

SOLUTIONS

CLASSIC

Reactions in Solutions

Date:

- Complete and balance the following equations about acids and bases.
 - $\text{NaOH} + \text{HCl} \Rightarrow$
 - $\text{Al} + \text{H}_2\text{SO}_4 \Rightarrow$
 - $\text{H}_2\text{SO}_4 + \text{NaOH} \Rightarrow$
 - $\text{Ba}(\text{OH})_2 + \text{HCl} \Rightarrow$
 - $\text{HCl} + \text{CaCO}_3 \Rightarrow$
 - $\text{CH}_3\text{COOH} + \text{KOH} \Rightarrow$
 - $\text{Zn} + \text{HCl} \Rightarrow$
 - $\text{Ca} + \text{HNO}_3 (\text{conc.}) \Rightarrow$
 - $\text{HNO}_3 + \text{H}_2\text{O} \Rightarrow$
- If 16.8 liters of H_2 gas is produced from the reactions of 30 g solid Ca with 500 ml HNO_3 solution, at STP. What must be the minimum molarity of HNO_3 solution? ($\text{Ca}=40$ g/mol)
- How many grams of NaOH is used to neutralize 200 ml 0.3 M HCl solution? ($\text{NaOH} = 40$ g/mol)
- How many milliliters of 0.4 M H_2SO_4 solution is used to neutralize 400 ml 0.2 M NaOH solution?
- If 2 L 0.5 M H_2SO_4 solution and 3 L 0.5 M NaOH solution are mixed, what will be the molarity of H^+ ion in the solution after the neutralization takes place?
- Equal volumes of $\text{Ba}(\text{OH})_2$ and HCl solutions which have the same concentration, are mixed. After the neutralization takes place, if the molarity of OH^- ions is 0.2 M, what is the molarity of HCl solution used?
- 0.2 L 0.1 M NaOH solution and "x" L 0.5 M HCl solution are mixed. After the neutralization reaction, if the molarity of H^+ ions is 0.1 M, what is the value of "x"?
- If 200 ml 0.5 M NaOH solution reacts with enough amount of metal aluminum, how many liters of H_2 gas is produced at STP?
- If 40 g of solid CaCO_3 is added into 200 mL 1 M HCl solution, what is the volume of the gas CO_2 produced by the reaction, in liters at STP? ($\text{CaCO}_3=100$ g/mol)