

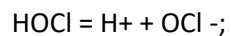
Answer on Question #83589 - Chemistry - General Chemistry

Question:

Determine the concentration of HOCl with $K_a=3.5 \times 10^{-8}$, has the same pH as that of 2.5×10^{-4} M HNO₃

Solution:

$$[H^+] = 2.5 \times 10^{-4} \text{ M};$$



$$K_a = [H^+][\text{OCl}^-]/[\text{HOCl}];$$

$$[H^+] = [\text{OCl}^-] = 2.5 \times 10^{-4} \text{ M};$$

$$C(\text{HOCl}) = [H^+][\text{OCl}^-]/K_a = (2.5 \times 10^{-4})^2 / (3.5 \times 10^{-8}) = 1.79 \text{ M}.$$

Answer: 1.79 M.

Answer provided by www.AssignmentExpert.com