte/amino-acid solutions with ePC-SAFT:	https://www.doi.org/10.1016/j.jct.2013.08.018
Volumetric properties of MES, MOPS, MOPSO, and MOBS in water and in aqueous electrolyte solutions:	https://www.doi.org/10.1016/j.tca.2010.04.004
Measurements and calculations of solid-liquid equilibria in the quaternary system KBr-CaBr2-MgBr2-H2O at (298 and 323) K:	https://www.doi.org/10.1016/j.fluid.2017.07.019
Measurements of (Solid + Liquid) Phase Equilibria in the Quaternary System NaBr + KBr + SrBr2 + H2O and Two Subsystems NaBr + SrBr2 + H2O and KBr + SrBr2 + H2O at T = 323 K:	https://www.doi.org/10.1021/acs.jced.7b00273
Oxoacidity scale of molten ionic chlorides and bromides:	https://www.doi.org/10.1016/j.fluid.2015.05.025
Thermal Conductivity of Binary Aqueous NaBr and KBr and Ternary H2O + NaBr + KBr Solutions at Temperatures from (294 to 577) K and Pressures up to 40 MPa:	https://www.doi.org/10.1021/je049814b
Conductometric Study of Some Metal Halides in Glycerol + Water Mixtures:	https://www.doi.org/10.1007/s10765-006-0096-4
Solid Liquid Equilibria in the Ternary Systems KBr CaBr2 H2O and NaBr CaBr2 H2O at 348 K:	https://www.doi.org/10.1021/je500681m
The Yaws Handbook of Vapor Pressure:	https://www.sciencedirect.com/book/9780128029992/the-yaws-handbook-of-vapor-pressure
Densities of aqueous solutions containing model compounds of amino acids and ionic salts at T = 298.15 K:	https://www.doi.org/10.1016/j.jct.2006.11.014

Study of Solution Properties of Some Alkali Bromides in Aqueous Binary Mixtures of 1,3-Dioxolane in View of Different Models:	https://www.doi.org/10.1021/je900709n
Ultrasound velocity in dissolving alkali halide melts:	https://www.doi.org/10.1016/j.jct.2010.10.021
Measurements of the Solid-Liquid Phase Equilibria in Quinary System NaBr-KBr-MgBr2-SrBr2-H2O at 323 K:	https://www.doi.org/10.1021/acs.jced.9b00225
Investigation of Surface Properties for Electrolyte Solutions: Measurement and Prediction of Surface Tension for Aqueous Concentrated Electrolyte Solutions:	https://www.doi.org/10.1021/acs.jced.7b00503
Vapor Pressures of Aqueous Soulutions with Mixed Salts of NaCl + KBr and NaBr + KCl:	https://www.doi.org/10.1021/je020144o
Liquid-liquid equilibrium in mixtures of lithium fluoride with potassium and rubidium halides:	https://www.doi.org/10.1016/j.jct.2012.02.015
Study of bromide salts solubility in the (m1KBr + m2CaBr2)(aq) system at T = 323.15 K. Thermodynamic model of solution behaviour and (solid + liquid) equilibria in the ternaries (m1KBr + m2CaBr2)(aq) and (m1MgBr2 + m2CaBr2)(aq) and in the quinary (Na + K + Mg + Ca + Br + H2O) systems to high concentration and temperature:	https://www.doi.org/10.1016/j.jct.2012.06.006
Study on solid-liquid phase equilibria in ionic liquid 2. The solubility of alkali bromide in ionic liquid 1-ethyl-3-methylimidazolium ethyl sulfate:	https://www.doi.org/10.1016/j.fluid.2007.03.008
Solid-Liquid Equilibria in the Quaternary Systems NaBr-KBr-MgBr2-H2O and KBr-MgBr2-SrBr2-H2O at 323 K:	https://www.doi.org/10.1021/acs.jced.6b00799
Temperature Dependence of Vapor Pressures over Saturated Aqueous Solutions at Invariant Points of the NaCl + KCl + H2O, NaCl + NaNO3 + H2O, KCl + KBr + H2O, KCl + KI + H2O, KCl + KNO3 + H2O, and KCl + K2SO4 + H2O Systems:	https://www.doi.org/10.1021/je800963g
Solubility of NaBr, NaCl, and KBr in Surfactant Aqueous Solutions:	https://www.doi.org/10.1021/je100905g
Phase equilibria in the ternary systems KBr-MgBr2-H2O and NaBr-MgBr2-H2O at 348.15 K:	https://www.doi.org/10.1016/j.fluid.2015.02.015
Densities, apparent and partial molar volumes of aqueous KBr solutions at high temperatures and high pressures:	https://www.doi.org/10.1016/j.fluid.2006.05.015
Determination of Activity Coefficients, Osmotic Coefficients, and Excess Gibbs Free Energies of KCl and KBr Aqueous Mixtures at 298.15 K:	https://www.doi.org/10.1021/acs.jced.7b00460
Temperature Dependence of the Density of Aqueous Alkali Halide Salt Solutions by Experiment and Molecular Simulation:	https://www.doi.org/10.1021/je500420g
Solubility of KBr in Binary Solvents Formed by Acetone and Water in the Temperature Range between (288.15 and 313.15) K:	https://www.doi.org/10.1021/je8003639
Interaction of biological buffers with electrolytes: Densities of aqueous solutions of two substituted aminosulfonic acids and ionic salts from T = (298.15 to 328.15) K:	https://www.doi.org/10.1016/j.jct.2008.12.011
Effect of Temperature and Concentration of KBr or KNO3 on the Volumetric and Transport Properties of Aqueous Solutions of Tripotassium Citrate:	https://www.doi.org/10.1021/je1012789
Density of Methanolic Alkali Halide Salt Solutions by Experiment and Molecular Simulation:	https://www.doi.org/10.1021/je5009944

Legend

ea:	Electron affinity
econd:	Electrical conductivity
ie:	Ionization energy
pvap:	Vapor pressure