Concentration of Ions in Solution

1. Calculate the ion concentrations in a 0.090 mol/L solution of Na_3PO_4.

2. Calculate the ion concentrations in a 0.0143 mol/L solution of $NaHCO_3$.

3. Calculate the ion concentrations in a 2.50 mol/L solution of calcium hydroxide.

4. Calculate the ion concentrations in a solution prepared by dissolving 800 g of zinc chloride in 4.50 L of water.

5. Calculate the ion concentrations in a solution prepared by dissolving 7.50 mg of aluminum sulphate in 1.00 L of water.

6. Calculate the concentration of dissolved Na_2CO_3 necessary to give a 0.500 mol/L $CO_3^{2-}{}_{(aq)}$ concentration.

7. Calculate the concentration of dissolved $(NH_4)_2SO_4$ necessary to give a 1.20 mol/L $NH_4^+{}_{(aq)}$ concentration.

8. Calculate the concentration of dissolved $K_2Cr_2O_7$ necessary to give a 0.600 mol/L $Cr_2O_7^{2-}{}_{(aq)}$ concentration.

9. What mass of iron (III) chloride is required to prepare 2.000 L of 0.120 mol/L $Cl^-{}_{(aq)}$ solution?