

Preparation of ammonium sulfate

Teacher and technician sheet

Equipment and materials

Each student or pair of students will require:

- Evaporating basin
- Bunsen burner, tripod and gauze
- 50 cm³ measuring cylinder
- Filter funnel and filter paper
- Conical flask (to collect filtrate)
- Watch glass
- Glass rod
- 1 mol dm⁻³ sulfuric acid, 20 cm³
- 2 mol dm⁻³ ammonia solution, 25 cm³
- Full range indicator paper

Make sure that students wear eye goggles. 1 mol dm⁻³ sulfuric acid is corrosive. 2 mol dm⁻³ ammonia solution is an irritant to lungs and the respiratory system and can cause eye damage. Work in a well-ventilated lab

Further suggestions

Students could

- test the effectiveness of their product as a fertiliser;
- calculate the theoretical yield of ammonium sulfate;
- calculate the percentage yield of ammonium sulfate;
- discuss the industrial process (reaction of anhydrous ammonia with sulfuric acid) and think about the difficulties that need to be overcome compared with the laboratory method they used;
- find out about other uses of ammonium sulfate.