

# CHEMISTRY 3A --- WORKSHEET 16

## CHAPTER 15

1. Identify the solvent in each of the following solutions.
  - a. Air
  - b. 12 M hydrochloric acid, prepared by bubbling HCl (g) into water.
  - c. A solution containing 315 g of AgNO<sub>3</sub> and 200 mL of water.
  
2. State whether the following compounds would be more soluble in water or cyclohexane.
  - a. AlCl<sub>3</sub>
  - b. SiH<sub>4</sub>
  - c. S=Si=O
  
3. For each of the following situations, state whether entropy increases, decreases, or remains unchanged, and whether energy is released, absorbed, or remains unchanged.
  - a. A chemical reaction occurs spontaneously and becomes colder.
  - b. A lump of clay is shaped into a vase.
  - c. A flask of helium gas and a flask of neon gas are connected and the gases are allowed to mix.

4. A solution is prepared by dissolving 25.0 g of sodium bicarbonate in 300.0 mL of water, producing 310.0 mL of solution.
- Calculate the percent (by weight) of sodium bicarbonate in the solution.
  - Calculate the molarity of the solution.
5. How many grams of sodium chloride would be required to prepare 3.5 L of a 0.25 M NaCl solution?