

The preparations and properties of oxygen – teacher notes

Introduction

Students produce oxygen by heating potassium manganate(VII).

Equipment

Apparatus

- Eye protection
- Test tube holder
- Ceramic wool
- Test tube
- Spatula
- Bunsen burner
- Splints
- Heat-proof mat

Chemicals

- Potassium manganate (VII)

Health, safety and technical notes

- Read our standard health and safety guidance here <https://rsc.li/3VUICyd>
- Always wear eye protection.
- When KMnO_4 is heated, tiny particles shoot out. (These are trapped by the ceramic wool.)
- Potassium manganate is an oxidiser and harmful, see CLEAPSS Hazcard [HC081](#).

Notes

As an extension, students could add half a spatula measure of manganese(IV) oxide ([HC060](#)) to 20 cm³ (20 volume) hydrogen peroxide ([HC050](#)) solution at room temperature and test for oxygen.

Answers

1. KMnO_4