Sofia Gama

21 November 2021

Samarium(III)

Reaction	Baes and Mesmer, 1976	NIST46	Brown and Ekberg, 2016
$Sm^{3+} + H_2O \rightleftharpoons Sm(OH)^{2+} + H^+$	–7.9	–7.9	–7.84 ± 0.11
$2\ Sm^{3+} + 2\ H_2O \rightleftharpoons Sm_2(OH)_2^{4+} + 2\ H^+$			–14.75 ± 0.20
$3\ Sm^{3+} + 5\ H_2O \rightleftharpoons Sm_3(OH)_5^{4+} + 5\ H^+$			–33.9 ± 0.3
$Sm(OH)_3(s) + 3H^+ \rightleftharpoons Sm^{3+} + 3H_2O$	16.5		17.19 ± 0.30
$Sm(OH)_3(s) \rightleftharpoons Sm^{3+} + 3\ OH^-$		–23.9 ± 0.9 (am) –25.9 (cr)	

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

P.L. Brown and C. Ekberg, Hydrolysis of Metal Ions. Wiley, 2016, pp. 135–145.

NIST46, NIST Critically Selected Stability Constants of Metal Complexes: Version 8.0. Available at: www.nist.gov/srd/nist46