HW 25

Classes of chemical compounds - 3

A. Reactions where acids and bases react with each other are called <u>reactions of neutralization</u>. In these reactions a salt and water are formed. E.g. below is a neutralization reaction between hydrochloric acid (HCl – acid) and sodium hydroxide (NaOH – base) with formation of salt (sodium chloride, NaCl) and water:

 $HCI + NaOH \rightarrow NaCI + H_2O$

 $H_2SO_4 + 2NaOH \rightarrow Na_2SO_4 + 2H_2O$

B. When acidic oxides react with water, they form acids. E.g.:

 $SO_3 + H_2O \rightarrow H_2SO_4$

C. When basic oxides react with water, they form bases. E.g.:

$$CaO + H_2O \rightarrow Ca(OH)_2$$

1. Write neutralization reactions between acids and bases that result in the following salts: Al₂(SO₄)₃, NiCO₃, Fe(NO₃)₃, Mg(PO₄)₂, PbS, Li₂SO₄

2. How many kg of P_2O_5 is necessary to obtain 98 kg of phosphoric acid H_3PO_4 ?