

Equilibrium constants for hydrolysis and associated equilibria in critical compilations

Barium

Equilibrium reaction	lgK at infinite dilution and $T = 298 \text{ K}$		
	Baes and Mesmer, 1976	Nordstrom et al., 1990	Brown and Ekberg, 2016
$\text{Ba}^{2+} + \text{H}_2\text{O} \rightleftharpoons \text{BaOH}^+ + \text{H}^+$	-13.47	-13.47	-13.32 ± 0.07

C.C.F. Baes and R.E. Mesmer, *The Hydrolysis of Cations*. Wiley, New York, 1976, p. 103.

P.L. Brown and C. Ekberg, *Hydrolysis of Metal Ions*. Wiley, 2016, pp. 213–217.

D.K. Nordstrom, L.N. Plummer, D. Langmuir, E. Busenberg, H.M. May, B.F. Jones and D.L. Parkhurst, Revised chemical equilibrium data for major water-mineral reactions and their limitations. In: *Chemical Modeling of Aqueous Systems II*. D.C. Melchior and R.L. Bassett (eds.). ACS Symposium Series 416. ACS, Washington DC, 1990, pp. 398–446.

Distribution diagrams

These diagrams have been computed at two Ba concentrations (1 mM = 1×10^{-3} mol L⁻¹ and 1 μ M = 1×10^{-6} mol L⁻¹) with the 'best' equilibrium constant above (in green). Calculations assume $T = 298$ K for the limiting case of zero ionic strength (*i.e.*, even neglecting plotted ions).

