

pH calculations

strong acids complete dissociation



What is the pH of a 0.040 M solution of HClO_4 ?



$$[\text{H}^+] = [\text{ClO}_4^-] = 0.040 \text{ M} \quad \text{pH} = -\log [\text{H}^+]$$

$$\text{pH} = 1.40$$

$$[\text{H}^+] \text{ from } \text{H}_2\text{O} = 1.0 \times 10^{-7} \text{ M}$$

ignore autoionization if $[\text{HA}] > 10^{-7} \text{ M}$