

Answer on Question#45029 – Chemistry – Inorganic Chemistry

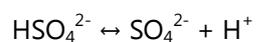
Question:

What is the approximate pH of a 0.005 M solution of H₂SO₄?

- A) 1
- B) 2
- C) 5
- D) 9
- E) 13

Answer:

Sulfuric acid is ionized in water solution according to the following equations:



The second reaction is reversible and for approximate calculations can be neglected. The concentration of H⁺ is the same as H₂SO₄ 0.005 M.

$$\text{pH} = -\log(\text{H}^+) = -\log(0.005) = 2.3 \approx 2$$

Option B) is correct.