

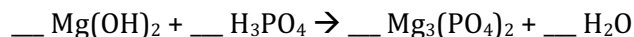
**Percent Purity**

Name:

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1. Consider the reaction of magnesium hydroxide with phosphoric acid:



Calculate the mass of  $\text{Mg(OH)}_2$  needed to make 127 g of  $\text{Mg}_3(\text{PO}_4)_2$ . Assume the  $\text{Mg(OH)}_2$  is 88.5% pure.

2. Consider the reaction:



- a. A 30.0 g sample of  $\text{KO}_2$  is 59.3% pure. What mass of  $\text{K}_2\text{CO}_3$  can the sample produce?
- b. Another sample of  $\text{KO}_2$  with a mass of 150.0 g is reacted so as to produce 89.7 g of  $\text{K}_2\text{CO}_3$ . What is the percentage purity of  $\text{KO}_2$ ?

3. If 72.1 g of  $\text{FeO}$  produces 12.9 g of pure  $\text{Fe}$  according to the reaction:



What is the percentage purity of the  $\text{FeO}$  used?

# Chemistry 11

## Percent Yield

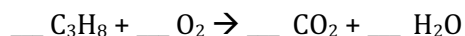
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4. Potassium chlorate decomposes to form potassium chloride and oxygen gas.
- What is the balanced reaction?
  
  
  
  
  
  
  
  
  
  
  - When 5.95 g of potassium chlorate decomposes, 1.45 g of oxygen gas is given off. Calculate the percentage yield of oxygen.
5. When 50.0 g of iron metal is reacted with copper (II) sulfate, 43.0 g of copper metal is recovered.
- What is the balanced reaction?
  
  
  
  
  
  
  
  
  
  
  - Determine the percentage yield of copper.

6. Consider the following reaction:



32.0 g of oxygen reacts with 19.0 g of C<sub>3</sub>H<sub>8</sub>. The experiment gives 2.00 g H<sub>2</sub>O. What is the % yield?