

Practical 1 – Chapter 4

Reactions of period 3 chlorides

The aim of this practical is to investigate the reactions of some period 3 chlorides with water.

You will be supplied with samples of sodium chloride (NaCl), magnesium chloride (MgCl_2), aluminium chloride (AlCl_3), silicon chloride (SiCl_4), phosphorus(III) chloride (PCl_3) and phosphorus(V) chloride (PCl_5).

Safety

- Great care must be exercised when working with aluminium chloride, silicon chloride and the phosphorus chlorides as they are corrosive when they come into contact with skin and have vapours which should not be breathed in.
- All reactions must be carried out in the fume cupboard.
- You should wear gloves, laboratory coats/aprons and eye protection.

What to do

- 1 Add a small quantity of each chloride to about 3 cm^3 of water in a test tube (**Care!**). With the solids you can add approximately half a spatula full and with the liquids you can add approximately 0.5 cm^3 using a teat pipette.
- 2 Test any gases given off using moist universal indicator paper.
- 3 Test the pH of the final solution using universal indicator.