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A Colorful Decomposition of a Carbonate Worksheet

Copper(II) carbonate [Cu₂CO₃(OH)₂(s)] undergoes decomposition in this reaction.

1. What are some observations that indicate a chemical reaction has taken place?

2. What are the bubbles being produced?

3. Why is the indicator solution changing color? The indicator is a blue color in a basic solution and yellow in an acidic solution.

4. If the final solid product is CuO(s), write the balanced equation for this reaction. *Note:* See Questions 2 and 3 for additional products.

5. If 5.0 g of copper(II) carbonate, Cu₂(CO₃)(OH)₂, are reacted, how many moles of copper(II) oxide, CuO, are produced? (Assume a 100% yield.)

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