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## Equilibrium constants for hydrolysis and associated equilibria in critical compilations

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# Sodium

Equilibrium reaction	lgK at infinite dilution and $T = 298 \text{ K}$		
	Baes and Mesmer, 1976	Nordstrom et al., 1990	Brown and Ekberg, 2016
$\text{Na}^+ + \text{H}_2\text{O} \rightleftharpoons \text{NaOH} + \text{H}^+$	-14.18	-14.18	-14.4 ± 0.2

C.F. Baes and R.E. Mesmer, *The Hydrolysis of Cations*. Wiley, New York, 1976, p. 86.

P.L. Brown and C. Ekberg, *Hydrolysis of Metal Ions*. Wiley, 2016, pp. 142–147.

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 Na 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).

