chromium

Other names: chromium element
Inchi: InChI=1S/Cr
InchiKey: VYZAMTAEIAYCRO-UHFFFAOYSA-N
Formula: Cr
SMILES: [Cr]
Mol. weight [g/mol]: 52.00
CAS: 7440-47-3

Physical Properties

Property code	Value	Unit	Source
affp	791.30	kJ/mol	NIST Webbook
basg	768.40	kJ/mol	NIST Webbook
ea	0.68 ± 0.00	eV	NIST Webbook
ea	0.68 ± 0.00	eV	NIST Webbook
ea	0.67 ± 0.01	eV	NIST Webbook
ea	0.68 ± 0.05	eV	NIST Webbook
ie	6.77 ± 0.00	eV	NIST Webbook
ie	6.77	eV	NIST Webbook
ie	6.77 ± 0.00	eV	NIST Webbook
ie	7.00 ± 0.50	eV	NIST Webbook
ie	6.76	eV	NIST Webbook
ie	6.77	eV	NIST Webbook

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
hvapt	371.40	kJ/mol	298.00	Thermodynamic activity measurements in nickel-base industrial alloys and steels by Knudsen cell Mass spectrometry

Correlations

Information	Value
Property code	pvap
Equation	ln(Pvp) = A + B/(T + C)
Coeff. A	1.75272e+01
Coeff. B	-3.52478e+04
Coeff. C	-2.13640e+02
Temperature range (K), min.	1656.15
Temperature range (K), max.	2944.15

Sources

The Yaws Handbook of Vapor Pressure:	https://www.sciencedirect.com/book/9780128029992/the-yaws-handbook-of-vapor-pressure
Thermodynamic activity measurements in nickel-base industrial alloys and steels by Knudsen cell Mass Spectrometry	https://www.doi.org/10.1016/j.jct.2017.01.015
Low-temperature Heat Capacity and the Standard Molar Enthalpy of Formation of Compound Chromium(III) Tri(2-Pyrazinecarboxylate):	https://www.doi.org/10.1016/j.tca.2012.05.023
NIST Webbook	http://webbook.nist.gov/cgi/cbook.cgi?ID=C7440473&Units=SI

Legend

affp:	Proton affinity
basg:	Gas basicity
ea:	Electron affinity
hvapt:	Enthalpy of vaporization at a given temperature
ie:	Ionization energy
pvap:	Vapor pressure