

sodium

Other names:	NATRIUM
Inchi:	InChI=1S/Na
InchiKey:	KEAYESYHFKHZAL-UHFFFAOYSA-N
Formula:	Na
SMILES:	[Na]
Mol. weight [g/mol]:	22.99
CAS:	7440-23-5

Physical Properties

Property code	Value	Unit	Source
ea	0.55 ± 0.00	eV	NIST Webbook
hf	107.50 ± 0.70	kJ/mol	NIST Webbook
ie	5.14	eV	NIST Webbook
ie	5.14	eV	NIST Webbook
ie	5.14	eV	NIST Webbook
ie	5.14	eV	NIST Webbook
ie	5.14 ± 0.04	eV	NIST Webbook
ie	5.20	eV	NIST Webbook
ie	5.60 ± 0.30	eV	NIST Webbook
ie	5.60 ± 0.20	eV	NIST Webbook
ie	5.30 ± 0.20	eV	NIST Webbook
nfpaf	%!d(float64=1)		KDB
nfpah	%!d(float64=3)		KDB
sgb	153.72 ± 0.00	J/mol×K	NIST Webbook
ss	51.30 ± 0.20	J/mol×K	NIST Webbook
tb	1156.00 ± 1.00	K	NIST Webbook
tf	370.96 ± 0.01	K	NIST Webbook
tt	370.98 ± 0.03	K	NIST Webbook

Correlations

Information	Value
Property code	pvap
Equation	$\ln(P_{\text{vp}}) = A + B/(T + C)$

Coeff. A	1.48762e+01
Coeff. B	-1.16533e+04
Coeff. C	-1.88000e+01
Temperature range (K), min.	553.75
Temperature range (K), max.	1200.00

Sources

Low temperature heat capacities and standard molar enthalpy of formation
Theoretical approach (NIST):
mixed alkali-alkaline earth metal
Synthesis and properties Na, K, Rb
and Cs salts by reaction with
N₂O Webbook:
1,2-ethanediol and 1,4-butanediol:

- <https://www.doi.org/10.1016/j.tca.2008.12.029>
- <https://www.doi.org/10.1016/j.jct.2018.02.020>
- <https://www.doi.org/10.1016/j.jct.2017.07.025>
- <http://webbook.nist.gov/cgi/cbook.cgi?ID=C7440235&Units=SI>
- <https://www.sciencedirect.com/book/9780128029992/the-yaws-handbook-of-vapor-pressure>
- <https://www.doi.org/10.1016/j.jct.2018.01.016>
- <https://www.chemeo.org/research/kdb/hcprop/showprop.php?cmpid=1959>
- <https://www.doi.org/10.1016/j.tca.2013.04.009>
- <https://www.doi.org/10.1016/j.jct.2015.06.026>
- <https://www.doi.org/10.1016/j.jct.2012.11.034>

The Yaws Handbook of Vapor Pressure:
Thermodynamic study of

Cs₃Na(MoO₄)₂: Determination of the Standard enthalpy of formation and standard entropy at 298.15 K;
Standard Molar Enthalpies of Formation for the Two Mixed Alkaline-Earth Metal Oxides of Na₂PbO₄ Using Knudsen diffusion Mass spectrometry and high temperature behavior

alpha-Na₂NpO₄: Thermodynamic investigation of the enthalpy of formation:

Legend

ea:	Electron affinity
hf:	Enthalpy of formation at standard conditions
ie:	Ionization energy
nfpaf:	NFPA Fire Rating
nfpah:	NFPA Health 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
tf:	Normal melting (fusion) point
tt:	Triple Point Temperature

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