

Equilibrium constants for hydrolysis and associated equilibria in critical compilations

Rhodium

| Equilibrium reactions | lgK at infinite dilution and $T = 298 \text{ K}$ | | |
|--|--|--------------------------|---------------------------|
| | Perrin et al., 1969 | Baes and Mesmer, 1976 | Brown and Ekberg, 2016 |
| $\text{Rh}^{3+} + \text{H}_2\text{O} \rightleftharpoons \text{RhOH}^{2+} + \text{H}^+$ | -3.43 | -3.4 | -3.09 ± 0.1 |
| $\text{Rh}(\text{OH})_3(\text{c}) + \text{OH}^- \rightleftharpoons \text{Rh}(\text{OH})_4^-$ | | -3.9 | |

C.F. Baes and R.E. Mesmer, *The Hydrolysis of Cations*. Wiley, New York, 1976, p. 263.

P.L. Brown and C. Ekberg, *Hydrolysis of Metal Ions*. Wiley, 2016, pp. 722.

D.D. Perrin, *Dissociation Constants of Inorganic Acids and Bases in Aqueous Solutions*. International Union of Pure and Applied Chemistry. Commission on Electroanalytical Chemistry. Butterworths, 1969, pp. 195.

Distribution diagrams

These diagrams have been computed at two Rh 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 constant above (in green). Calculations assume $T = 298 \text{ K}$ for the limiting case of zero ionic strength (*i.e.*, even neglecting plotted ions).

