

## Antimony(V)

Reaction	Baes and Mesmer, 1976	Lothenbach et al., 1999; Kitamura et al., 2010
$\text{Sb(OH)}_5^0 + \text{H}_2\text{O} = \text{Sb(OH)}_6^- + \text{H}^+$	-2.72	-2.72
$12 \text{Sb(OH)}_5^0 + 4 \text{H}_2\text{O} = \text{Sb}_{12}(\text{OH})_{64}^{4-} + 4 \text{H}^+$	20.34	20.34
$12 \text{Sb(OH)}_5^0 + 5 \text{H}_2\text{O} = \text{Sb}_{12}(\text{OH})_{65}^{5-} + 5 \text{H}^+$	16.72	16.72
$12 \text{Sb(OH)}_5^0 + 6 \text{H}_2\text{O} = \text{Sb}_{12}(\text{OH})_{66}^{6-} + 6 \text{H}^+$	11.89	11.89
$12 \text{Sb(OH)}_5^0 + 7 \text{H}_2\text{O} = \text{Sb}_{12}(\text{OH})_{67}^{7-} + 7 \text{H}^+$	6.07	6.07

$0.5 \text{ Sb}_2\text{O}_5(\text{s}) + 2.5 \text{ H}_2\text{O} = \text{Sb}(\text{OH})_5$	-3.7	
$\text{Sb}_2\text{O}_5(\text{am}) + 5 \text{ H}_2\text{O} = 2 \text{ Sb}(\text{OH})_5$		-7.400

C.F. Baes and R.E. Mesmer, *The Hydrolysis of Cations*. Wiley, New York, 1976, p. 375.

A. Kitamura, K. Fujiwara, R. Doi, Y. Yoshida, M. Mihara, M. Terashima and M. Yui, *JAEA Thermodynamic Database for Performance Assessment of Geological Disposal of High-Level Radioactive and TRU-Wastes*. Report JAEA-Data/Code 2009-024, Japan Atomic Energy Agency (2010).

B. Lothenbach, M. Ochs, H. Wanner and M. Yui, *Thermodynamic Data for the Speciation and Solubility of Pd, Pb, Sn, Sb, Nb and Bi in Aqueous Solution*. Japan Nuclear Cycle Development Institute (JNC), TN8400 99-011 (1999).