

Session 18

Warm-Up: Gaseous dinitrogen monoxide and liquid water is produced by mixing ammonium and liquid nitrate. What mass of nitrate is needed to actually produce 94g of dinitrogen monoxide if the reaction has a 46.3% yield?

Question 1: Write the formula for the following compounds and determine if they are strong or weak acid/bases.

- Nitric Acid
- Ammonia
- Carbonic Acid
- Barium Hydroxide
- Sulfuric Acid
- Oxalic acid
- Sodium Hydroxide
- Cesium Hydroxide

Question 2: Write the molecular equation, complete ionic equation, and net ionic equation for the following neutralization reaction.

- a) Hydroiodic acid and strontium hydroxide

b) Hydrofluoric acid and sodium hydroxide

Question 3: If hydrobromic acid and potassium hydroxide interact, determine the salt that forms and the spectator ions that are in the equation.

Question 4: Calculate the pH for an aqueous solution that has a barium hydroxide concentration of $2.00 \times 10^{-2} \text{ M}$. The temperature is at a constant 25°C .

Question 5: A 6.523 g sample of barium hydroxide is dissolved in 281 mL of water. What is the resulting pH of the solution at a constant 25°C.

Cool Down: You need to prepare a 0.564 M solution of chloride ions with a volume of 320.0 mL. What mass (in g) of calcium chloride will you need to prepare a solution like this?