

Preparation of calcium nitrate

Teacher and technician sheet

Equipment and materials

Each student or pair of students will require:

- Weighing bottle (or small beaker)
- Evaporating basin
- 250 cm³ beaker
- Bunsen burner, tripod and gauze
- 25 cm³ measuring cylinder
- Filter funnel and filter paper
- Hot water bath
- Watch glass
- Thermometer (10 – 110 °C)
- Stirring rod
- Sample bottle
- Spatula
- 1 mol dm⁻³ nitric acid, 25 cm³
- Calcium carbonate, 2.5 g

The hot water can be simply a beaker of water kept at about 60 °C. The evaporating basin needs to be large enough to sit comfortably on the top of the beaker.

Make sure that students wear eye goggles. 1 mol dm⁻³ nitric acid is corrosive.

Further suggestions

Students could

- test the effectiveness of their product as a fertiliser;
- investigate and explain the reaction between ammonium nitrate solution and calcium hydroxide;
- find out about other uses of calcium nitrate.