

Properties of alkali metal compounds – student sheet

Procedure

You are going to look at the properties of some of the compounds of the alkali metals. Different groups will look at different compounds, and you will need to look at their results as well as your own.

Carry out the following procedure on each compound you are given.

SAFETY: Wear eye protection

a Risk assessment. Note the name of the compound you are using. Find out whether any special precautions are necessary when handling it. Your teacher will tell you which source of reference information to use. Check with your teacher before proceeding.

b Note the **colour** of the compound.

c Water test. Shake a small amount of the compound (a few crystals) with about 2 cm depth of purified water in a test-tube. Note whether the solid dissolves and whether the test-tube gets warm.

d Finding the pH. Use a glass rod to put a drop of the solution on to a small piece of Universal Indicator paper.

Compare the colour of the Indicator with a colour chart to find the pH.

e Flame colour test. Take a wooden spill pre-soaked in distilled water and place it in the solution in the test tube. Allow some of the solution to soak into the spill, then hold the spill in the side of a roaring Bunsen flame.

Make a record of the flame colour.

f Look up the **formula** of the compound.

g Record all the results from your group in a table. See the next page for sample headings.

h Analysing results: Answer the questions on the next page.

Properties of alkali metal compounds: table headings

Name of compound

Hazards

Colour pH

Test for solubility: Observation

Flame test: Colour

Formula

Questions

- 1 What can you say about the colours of the compounds of alkali metals?
- 2 What can you say about the solubility of compounds of the alkali metals?
- 3 Which alkali metal compounds have a pH well above 7?
- 4 Flame colours depend only on the alkali metal in the compound. Make a list of the colours produced by each metal in the group.

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