

CHEMISTRY CORE PRACTICALS

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Science (9-1)

Combined Science / Chemistry Core Practicals



Topic 2 Investigation : Composition of inks (Distillation)

Investigate the composition of inks using simple distillation.

Method:

A Set up your apparatus as shown in the diagram.

B Adjust the Bunsen burner so that you have a gentle blue flame.

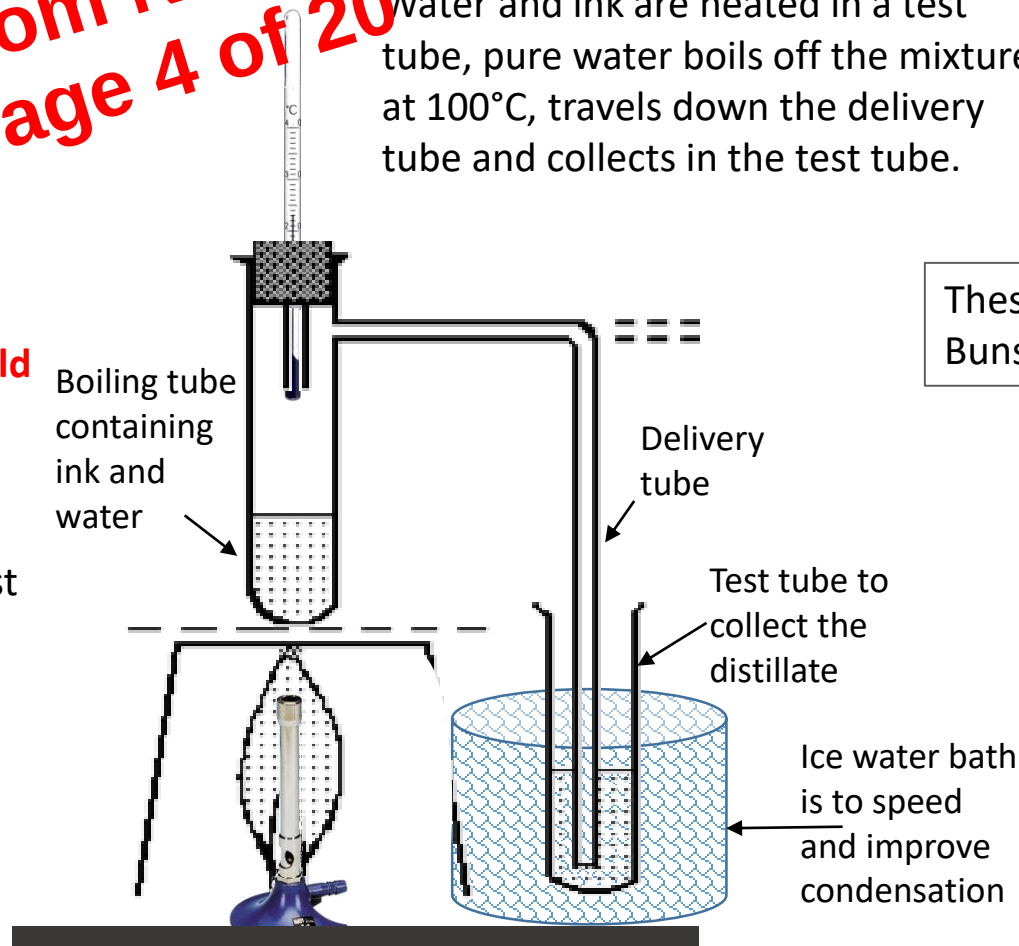
The air hole should be about half open and the gas tap should be about half on.

C Heat the ink until it boils.

D Collect the distillate in the test tube and note the temperature of the vapour.

Simple distillation:

Water and ink are heated in a test tube, pure water boils off the mixture at 100°C , travels down the delivery tube and collects in the test tube.



Safety

Eye protection should be worn at all times.

Anti-bumping granules should be used to reduce the risk of the liquid boiling over.

These investigations cover the use of a Bunsen burner and safe handling of liquids

1) Did you purify the water successfully? Explain your answer.
(see full answer at the back)

2) Explain what happened when the ink was distilled.

In your explanation, use the following words: boil, condenser, evaporate, liquid, steam, temperature, vapour.
(see full answer at the back)

Topic 7 Investigation : Rates of Reaction (Gas)

Investigate the effects of changing the conditions of a reaction on the rates of chemical reactions by:

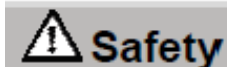
- Measuring the production of gas (in the reaction between hydrochloric acid and marble chips)
- Observing a colour change (in the reaction between sodium thiosulfate and hydrochloric acid)

Task 1

- Set up the apparatus as shown in the diagram.
- Measure 40 cm^3 of 1.0 mol dm^{-3} hydrochloric acid into a conical flask.
- Add 5 g of small marble chips to the flask.
- Immediately stopper the flask and start the stop clock.
- Note the total volume of gas produced after every 30 seconds for five minutes or until the reaction has finished.
- Repeat steps **A–E** using 5 g of larger marble chips.

Task 2

- Follow steps **A–D** above.
- Note the amount of carbon dioxide produced in one minute.
- Repeat steps **G** and **H** using 0.8 , 0.6 , 0.4 and 0.2 mol dm^{-3} acid.



Safety

Wear eye protection at all times.

Care is needed with acid solutions. Wash off splashes immediately.

