**Chem 105 Ch2 Quiz 3 Spring 09**

Name: \_\_\_\_\_\_\_\_­­\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Score \_\_\_\_\_\_\_/40 2/22/2008

**Multiple Choice**

*Identify the letter of the choice that best completes the statement or answers the question.*

\_\_\_\_ 1. Identify the ions in (NH4)2Cr2O7.

|  |  |
| --- | --- |
| a. | N3-, H+, Cr3+ and O2- |
| b. | N3-, H-, Cr3+ and O2- |
| **c.** | **NH4+ and Cr2O72-** |
| d. | NH3 and H2Cr2O7 |
| e. | NH4+, Cr3+ and O2- |

\_\_\_\_ 2. Sodium sulfate has the chemical formula Na2SO4. Based on this information, the formula for chromium(III) sulfate is \_\_\_\_.

|  |  |
| --- | --- |
| a. | Cr3(SO4)2 |
| **b.** | **Cr2(SO4)3** |
| c. | Cr(SO4)2 |
| d. | Cr2SO4 |
| e. | CrSO4 |

\_\_\_\_ 3. What is the correct formula for vanadium(V) sulfide?

|  |  |
| --- | --- |
| **a.** | **V2S5** |
| b. | V5S |
| c. | VS5 |
| d. | V10S5 |
| e. | V5S2 |

\_\_\_\_ 4. How many grams are in 0.50 mol iron(II) sulfide?

|  |  |
| --- | --- |
| a. | 0.057 g |
| b. | 8.2 g |
| c. | 18 g |
| **d.** | **44.0 g** |
| e. | 1.8  102 g |

\_\_\_\_ 5. What is the mass percent of each element in dichloromethane, CH2Cl2?

|  |  |
| --- | --- |
| a. | 10.06% C, 60.24% H, 29.70% Cl |
| b. | 20.00% C, 20.00% H, 60.00% Cl |
| c. | 24.10% C, 3.11% H, 72.79% Cl |
| d. | 33.87% C, 0.22% H, 65.91% Cl |
| **e.** | **14.14% C, 2.37% H, 83.48% Cl** |

\_\_\_\_ 6. If 1.00 g of an unknown molecular compound contains 4.55  1021 molecules, what is its molar mass?

|  |  |
| --- | --- |
| a. | 44.0 g/mol |
| b. | 66.4 g/mol |
| c. | 72.1 g/mol |
| d. | 98.1 g/mol |
| **e.** | **132 g/mol** |

1. Solutions of iron (III) chloride and potassium hydroxide give iron (III) hydroxide and potassium chloride when combined. Write the molecular equation.

**FeCl3 (aq) + 3 KOH (aq) → Fe(OH)3 (aq) + 3 KCl (aq)**

1. What is the name of this compound N2O4 ?

**Dinitrogen tetraoxide**

1. What is the fomula for disulfur decafluoride?

**S2F10**

1. There are 0.00255 mol of Ni(NO3)2 ⋅ 6 H2O. (formula mass 290.71 g/mol)
   1. What is the mass of Ni(NO3)2 ⋅ 6 H2O?

0.00255 mol Ni(NO3)2 ⋅ 6 H2Ox( 290.71g/1 mol) = 0.741305 g

* 1. How many moles of O2 do you have?

0.00255 mol Ni(NO3)2 ⋅ 6 H2O 

* 1. What is the mass % of oxygen?

 = 66.045%

