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Titanium(IV)

Reaction	Feitknecht and Schindler, 1963	Baes and Mesmer, 1976	Brown and Ekberg, 2016
$\text{TiO}^{2+} + \text{H}_2\text{O} \rightleftharpoons \text{TiOOH}^+ + \text{H}^+$		≤ -2.3	-2.48 ± 0.10
$\text{TiO}^{2+} + 2 \text{H}_2\text{O} \rightleftharpoons \text{TiO}(\text{OH})_2 + 2 \text{H}^+$		-4.8 ± 0.3	-5.49 ± 0.14
$\text{TiO}^{2+} + 3 \text{H}_2\text{O} \rightleftharpoons \text{TiO}(\text{OH})_3^- + 3 \text{H}^+$			-17.4 ± 0.5
$\text{TiO}_2(\text{s}) + \text{H}^+ \rightleftharpoons \text{TiOOH}^+$			-6.06 ± 0.30
$\text{TiO}_2(\text{s}) + \text{H}_2\text{O} \rightleftharpoons \text{TiO}(\text{OH})_2$			-9.02 ± 0.02

$\text{TiO}(\text{OH})_2 + \text{H}_2\text{O} \rightleftharpoons \text{TiO}(\text{OH})_3^- + \text{H}^+$			-11.9 ± 0.5
$\text{TiO}_2 \times \text{H}_2\text{O} \rightleftharpoons \text{Ti}(\text{OH})_2^{2+}[\text{OH}^-]$	-29		
$\text{TiO}_2(\text{s}) + 4 \text{H}^+ \rightleftharpoons \text{Ti}^{4+} + 2 \text{H}_2\text{O}$			-3.56 ± 0.10

C.F. Baes and R.E. Mesmer, *The Hydrolysis of Cations*. Wiley, New York, 1976, pp. 147–151.

P.L. Brown and C. Ekberg, *Hydrolysis of Metal Ions*. Wiley, 2016, pp. 433–442.

W. Feitknecht and P. Schindler, Solubility constants of metal oxides, metal hydroxides and metal hydroxide salts in aqueous solution. *Pure and Applied Chemistry*, 6, 125–206 (1963).