

Equilibrium constants for hydrolysis and associated equilibria in critical compilations

Silver

Equilibrium reactions	lgK at infinite dilution and $T = 298 \text{ K}$	
	Baes and Mesmer, 1976	Brown and Ekberg, 2016
$\text{Ag}^+ + \text{H}_2\text{O} \rightleftharpoons \text{AgOH} + \text{H}^+$	-12.0	-11.75 ± 0.14
$\text{Ag}^+ + 2 \text{H}_2\text{O} \rightleftharpoons \text{Ag}(\text{OH})_2^- + 2 \text{H}^+$	-24.0	-24.34 ± 0.14
$0.5 \text{Ag}_2\text{O}(\text{am}) + \text{H}^+ \rightleftharpoons \text{Ag}^+ + 0.5 \text{H}_2\text{O}$	6.29	6.27 ± 0.05

C.F. Baes and R.E. Mesmer, *The Hydrolysis of Cations*. Wiley, New York, 1976, p. 278.

P.L. Brown and C. Ekberg, *Hydrolysis of Metal Ions*. Wiley, 2016, pp. 725–730.

Distribution diagrams

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

