

Name: _____

Chem 10, Section: _____

Prelab Assignment: The Composition of Potassium Chlorate

1. In Part A of this lab, you will analyze a sample of potassium chlorate to determine the mass percent of oxygen present in it. To perform the analysis, you will decompose the potassium chlorate by heating it. Write the word equation and the balanced formula equation for this decomposition reaction.

Word Equation: _____

Formula Equation: _____

2. The potassium chlorate sample will be heated in a specialized "container".
- a. What is this container called? _____
- b. Will this container be covered or uncovered while heating? _____
3. You will have to heat your sample of potassium chlorate at least twice.
- a. How long must the sample be heated the first time (total)? _____
- b. How long must the sample be heated the second time? _____
4. A residue of potassium chloride will be left in the "container" after the heating is completed. Do you expect it weigh more than, less than or the same as the original potassium chlorate sample? Why?

5. In Part A you will be performing several mass measurements. What are two precautions you must observe when using the electronic balance?

6. In Part B of this lab, you will analyze the residue in left the "container" in order to experimentally verify its identity. To do this, you will need three test tubes. Potassium chlorate is added to tube #1, potassium chloride to tube #2, and the residue to tube #3. These solids are all dissolved in distilled water.

a. What two chemicals will then be added to each of these substances to test them?

b. What will you observe if you obtain a positive test for chloride ions?