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/3VUlCyd
- Always wear eye protection.
- When KMnO₄ 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. KMnO₄