

## Help! I'm Melting, wait...I'm dissolving! Notes (Ch. 4)

### VI. Heated Reactions

#### A. Type of redox reaction.

1. When one reactant is being \_\_\_\_\_ (and oxygen is not mentioned), it usually into "common products".
  - a. ammonium carbonate
  - b. potassium chlorate
  - c. sodium bicarbonate
2. When two elements are \_\_\_\_\_, they usually
  - a. lithium and nitrogen gas
  - b. magnesium and nitrogen gas

### VII. Molarity

A. Most common concentration unit in chemistry is molarity

B. Molarity =  $\frac{\text{moles of solute}}{\text{liter of solution}}$  or  $\frac{\text{millimole}}{\text{milliliter}}$

C. Examples:

1. How many moles of HCl are in 2.0L of a 0.500M solution?
2. How many moles of each ion is there in a 0.50L of a 0.080M solution of potassium sulfate?
3. How many moles of nitric acid are there in 75mL of a 6.0M nitric acid solution?

NOTE: millimoles (mmol) can be used in calculations.

### VIII. Dilutions

A. Used to make dilute solutions from concentrated solutions.

B. Equation:

1. Titration equation is similar:
2. More on this next semester

C. Be careful!  $V =$

D. Examples:

A. Prepare 500.mL of a 1.0M HCl solution from concentrated 12M HCl solution.

B. If you have 50.0mL of a 6.0M concentrated sulfuric acid solution, how much 2.0M dilute acid solution can you make?