potassium

Inchi: InChI=1S/K
InchiKey: ZLMJMSJWJFRBEC-UHFFFAOYSA-N
Formula: K
SMILES: [K]
Mol. weight [g/mol]: 39.10
CAS: 7440-09-7

Physical Properties

Property code	Value	Unit	Source
hf	89.00 ± 0.80	kJ/mol	NIST Webbook
ie	4.50 ± 1.00	eV	NIST Webbook
ie	4.34	eV	NIST Webbook
ie	4.10 ± 0.30	eV	NIST Webbook
ie	4.40	eV	NIST Webbook
ie	4.34 ± 0.00	eV	NIST Webbook
ie	4.34	eV	NIST Webbook
ie	4.34	eV	NIST Webbook
ie	4.34	eV	NIST Webbook
ie	4.34 ± 0.00	eV	NIST Webbook
nfpaf	%!d(float64=1)		KDB
nfpah	%!d(float64=3)		KDB
nfpas	%!d(float64=2)		KDB
sgb	160.34 ± 0.00	J/mol×K	NIST Webbook
ss	64.68 ± 0.20	J/mol×K	NIST Webbook
tb	1037.00 ± 1.00	K	NIST Webbook
tt	336.35 ± 0.10	K	NIST Webbook

Correlations

Information	Value
Property code	pvap
Equation	ln(Pvp) = A + B/(T + C)
Coeff. A	1.40440e+01
Coeff. B	-9.54174e+03

Coeff. C	-1.86800e+01
Temperature range (K), min.	336.35
Temperature range (K), max.	2223.00

Sources

Low-Temperature Heat Capacities and Standard Molar Enthalpy of Formation of Potassium Hydrogen Phthalate	https://www.doi.org/10.1021/je900759f
NIST Webbook:	http://webbook.nist.gov/cgi/cbook.cgi?ID=C7440097&Units=SI
C8H5KO4(s):	
A calorimetric and thermodynamic investigation of potassium uranyl tungstate K2[(UO2)(WO4)2]:	https://www.doi.org/10.1016/j.jct.2012.09.014
Low-Temperature Heat Capacities and Standard Molar Enthalpy of Formation of Potassium Benzoate C7H5O2K(s):	https://www.doi.org/10.1007/s10765-009-0568-4
Thermochemical properties of microporous materials for two borogermanates: beta-K2B2Ge3O10] and NH4B3Ge3O8F[	https://www.doi.org/10.1016/j.jct.2015.08.032
A calorimetric and thermodynamic investigation of A2[(UO2)2(MoO4)O2] compounds with A = Li and Rb and A2[(UO2)2(WO5)O] compounds with A = Rb and Cs and calculated phase relations in the K2WO4-UO3-H2O and K2MoO4-K2WO4-UO3-H2O systems:	https://www.doi.org/10.1016/j.jct.2015.06.028
Synthesis and energetics of Na, K, Rb and Cs salts by reaction with 1,2-ethanediol and 1,4-butanediol:	https://www.doi.org/10.1016/j.jct.2017.03.039
Strontium Tetraborate Decahydrated:	https://www.cheric.org/research/kdb/hcprop/showprop.php?cmpid=1956
Thermochemistry of Potassium Compounds. 1. Investigation of the System (K2MoO4 + UO3 + H2O):	https://www.sciencedirect.com/book/9780128029992/the-yaws-handbook-of-vapor-pressure
The Yaws Handbook of Vapor Pressure:	https://www.doi.org/10.1016/j.jct.2017.07.025
Synthesis and energetics of Na, K, Rb and Cs salts by reaction with 1,2-ethanediol and 1,4-butanediol:	https://www.doi.org/10.1016/j.tca.2007.08.004

Legend

hf:	Enthalpy of formation at standard conditions
ie:	Ionization energy
nfpaf:	NFPA Fire Rating
nfpah:	NFPA Health Rating
nfpas:	NFPA Safety Rating
pvap:	Vapor pressure
sgb:	Molar entropy at standard conditions (1 bar)
ss:	Solid phase molar entropy at standard conditions
tb:	Normal Boiling Point Temperature
tt:	Triple Point Temperature