

Samarium(III)

| Reaction | Baes and Mesmer, 1976 | NIST46 | Brown and Ekberg, 2016 |
|---|-----------------------|--------------------------------------|------------------------|
| $\text{Sm}^{3+} + \text{H}_2\text{O} \rightleftharpoons \text{Sm}(\text{OH})^{2+} + \text{H}^+$ | -7.9 | -7.9 | -7.84 ± 0.11 |
| $2 \text{Sm}^{3+} + 2 \text{H}_2\text{O} \rightleftharpoons \text{Sm}_2(\text{OH})_2^{4+} + 2 \text{H}^+$ | | | -14.75 ± 0.20 |
| $3 \text{Sm}^{3+} + 5 \text{H}_2\text{O} \rightleftharpoons \text{Sm}_3(\text{OH})_5^{4+} + 5 \text{H}^+$ | | | -33.9 ± 0.3 |
| $\text{Sm}(\text{OH})_3(\text{s}) + 3\text{H}^+ \rightleftharpoons \text{Sm}^{3+} + 3\text{H}_2\text{O}$ | 16.5 | | 17.19 ± 0.30 |
| $\text{Sm}(\text{OH})_3(\text{s}) \rightleftharpoons \text{Sm}^{3+} + 3 \text{OH}^-$ | | -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