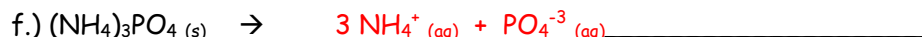


Solutions Part 1

Name - _____

1.) Write an equation for the dissociation of each of the following in water.



2.) Which of the above solutions are electrical conductors?

Answer - All ionic compounds that dissociate into ions are good conductors.3.) If 1.00 L of a 1.00 M solution of AgNO_3 was mixed, then;

1: 1 ratio for each ion in dissociation.

a.) $[\text{Ag}^+] = 1.00 \text{ M}$

b.) $[\text{NO}_3^-] = 1.00 \text{ M}$

4.) If 500. mL of a 1.00 M solution of BaCl_2 was mixed, then;

a.) How many moles of Ba^{+2} are present? $0.500 \text{ L} \times \frac{1.00 \text{ mol BaCl}_2}{1 \text{ L BaCl}_2} \times \frac{1 \text{ mol Ba}^{+2}}{1 \text{ mol BaCl}_2} = 0.500 \text{ mol Ba}^{+2}$

b.) $[\text{Ba}^{+2}] = \frac{0.500 \text{ mol BaCl}_2}{0.500 \text{ L BaCl}_2} \times \frac{1 \text{ mol Ba}^{+2}}{1 \text{ mol BaCl}_2} = 1.00 \text{ M Ba}^{+2}$

c.) How many moles of Cl^- are present? $0.500 \text{ L} \times \frac{1.00 \text{ mol BaCl}_2}{1 \text{ L BaCl}_2} \times \frac{2 \text{ mol Cl}^-}{1 \text{ mol BaCl}_2} = 1.00 \text{ mol Cl}^-$

d.) $[\text{Cl}^-] = \frac{0.500 \text{ mol BaCl}_2}{0.500 \text{ L BaCl}_2} \times \frac{2 \text{ mol Cl}^-}{1 \text{ mol BaCl}_2} = 2.00 \text{ M Cl}^-$

5.) If 500. mL of 1.00 M NaCl was added to the solution in question 4, then;

a.) $[Ba^{+2}] =$

First - Perform dilution calculations to find the new concentration of each solution after mixing.

$$[NaCl]_{dil} = \frac{(1.00)(0.500)}{(1.00)} \quad [NaCl]_{dil} = 0.500 M$$

$$[BaCl_2]_{dil} = \frac{(1.00)(0.500)}{(1.00)} \quad [BaCl_2]_{dil} = 0.500 M$$

Second - Below each dissociation equation indicate the ion's concentration



$$[Ba^{+2}] = 0.500 M$$

b.) $[Cl^-] = 0.500 + 1.00 = 1.500 M$