

titanium

Other names:	titanium element
Inchi:	InChI=1S/Ti
InchiKey:	RTAQQCXCXSZGOHL-UHFFFAOYSA-N
Formula:	Ti
SMILES:	[Ti]
Mol. weight [g/mol]:	47.87
CAS:	7440-32-6

Physical Properties

Property code	Value	Unit	Source
affp	876.00	kJ/mol	NIST Webbook
basg	853.70	kJ/mol	NIST Webbook
ea	0.08 ± 0.01	eV	NIST Webbook
ea	0.09 ± 0.01	eV	NIST Webbook
hf	473.00 ± 3.00	kJ/mol	NIST Webbook
ie	7.30 ± 0.60	eV	NIST Webbook
ie	6.01	eV	NIST Webbook
ie	6.80 ± 0.20	eV	NIST Webbook
ie	6.78 ± 0.02	eV	NIST Webbook
ie	6.70	eV	NIST Webbook
ie	6.80 ± 0.10	eV	NIST Webbook
ie	7.30 ± 0.60	eV	NIST Webbook
ie	6.82 ± 0.01	eV	NIST Webbook
ie	7.40 ± 0.50	eV	NIST Webbook
ie	6.60 ± 0.50	eV	NIST Webbook
ie	6.82	eV	NIST Webbook
ie	6.60 ± 0.20	eV	NIST Webbook
ie	6.82	eV	NIST Webbook
ie	6.83	eV	NIST Webbook
ie	6.83	eV	NIST Webbook
ie	6.83	eV	NIST Webbook
sgb	180.30 ± 0.01	J/mol×K	NIST Webbook
ss	30.72 ± 0.10	J/mol×K	NIST Webbook

tf	1941.15	K	Crystal-liquid interfacial free energy and thermophysical properties of pure liquid Ti using electrostatic levitation: Hypercooling limit, specific heat, total hemispherical emissivity, density, and interfacial free energy
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Correlations

Information	Value
Property code	pvap
Equation	$\ln(P_{vp}) = A + B/(T + C)$
Coeff. A	1.84832e+01
Coeff. B	-4.82368e+04
Coeff. C	-8.23900e+01
Temperature range (K), min.	1982.15
Temperature range (K), max.	3558.15

Datasets

Molar heat capacity at constant pressure, J/K/mol

Temperature, K - Liquid	Pressure, kPa - Liquid	Molar heat capacity at constant pressure, J/K/mol - Liquid
1943.00	101.33	44.90

Reference <https://www.doi.org/10.1016/j.jct.2018.12.002>

Sources

Crystal-liquid interfacial free energy and thermophysical properties of pure liquid Ti using electrostatic levitation: Hypercooling limit, specific heat, total hemispherical emissivity, density, and interfacial free energy:

<https://www.doi.org/10.1016/j.jct.2013.03.012>

<https://www.doi.org/10.1016/j.jct.2018.12.002>

<http://webbook.nist.gov/cgi/cbook.cgi?ID=C7440326&Units=SI>

Legend

affp:	Proton affinity
basg:	Gas basicity
cpl:	Liquid phase heat capacity
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
tf:	Normal melting (fusion) point

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