

Tellurium(VI)

Tellurate structures in solution are best written as $\text{TeO}_2(\text{OH})_4^{2-}$, $\text{TeO}(\text{OH})_5^-$ and $\text{Te}(\text{OH})_6$. Other notations can be found in the literature.

| Reaction | Baes and Mesmer, 1976 | Filella and May, 2019 ^a |
|--|-----------------------|------------------------------------|
| $\text{TeO}_2(\text{OH})_4^{2-} + \text{H}^+ \rightleftharpoons \text{TeO}(\text{OH})_5^-$ | | 10.83 |
| $\text{TeO}(\text{OH})_5^- + \text{H}^+ \rightleftharpoons \text{Te}(\text{OH})_6$ | 7.68 | 7.696 |
| $\text{TeO}_2(\text{OH})_4^{2-} + 2 \text{H}^+ \rightleftharpoons \text{Te}(\text{OH})_6$ | 18.68 | |
| $\text{TeO}_3(\text{OH})_3^{3-} + 3 \text{H}^+ \rightleftharpoons \text{Te}(\text{OH})_6$ | 34.3 | |
| $2 \text{Te}(\text{OH})_6 \rightleftharpoons \text{Te}_2\text{O}(\text{OH})_{11}^- + \text{H}^+$ | | -6.929 |

^aThe number of significant figures are retained to minimise propagation of round-off errors; they should not be taken to indicate the relative uncertainty of the values, which is always at least one order of magnitude less than indicated.

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

M. Filella and P.M. May, The aqueous chemistry of tellurium: critically-selected equilibrium constants for the low-molecular-weight inorganic species. *Environ. Chem.* 16, 289–295 (2019). doi:10.1071/EN19017