

Answer on Question #70767 – Chemistry – Other

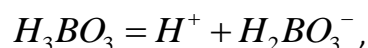
Task:

What is the hydrogen ion concentration of 0.1 N boric acid.

- A) 1.15×10^{-12} ;
- B) 3.7×10^{-8} ;
- C) 4.82×10^{-4} ;
- D) 6.3×10^{-6} .

Solution:

The dissociation of boric acid in the first stage proceeds according to the reaction:



For which the dissociation constant $K_{d1} = 5.8 \times 10^{-10}$.

$$K_{d1} = \frac{[H_2BO_3^-] * [H^+]}{[H_3BO_3]} = 5.8 \times 10^{-10} .$$

The second and third stages of dissociation of boric acid are neglected.

$$[H^+] = \sqrt{K_{d1} * C_m} = 6.3 \times 10^{-6} .$$

Answer: D) 6.3×10^{-6} mol/dm³.

Answer provided by <https://www.AssignmentExpert.com>