

Elements and Compounds

Purpose: In this experiment, you will investigate the differences between elements, compounds, and mixtures.

Procedure: (Note: Record all relevant information and observations in your notebook/tablet.)

1. Obtain approximately 1.5 g of sulfur powder and 2.5 g of iron powder. Observe the properties of each, including the effect of a magnet on the substances.
2. Mix the substances together on a piece of weighing paper. Observe.
3. Place the mixture in a small test tube (check first to make sure that there are not cracks in the tube), and heat the tube over a hot Bunsen burner flame. When any changes appear complete, place the (hot!) test tube in a beaker of cold water. The test tube should crack. Let the test tube and contents cool, and remove the resulting substance. Observe.
4. Carefully dispose of the broken glass and contents as instructed by your teacher.

Data Analysis:

1. What type of substances (element, compound, homogeneous mixture, heterogeneous mixture) were the iron and sulfur prior to mixing? Explain your reasoning.
2. What type of substance(s) was/were the iron and sulfur after they were combined, but prior to heating? Explain your reasoning.
3. What type of substance did the iron and sulfur form after being heated? Explain your reasoning.

Conclusion: Was the purpose of this experiment achieved? What evidence do you have to support your answer?