

# uranium

<b>Inchi:</b>	InChI=1S/U
<b>InchiKey:</b>	JFALSRSLKYAFGM-UHFFFAOYSA-N
<b>Formula:</b>	U
<b>SMILES:</b>	[U]
<b>Mol. weight [g/mol]:</b>	238.03
<b>CAS:</b>	7440-61-1

## Physical Properties

Property code	Value	Unit	Source
affp	995.20	kJ/mol	NIST Webbook
basg	973.20	kJ/mol	NIST Webbook
hf	533.00 ± 8.00	kJ/mol	NIST Webbook
ie	6.80 ± 1.50	eV	NIST Webbook
ie	6.09 ± 0.11	eV	NIST Webbook
ie	6.00 ± 0.50	eV	NIST Webbook
ie	6.00 ± 0.50	eV	NIST Webbook
ie	6.19 ± 0.00	eV	NIST Webbook
ie	6.19 ± 0.00	eV	NIST Webbook
ie	6.05 ± 0.07	eV	NIST Webbook
ie	6.10 ± 0.10	eV	NIST Webbook
ie	6.05 ± 0.07	eV	NIST Webbook
ie	6.30 ± 0.30	eV	NIST Webbook
ie	6.00 ± 0.30	eV	NIST Webbook
ie	6.20 ± 0.50	eV	NIST Webbook
ie	6.19 ± 0.06	eV	NIST Webbook
ie	6.10 ± 0.30	eV	NIST Webbook
ie	6.00 ± 0.50	eV	NIST Webbook
ie	6.19 ± 0.06	eV	NIST Webbook
ie	6.11 ± 0.05	eV	NIST Webbook
ie	6.08 ± 0.08	eV	NIST Webbook
ie	6.22 ± 0.02	eV	NIST Webbook
ie	6.19	eV	NIST Webbook
ie	6.19	eV	NIST Webbook
sgb	199.79 ± 0.10	J/mol×K	NIST Webbook
ss	50.20 ± 0.20	J/mol×K	NIST Webbook

# Correlations

Information	Value
Property code	pvap
Equation	$\ln(P_{vp}) = A + B/(T + C)$
Coeff. A	1.58761e+01
Coeff. B	-5.35877e+04
Coeff. C	3.26850e+02
Temperature range (K), min.	2325.15
Temperature range (K), max.	4402.15

## Sources

Thermodynamic investigation of Na<sub>2</sub>U<sub>2</sub>O<sub>7</sub> using Knudsen effusion mass spectrometry and thermodynamic investigation of A<sub>2</sub>(UO<sub>2</sub>)<sub>2</sub>(MoO<sub>4</sub>)O<sub>2</sub> compounds with A = La, Ce, Pr, and Nd. *Journal of Chemical Thermodynamics*, 2017, 103, 1-10. <https://www.doi.org/10.1016/j.jct.2015.06.026>

Thermodynamic investigation of A<sub>2</sub>(UO<sub>2</sub>)<sub>2</sub>(MoO<sub>4</sub>)O<sub>2</sub> compounds with A = La, Ce, Pr, and Nd. *Journal of Chemical Thermodynamics*, 2015, 87, 1-10. <https://www.doi.org/10.1016/j.jct.2015.06.028>

Thermodynamic investigation of A<sub>2</sub>(UO<sub>2</sub>)<sub>2</sub>(MoO<sub>4</sub>)O<sub>2</sub> compounds with A = La, Ce, Pr, and Nd. *Journal of Chemical Thermodynamics*, 2017, 103, 1-10. <https://www.doi.org/10.1016/j.jct.2017.03.039>

Handbook of Vapor Pressure. <http://webbook.nist.gov/cgi/cbook.cgi?ID=C7440611&Units=SI>

The Yaws Handbook of Vapor Pressure. <https://www.sciencedirect.com/book/9780128029992/the-yaws-handbook-of-vapor-pressure>

Thermodynamic investigation of potassium uranyl tungstate (K<sub>2</sub>WO<sub>4</sub>) and a DFT study of the thermodynamic properties and behavior of A<sub>2</sub>(UO<sub>2</sub>)<sub>2</sub>(MoO<sub>4</sub>)O<sub>2</sub> compounds with A = La, Ce, Pr, and Nd. *Journal of Chemical Thermodynamics*, 2012, 44, 1-10. <https://www.doi.org/10.1016/j.jct.2012.09.014>

Thermodynamic investigation of potassium uranyl tungstate (K<sub>2</sub>WO<sub>4</sub>) and a DFT study of the thermodynamic properties and behavior of A<sub>2</sub>(UO<sub>2</sub>)<sub>2</sub>(MoO<sub>4</sub>)O<sub>2</sub> compounds with A = La, Ce, Pr, and Nd. *Journal of Chemical Thermodynamics*, 2019, 125, 1-10. <https://www.doi.org/10.1016/j.jct.2019.07.015>

Thermodynamic investigation of potassium uranyl tungstate (K<sub>2</sub>WO<sub>4</sub>) and a DFT study of the thermodynamic properties and behavior of A<sub>2</sub>(UO<sub>2</sub>)<sub>2</sub>(MoO<sub>4</sub>)O<sub>2</sub> compounds with A = La, Ce, Pr, and Nd. *Journal of Chemical Thermodynamics*, 2014, 76, 1-10. <https://www.doi.org/10.1016/j.jct.2014.07.009>

Thermodynamic investigation of potassium uranyl tungstate (K<sub>2</sub>WO<sub>4</sub>) and a DFT study of the thermodynamic properties and behavior of A<sub>2</sub>(UO<sub>2</sub>)<sub>2</sub>(MoO<sub>4</sub>)O<sub>2</sub> compounds with A = La, Ce, Pr, and Nd. *Journal of Chemical Thermodynamics*, 2018, 110, 1-10. <https://www.doi.org/10.1016/j.jct.2018.10.014>

Thermodynamic investigation of potassium uranyl tungstate (K<sub>2</sub>WO<sub>4</sub>) and a DFT study of the thermodynamic properties and behavior of A<sub>2</sub>(UO<sub>2</sub>)<sub>2</sub>(MoO<sub>4</sub>)O<sub>2</sub> compounds with A = La, Ce, Pr, and Nd. *Journal of Chemical Thermodynamics*, 2019, 125, 1-10. <https://www.doi.org/10.1016/j.jct.2019.06.030>

Thermodynamic investigation of potassium uranyl tungstate (K<sub>2</sub>WO<sub>4</sub>) and a DFT study of the thermodynamic properties and behavior of A<sub>2</sub>(UO<sub>2</sub>)<sub>2</sub>(MoO<sub>4</sub>)O<sub>2</sub> compounds with A = La, Ce, Pr, and Nd. *Journal of Chemical Thermodynamics*, 2015, 87, 1-10. <https://www.doi.org/10.1016/j.jct.2015.09.023>

Thermodynamic investigation of potassium uranyl tungstate (K<sub>2</sub>WO<sub>4</sub>) and a DFT study of the thermodynamic properties and behavior of A<sub>2</sub>(UO<sub>2</sub>)<sub>2</sub>(MoO<sub>4</sub>)O<sub>2</sub> compounds with A = La, Ce, Pr, and Nd. *Journal of Chemical Thermodynamics*, 2019, 125, 1-10. <https://www.doi.org/10.1016/j.jct.2019.05.012>

Thermodynamic investigation of potassium uranyl tungstate (K<sub>2</sub>WO<sub>4</sub>) and a DFT study of the thermodynamic properties and behavior of A<sub>2</sub>(UO<sub>2</sub>)<sub>2</sub>(MoO<sub>4</sub>)O<sub>2</sub> compounds with A = La, Ce, Pr, and Nd. *Journal of Chemical Thermodynamics*, 2016, 103, 1-10. <https://www.doi.org/10.1016/j.tca.2016.05.012>

## Legend

- affp: Proton affinity
- basg: Gas basicity
- 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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