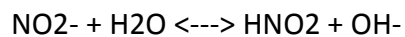


### Answer on Question #62804, Chemistry / General Chemistry

Calc the PH and POH of a solution that's .39M in HNO<sub>2</sub> and .14M in Ca(NO<sub>2</sub>)<sub>2</sub>.K<sub>i</sub> for HNO<sub>2</sub>=5.1x10<sup>-4</sup>

**Solution:**

$$0.39 + 2(0.14) = 0.67 \text{ M}$$



$$K = K_w/K_a = 1.96 \times 10^{-11}$$

$$[\text{OH}^-] = \sqrt{(K_w/K_a) [\text{NO}_2^-]} = \sqrt{1.96 \times 10^{-11} \times 0.67} = 3.62 \times 10^{-6}$$

$$[\text{OH}^-] = 3.62 \times 10^{-6} \text{ M}$$

$$\text{pOH} = -\log[\text{OH}^-]$$

$$\text{pOH} = 5.44$$

$$\text{pH} + \text{pOH} = 14$$

$$\text{pH} = 8.56$$

**Answer: pOH = 5.44; pH = 8.56**

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