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Question: The Ka for HCN is 6.2×10^{-10} . If there is a solution of 2.00 M ...

The K_a for HCN is 6.2×10^{-10} . If there is a solution of 2.00 M HCN, what concentration of NaCN is needed in order for the pH to be 9.2?

Expert Answer ⓘ



Anonymous answered this
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Henderson-Hasselbalch Eqn :-

$$\text{pH} = \text{p}K_a + \log \frac{[\text{NaCN}]}{[\text{HCN}]}$$

$$9.2 = -\log(6.2 \times 10^{-10}) + \log \frac{[\text{NaCN}]}{[2.00]}$$

$$9.2 = 9.20 + \log \frac{[\text{NaCN}]}{2}$$

$$0 = \log \frac{[\text{NaCN}]}{2}$$

$$\text{Antilog}(0) = \frac{[\text{NaCN}]}{2}$$

$$1 \times 2 = [\text{NaCN}]$$

$$\Rightarrow [\text{NaCN}] = 2.00 \text{ M}$$

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of liquid mercury is 59.11 kJ/mol. What quantity of energy as heat is required to vaporize a 60 mL of mercury

[See answer](#)

dissolving 0.02 moles of acetic acid (HOAc; $pK_a = 4.76$) in water to give 1 liter of solution. To this solution was

[See answer](#)

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Q: You need to produce a buffer solution that has a pH of 5.50. You already have a solution that contains 10 mmol (millimoles) of acetic acid. How many millimoles of acetate (the conjugate base of acetic acid) will you need to add to this solution? The pK_a of acetic acid is 4.74.

A: [See step-by-step answer](#) 97% (60 ratings)

Q: A solution of acetic acid ($pK_a=4.75$) has a pH of 6.75. What will be the ratio of acid to conjugate base?

A: [See answer](#)

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