zinc

Inchi: InChI=1S/Zn
InchiKey: HCHKCACWOHOZIP-UHFFFAOYSA-N
Formula: Zn
SMILES: [Zn]
Mol. weight [g/mol]: 65.38
CAS: 7440-66-6

Physical Properties

Property code	Value	Unit	Source
affp	608.60	kJ/mol	NIST Webbook
basg	586.00	kJ/mol	NIST Webbook
hf	130.40 ± 0.40	kJ/mol	NIST Webbook
ie	9.39	eV	NIST Webbook
ie	9.39	eV	NIST Webbook
ie	9.39	eV	NIST Webbook
ie	9.39 ± 0.00	eV	NIST Webbook
ie	9.57 ± 0.07	eV	NIST Webbook
ie	9.39	eV	NIST Webbook
ie	9.39	eV	NIST Webbook
sgb	160.99 ± 0.00	J/mol×K	NIST Webbook
ss	41.63 ± 0.15	J/mol×K	NIST Webbook
tf	965.74 ± 0.05	K	NIST Webbook
tf	692.65 ± 0.10	K	NIST Webbook
tf	692.83 ± 0.30	K	NIST Webbook

Correlations

Information	Value
Property code	pvap
Equation	ln(Pvp) = A + B/(T + C)
Coeff. A	1.54250e+01
Coeff. B	-1.20684e+04
Coeff. C	-6.97600e+01
Temperature range (K), min.	610.15

Temperature range (K), max.	1185.15

Sources

The Yaws Handbook of Vapor Pressure:	https://www.sciencedirect.com/book/9780128029992/the-yaws-handbook-of-vapor-pressure
KDB:	https://www.cheric.org/research/kdb/hcprop/showprop.php?cmpid=1968
Calorimetric method for determining the thermochemical energy storage capacities of redox metal oxides:	https://www.doi.org/10.1016/j.tca.2019.01.008
Calorimetric measurements of the Li Zn system. Direct reaction method and synthesis, characterization and standard molar enthalpies of formation of two ZnO borates: 2ZnO·2B2O3·3H2O and ZnB2O4:	https://www.doi.org/10.1016/j.jct.2016.03.017
Mixing enthalpy:	https://www.doi.org/10.1016/j.jct.2019.07.010
Thermophysical properties of the liquid Ga-Sn-Zn eutectic alloy:	https://www.doi.org/10.1016/j.fluid.2018.03.001
Vaporization in the Ga2O3-ZnO system by high temperature mass spectrometry:	https://www.doi.org/10.1016/j.jct.2017.07.009
Calorimetric measurements of liquid (Al + Li + Zn) alloys:	https://www.doi.org/10.1016/j.jct.2015.09.008
Enthalpies of Mixing of Liquid In-Sn and In-Sn-Zn Alloys:	https://www.doi.org/10.1016/j.tca.2010.02.008
A calorimetric and thermodynamic investigation of zinc and cadmium hydrous selenites:	https://www.doi.org/10.1016/j.jct.2017.07.020
Thermal conductivity and interfacial energy of solid Bi solution in the Bi-Al-Zn eutectic system:	https://www.doi.org/10.1016/j.fluid.2010.02.029
Thermal conductivities of solid and liquid phases in Pb Cd and Sn Zn binary eutectic alloys:	https://www.doi.org/10.1016/j.tca.2007.01.009
Thermodynamic properties of Ga-Zn system. Experiment vs model:	https://www.doi.org/10.1016/j.jct.2016.07.029
The physicochemical properties of liquid Ga-Zn alloys:	https://www.doi.org/10.1016/j.fluid.2017.03.025
The measurement of thermal conductivity variation with temperature for Sn-40 wt% In based lead-free ternary solders:	https://www.doi.org/10.1016/j.tca.2012.12.012
Thermophysical properties of Ga-Zn eutectic alloys with Sn additions:	https://www.doi.org/10.1016/j.fluid.2018.07.008
Vaporization thermodynamics of the ZnO-SnO2 system:	https://www.doi.org/10.1016/j.jct.2013.11.010
NIST Webbook:	http://webbook.nist.gov/cgi/cbook.cgi?ID=C7440666&Units=SI
Measurement of zinc activity in the ternary In Zn Sn alloys by EMFmethod:	https://www.doi.org/10.1016/j.tca.2013.06.039
Thermodynamic description of the Ga-Li-Zn system:	https://www.doi.org/10.1016/j.tca.2017.10.004
Variations of thermal conductivity with temperature and composition of Zn in the Bi[x] at.%-Zn2 at.%-Al alloys:	https://www.doi.org/10.1016/j.tca.2012.07.033
Mixing enthalpy of liquid Ga-Li-Zn alloys:	https://www.doi.org/10.1016/j.tca.2015.12.011

Legend

affp:	Proton affinity
basg:	Gas basicity
hf:	Enthalpy of formation at standard conditions
ie:	Ionization energy
pvap:	Vapor pressure
sgb:	Molar entropy at standard conditions (1 bar)
ss:	Solid phase molar entropy at standard conditions
tf:	Normal melting (fusion) point