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Equilibrium constants for hydrolysis and associated equilibria in critical compilations

Boron

Equilibrium reactions	lg*K* at infinite dilution and *T* = 298 K	
	Baes and Mesmer, 1976	NIST46
$B(OH)_3 + H_2O \rightleftharpoons B(OH)_4^- + H^+$	–9.236	–9.236 ± 0.002
$2\ B(OH)_3 \rightleftharpoons B_2O(OH)_5^- + H^+$	–9.36	–9.306
$3\ B(OH)_3 \rightleftharpoons B_3O_3(OH)_4^- + H^+ + 2\ H_2O$	–7.03	–7.306
$4\ B(OH)_3 \rightleftharpoons B_4O_5(OH)_4^{2-} + 2\ H^+ + 3\ H_2O$	–16.3	–15.032

C.F. Baes and R.E. Mesmer, The Hydrolysis of Cations. Wiley, New York, 1976, pp 111.

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

Distribution diagrams

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