

REGULAR DEMO 2a: Elements, mixture & compound

Aim To investigate some differences between elements, mixtures and compounds

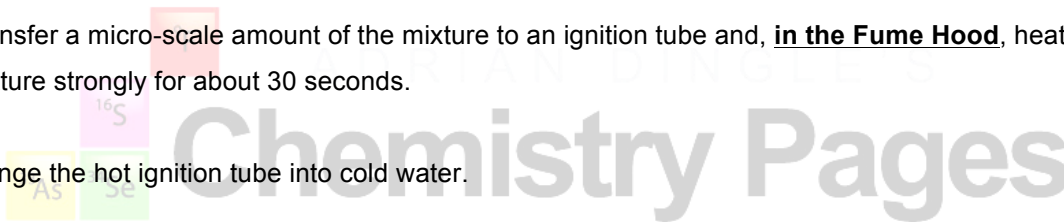
Apparatus Spatula, ignition tube, Bunsen burner, ignition tube holder, beaker

Chemicals Powdered sulfur, iron filings, water

Method

THIS IS A DEMONSTRATION ON A MICROSCALE, NOT A STUDENT LAB

1. Observe the iron filings carefully. Make a brief but detailed description of their appearance.
2. Observe the sulfur carefully. Make a brief but detailed description of its appearance.
3. Thoroughly mix one spatula full of each element on a piece of paper and again make a detailed description of the appearance of the mixture.
4. Transfer a micro-scale amount of the mixture to an ignition tube and, **in the Fume Hood**, heat the mixture strongly for about 30 seconds.
5. Plunge the hot ignition tube into cold water.
6. Observe the solid formed in the water and make a description of it.



Results

SUBSTANCE	DESCRIPTION OF APPEARANCE
IRON FILINGS (Fe)	
SULFUR (S)	
MIXTURE (Fe + S)	
COMPOUND (FeS)	

Conclusion/Calculation

1. What type of mixture was formed? Explain your answer.
2. Suggest a simple method of separating the components of the mixture.
3. Consider the following particulate representation. Complete the empty boxes that represent a mixture and a compound.

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IRON	SULFUR	MIXTURE	COMPOUND

4. What type of change occurs when the elements are heated? Explain your answer.

5. Complete the table below.

	Mixtures	Compounds
Ease of separation		Difficult, often practically impossible
Composition	Variable	
Look and behavior	Often look and behave like an average of the components	
Energy changes when formed?		Energy changes often accompany their formation