potassium iodide

Inchi:	InChI=1S/HI.K/h1H;/q;+1/p-1
InchiKey:	NLKNQRATVPKPDG-UHFFFAOYSA-M
Formula:	IK
SMILES:	[I-].[K+]
Mol. weight [g/mol]:	166.00
CAS:	7681-11-0

Physical Properties

Property code	Value	Unit	Source
ea	0.73 ± 0.01	eV	NIST Webbook
ea	0.50 ± 0.10	eV	NIST Webbook
ie	7.50 ± 0.40	eV	NIST Webbook
ie	7.20 ± 0.10	eV	NIST Webbook
ie	7.20 ± 0.10	eV	NIST Webbook
ie	8.20 ± 0.30	eV	NIST Webbook
ie	7.40	eV	NIST Webbook

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
econd	158.00	S/m	1109.00	Liquid + liquid equilibrium in mixtures of lithium fluoride with potassium and rubidium halides
econd	160.00	S/m	1126.00	Liquid + liquid equilibrium in mixtures of lithium fluoride with potassium and rubidium halides

econd	161.00	S/m	1143.00	Liquid + liquid equilibrium in mixtures of lithium fluoride with potassium and rubidium halides
econd	163.00	S/m	1152.00	Liquid + liquid equilibrium in mixtures of lithium fluoride with potassium and rubidium halides
econd	164.00	S/m	1160.00	Liquid + liquid equilibrium in mixtures of lithium fluoride with potassium and rubidium halides
econd	165.00	S/m	1170.00	Liquid + liquid equilibrium in mixtures of lithium fluoride with potassium and rubidium halides
econd	165.00	S/m	1176.00	Liquid + liquid equilibrium in mixtures of lithium fluoride with potassium and rubidium halides
econd	166.00	S/m	1186.00	Liquid + liquid equilibrium in mixtures of lithium fluoride with potassium and rubidium halides
econd	166.00	S/m	1203.00	Liquid + liquid equilibrium in mixtures of lithium fluoride with potassium and rubidium halides
econd	167.00	S/m	1225.00	Liquid + liquid equilibrium in mixtures of lithium fluoride with potassium and rubidium halides
econd	167.00	S/m	1236.00	Liquid + liquid equilibrium in mixtures of lithium fluoride with potassium and rubidium halides

econd	168.00	S/m	1246.00	Liquid + liquid equilibrium in mixtures of lithium fluoride with potassium and rubidium halides
econd	167.00	S/m	1252.00	Liquid + liquid equilibrium in mixtures of lithium fluoride with potassium and rubidium halides
econd	167.00	S/m	1269.00	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	1.31255e+01
Coeff. B	-1.16356e+04
Coeff. C	-2.50250e+02
Temperature range (K), min.	1018.15
Temperature range (K), max.	1618.00

Sources

The Yaws Handbook of Vapor Pressure:	https://www.sciencedirect.com/book/9780128029992/the-yaws-handbook-of-vapor-pressure
Temperature Dependence of Vapor Pressures over Saturated Aqueous Solutions at Invariant Points of the Mixture at (298.15, 303.15, 308.15, and 313.15) K:	https://www.doi.org/10.1021/je800963g
Investigation of Surface Properties for Electrolyte Solutions: Measurement of Surface Tension of NaCl + H2O, KCl + H2O, H2O + NaCl + H2O, H2O + KCl + H2O, H2O + NaCl + KCl + H2O, and H2O + NaCl + Na2SO4 + H2O Systems:	https://www.doi.org/10.1021/acs.jced.7b00503
Apparent molar volumes and apparent molar heat capacities of aqueous Na2SO4 + H2O and Na2SO4 + EtOH + H2O mixtures at 25 °C:	https://www.doi.org/10.1016/j.jct.2007.05.008
Conductometric Study of Ethanol + Water Mixtures at Temperatures from 278.15 K to 333.15 K and at the Pressure 0.35 MPa:	https://www.doi.org/10.1007/s10765-006-0096-4
Solubility and Density of Potassium Iodide in Binary Ethanol-Water Solvent Mixtures at (298.15, 303.15, 308.15, and 313.15) K:	https://www.doi.org/10.1021/je800682p
Solvation of Basic and Neutral Amino Acids in Aqueous Electrolytic Solutions: Measurements and Modeling:	https://www.doi.org/10.1021/acs.jced.5b00393
Temperature Dependence of the Density of Aqueous Alkali Halide Salt Solutions by Experiment and Molecular Simulation:	https://www.doi.org/10.1021/je500420g
Ultrasound velocity in dissolving alkali halide melts:	https://www.doi.org/10.1016/j.jct.2010.10.021

Measuring and modeling aqueous electrolyte/amino-acid solutions with eNRTL-SAPT:	https://www.doi.org/10.1016/j.jct.2013.08.018
Density of Methanolic Alkali Halide Salt Solutions by Experiment and Molecular Simulation:	https://www.doi.org/10.1021/je5009944
Solubility and Density of Potassium Iodide in a Binary Propan-1-ol-Water Solvent Mixture at (298.15, 303.15, 308.15, and 313.15) K:	https://www.doi.org/10.1021/je9006426
Electrical Conductivity in Dimethyl Sulfoxide + Potassium Iodide Solutions at Different Concentrations and Temperatures:	https://www.doi.org/10.1021/je4010678
NIST/TRC Web Thermo Tables:	http://webbook.nist.gov/cgi/cbook.cgi?ID=C7681110&Units=SI
Dynamic Viscosities of KI or NH4I in Methanol and NH4I in Ethanol at Several Temperatures and 0.1 MPa:	https://www.doi.org/10.1021/je049808f
Conductometric study of some alkali metal halides in (dimethyl sulfoxide + acetonitrile) at T = 298.15 K:	https://www.doi.org/10.1016/j.jct.2009.03.005
Densities of Aqueous MgCl2(aq), CaCl2(aq), KI(aq), NaCl(aq), KCl(aq), RbCl(aq), and (0.90 NaCl + 0.10 KCl)(aq) at 1.5 Temperatures Between (293 and 412) K, Pressures up to 68.5 MPa, and Molalities up to 6 mol·kg-1:	https://www.doi.org/10.1021/je2013704
Density of ethanolic alkali halide salt solutions by experiment and molecular simulation:	https://www.doi.org/10.1016/j.fluid.2015.08.005
Liquid-liquid equilibrium in mixtures of lithium fluoride with potassium and rubidium halides:	https://www.doi.org/10.1016/j.jct.2012.02.015

Legend

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

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