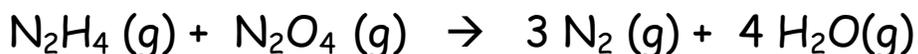


D36 POD

1. The boiling points of the elements helium, neon, argon, krypton, xenon increase in that order. Which of the following statements accounts for this increase?

- A) The London (dispersion) forces increase
- B) The hydrogen bonding increases.
- C) The dipole-dipole forces increases
- D) the chemical reactivity increases.
- E) the number of nearest neighbors increases.



2. When 8.0 g of N_2H_4 (32g/mol) and 92 g of N_2O_4 (92g/mol) are mixed together and react according to the equation above, what is the maximum mass of H_2O that can be produced?

- A) 9.0 g B) 18g C) 36g D) 72g E) 144g

3. A 2.0 L container will hold about 4g of which of the following gases at 0°C and 1atm?

- A) SO_2 B) N_2 C) CO_2 D) C_4H_8 E) NH_3

4. If 200.mL of 0.60M MgCl_2 is added to 400.mL of distilled water, what is the concentration of $\text{Mg}^{2+}(\text{aq})$ in the resulting solution?

(volumes add)

- A) 0.20M B) 0.30M C) 0.40M D) 0.60M
E) 1.2M

5. A solution of sodium iodide is added to a solution of lead (II) acetate. What is the balanced NIE

Think Pair Share III for Unit 5

1. What is the pH of a 1.00 M $\text{HC}_2\text{H}_3\text{O}_2$ solution if its $K_a = 1.8 \times 10^{-5}$?
2. What is the pH of a 0.200 M NH_3 solution if its $K_b = 1.8 \times 10^{-5}$?
3. What is the K_b value of $\text{C}_2\text{H}_3\text{O}_2^{1-}$?
4. What is the K_a value of NH_4^{1+} ?
5. If the $[\text{H}^+] = 1.4 \times 10^{-4}$, what is the $[\text{OH}^-]$? What are the pH and pOH?
6. What is a $\text{p}K_b$? How does it relate to the strength of the weak base.
7. List 4 weak bases that are not amines or hydroxides.

Practice with K_a and K_b ICE and polyprotic as well as salts

1. What is the nature of the following salts and if it is not neutral write the B/L dissociation equation for the part that is acidic or basic?
a. NaCN b. $\text{CH}_3\text{NH}_3\text{Br}$ c. KClO_3 d. CaI_2 e. $(\text{NH}_4)_2\text{SO}_4$
2. What is the pH of a 3.00 M H_3PO_4 solution if its $K_{a1} = 7.1 \times 10^{-3}$ and its $K_{a2} = 6.3 \times 10^{-8}$ and its $K_{a3} = 4.3 \times 10^{-13}$?
3. What is the pH of a 2.00 M solution of NaCN if the K_a of HCN = 6.2×10^{-10} ?