

Cadmium

Reaction	Baes and Mesmer, 1976	Powell et al., 2011	Brown and Ekberg, 2016
$\text{Cd}^{2+} + \text{H}_2\text{O} \rightleftharpoons \text{CdOH}^+ + \text{H}^+$	-10.08	-9.80 ± 0.10	-9.81 ± 0.10
$\text{Cd}^{2+} + 2 \text{H}_2\text{O} \rightleftharpoons \text{Cd}(\text{OH})_2 + 2 \text{H}^+$	-20.35	-20.19 ± 0.13	-20.6 ± 0.4
$\text{Cd}^{2+} + 3 \text{H}_2\text{O} \rightleftharpoons \text{Cd}(\text{OH})_3^- + 3 \text{H}^+$	<-33.3	-33.5 ± 0.5	-33.5 ± 0.5
$\text{Cd}^{2+} + 4 \text{H}_2\text{O} \rightleftharpoons \text{Cd}(\text{OH})_4^{2-} + 4 \text{H}^+$	-47.35	-47.28 ± 0.15	-47.25 ± 0.15
$2 \text{Cd}^{2+} + \text{H}_2\text{O} \rightleftharpoons \text{Cd}_2\text{OH}^{3+} + \text{H}^+$	-9.390	-8.73 ± 0.01	-8.74 ± 0.10
$4 \text{Cd}^{2+} + 4 \text{H}_2\text{O} \rightleftharpoons \text{Cd}_4(\text{OH})_4^{4+} + \text{H}^+$	-32.85		

$\text{Cd(OH)}_2(\text{s}) \rightleftharpoons \text{Cd}^{2+} + 2 \text{OH}^-$		-14.28 ± 0.12	
$\text{Cd(OH)}_2(\text{s}) + 2 \text{H}^+ \rightleftharpoons \text{Cd}^{2+} + 2 \text{H}_2\text{O}$	13.65	13.72 ± 0.12	13.71 ± 0.12

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. 730–738.

K. J. Powell, P. L. Brown, R. H. Byrne, T. Gajda, G. Hefter, A.-K. Leuz, S. Sjöberg, and H. Wanner, Chemical speciation of environmentally significant metals with inorganic ligands. Part 4: The $\text{Cd}^{2+} + \text{OH}^-$, Cl^- , CO_3^{2-} , SO_4^{2-} , and PO_4^{3-} systems (IUPAC Technical Report). *Pure Appl. Chem.*, 83, 1163–1214 (2011).