

Chemistry 12  
Tutorial 8 - SOLUTIONS  
Solubility and Solubility Equilibrium

## *Self-Test on Tutorial 8*

### Check answers on page 1 of Tutorial 8 - Solutions

1. Define the *solubility* of a substance (use the word *equilibrium* in your definition.)

***Solubility is the equilibrium concentration of a substance in a solution at a given temperature.***

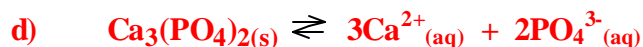
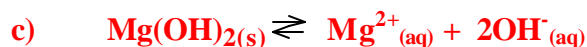
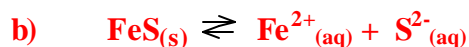
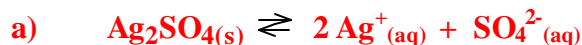
2. What two conditions are necessary to have a *saturated solution* of a substance?

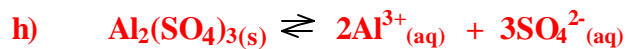
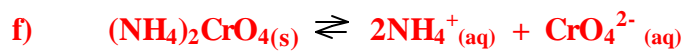
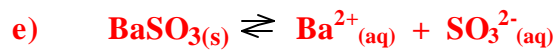
- 1. All of the solute that can be dissolved at a particular temperature is dissolved.**
- 2. There is undissolved solid present.**  
**Rate of dissolving = Rate of precipitation. Solubility equilibrium exists.**

3. When a substance is first mixed with water, the *rate of dissolving* is **fast** and the *rate of precipitation* (or crystallization) is **slow**.

As time goes on, the rate of *precipitation* gets **faster** and the rate of *dissolving* gets **slower**. When the *rate of dissolving* = *the rate of precipitation*, **solubility equilibrium** has been reached.

4. Give the *Net-Ionic Equation* which represents a *saturated solution* of each of the following ionic substances in water: (Hint: These are just like dissociation equations but they have a double arrow, indicating equilibrium.)





*The End of Tutorial 8—Solutions*