

9. HCN has an initial molarity of 0.50 M, with a K_a value of 3.7×10^{-8} . Calculate its pH at equilibrium. (Hint: This is an ICE problem.)

10. Ethylamine ($C_2H_5NH_2$) is a weak Bronsted-Lowry base. If it has an initial molarity of 0.024 M and a K_b of 5.6×10^{-4} , calculate its pH at equilibrium. (Hint: This is an ICE Problem.)

11. A chemist adds 0.75 moles of NH_3 to enough water to make 0.50 liters of solution. K_b of ammonia is 1.8×10^{-5} . Determine the pH of this solution at equilibrium. (Hint: This is an ICE problem.)

12. Hydrazine, N_2H_4 , has been used as a rocket fuel. Like ammonia, it is a Bronsted base. A 0.15 M solution has a pH of 10.70. What is the K_b for hydrazine?