

boron

Inchi:	InChI=1S/B
InchiKey:	ZOXJGFHDIHLPTG-UHFFFAOYSA-N
Formula:	B
SMILES:	[B]
Mol. weight [g/mol]:	10.81
CAS:	7440-42-8

Physical Properties

Property code	Value	Unit	Source
ea	0.28 ± 0.00	eV	NIST Webbook
ea	0.28 ± 0.01	eV	NIST Webbook
ea	0.50	eV	NIST Webbook
hf	565.00 ± 5.00	kJ/mol	NIST Webbook
ie	8.30	eV	NIST Webbook
ie	8.30	eV	NIST Webbook
ie	8.30 ± 0.00	eV	NIST Webbook
ie	8.00	eV	NIST Webbook
ie	8.30 ± 0.00	eV	NIST Webbook
ie	8.60 ± 0.40	eV	NIST Webbook
ie	8.30	eV	NIST Webbook
sgb	153.44 ± 0.01	J/mol×K	NIST Webbook
ss	5.90 ± 0.08	J/mol×K	NIST Webbook

Correlations

Information	Value
Property code	pvap
Equation	$\ln(P_{vp}) = A + B/(T + C)$
Coeff. A	1.97331e+01
Coeff. B	-6.03507e+04
Coeff. C	-8.28100e+01
Temperature range (K), min.	2348.15
Temperature range (K), max.	4072.15

Sources

Standard Molar Enthalpies of Formation for the Two Mixed Alkali Alkali Earth Metal Borates of $\text{LiBaB}_9\text{O}_{15}$ and $\text{NaBaB}_9\text{O}_{15}$: The Yaws Handbook of Vapor Pressure: Thermochemical properties of microporous materials for two boron borates, $\text{K}_2\text{B}_2\text{O}_7$ and $\text{K}_2\text{B}_4\text{O}_7$ and the calcium earth metal borate CaB_2O_4 synthesis with H_2O properties and standard molar enthalpies of formation of two borates, $2\text{CaB}_2\text{O}_4 \cdot 3\text{H}_2\text{O}$ and CaB_2O_4 Tetraborate Decahydrated:	https://www.doi.org/10.1016/j.tca.2013.04.009
	http://webbook.nist.gov/cgi/cbook.cgi?ID=C7440428&Units=SI
	https://www.sciencedirect.com/book/9780128029992/the-yaws-handbook-of-vapor-pressure
	https://www.doi.org/10.1016/j.jct.2015.08.032
	https://www.doi.org/10.1016/j.jct.2018.02.020
	https://www.doi.org/10.1016/j.jct.2019.07.010
	https://www.doi.org/10.1016/j.tca.2007.08.004

Legend

ea:	Electron affinity
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

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