

thorium

Inchi: InChI=1S/Th
InchiKey: ZSLUVFAKFWKJRC-UHFFFAOYSA-N
Formula: Th
SMILES: [Th]
Mol. weight [g/mol]: 232.04
CAS: 7440-29-1

Physical Properties

Property code	Value	Unit	Source
hf	602.00 ± 6.00	kJ/mol	NIST Webbook
ie	6.95 ± 0.06	eV	NIST Webbook
ie	6.31 ± 0.00	eV	NIST Webbook
ie	6.31 ± 0.00	eV	NIST Webbook
ie	6.08	eV	NIST Webbook
ie	6.31 ± 0.00	eV	NIST Webbook
ie	6.00 ± 0.30	eV	NIST Webbook
ie	6.00 ± 0.30	eV	NIST Webbook
ie	6.11 ± 0.02	eV	NIST Webbook
ie	6.90 ± 0.50	eV	NIST Webbook
ie	6.90 ± 0.50	eV	NIST Webbook
ie	6.08 ± 0.12	eV	NIST Webbook
ie	6.00 ± 0.10	eV	NIST Webbook
ie	6.80	eV	NIST Webbook
ie	6.20 ± 0.20	eV	NIST Webbook
ie	7.00 ± 0.50	eV	NIST Webbook
ie	6.08 ± 0.12	eV	NIST Webbook
ie	5.90 ± 0.15	eV	NIST Webbook
ie	7.50 ± 0.30	eV	NIST Webbook
sgb	190.17 ± 0.05	J/mol×K	NIST Webbook
ss	51.80 ± 0.50	J/mol×K	NIST Webbook

Correlations

Information

Value

Property code	pvap
Equation	$\ln(P_{vp}) = A + B/(T + C)$
Coeff. A	1.66054e+01
Coeff. B	-5.93730e+04
Coeff. C	-1.08060e+02
Temperature range (K), min.	2633.15
Temperature range (K), max.	5061.15

Sources

Thermodynamic investigation of thorium and strontium substituted thorium dioxide solution:

<https://www.doi.org/10.1016/j.tca.2019.01.031>

NIST Webbook:

<http://webbook.nist.gov/cgi/cbook.cgi?ID=C7440291&Units=SI>

The Yaws Handbook of Vapor Pressure:

<https://www.sciencedirect.com/book/9780128029992/the-yaws-handbook-of-vapor-pressure>

Legend

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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