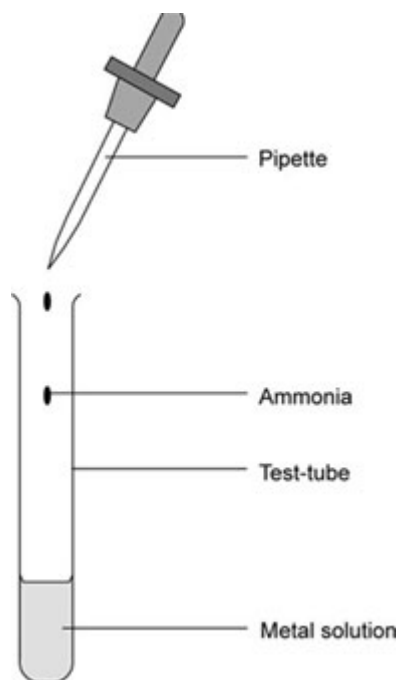


Student worksheet: Properties of the transition metals and their compounds

Introduction

The Periodic Table allows chemists to see similarities and trends in the properties of chemical elements. This experiment illustrates some properties of the common transition elements and their compounds.



What to record

What was observed. A table may be useful.

What to do

1. Test the metal samples for hardness and ability to bend without breaking. Complicated apparatus is not needed for this! Record your answers qualitatively.
2. Find out which samples are magnetic.
3. Set up an experiment to see if the metals react with water. (This may need to be left for some time).
4. Take a small sample of a solution of copper(II) sulfate (approximately 2 cm³), add ammonia solution to it a few drops at a time. Record your observations. Add ammonia solution until there is no further change.
5. Repeat with the other solutions of transition metal compounds.

Safety

Wear eye protection.



The transition compounds may be harmful or irritant.

Ammonia vapour irritates eyes, lungs and the respiratory system.

Questions

1. Describe the physical properties of transition metals.
2. How do transition metals react with water?
3. What properties do the compounds of transition metals have in common?

Credits

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