



# Halogen Displacement Practical

## Teacher and Technician Notes

### Safety Information

It is the responsibility of the teacher to carry out an appropriate risk assessment.

When preparing the solutions, you should follow the correct risk assessment guidance for the chemicals used.

Use the most dilute solution possible which still achieves the desired result. The distinctive colours of the solutions should still be visible.

Students should wear eye protection throughout the practical.

Chlorine and bromine gases readily dissolve out of the solutions. These gases are toxic and may cause breathing difficulties, particularly with people who have pre-existing breathing conditions. The onset of symptoms may be delayed. Each group should be supplied with 5cm<sup>3</sup> of the solutions in stoppered test tubes to reduce the escape of the gases. The practical should be performed in a well-ventilated room.

Small spills can be mopped up using paper towels. If anyone is affected by the fumes, move them to fresh air and seek medical advice.

After the experiments, solutions should be disposed of in a fume cupboard.

### Equipment Per Group

eye protection

pipettes ×6

white spotting tile

chlorine water (5cm<sup>3</sup> of 0.1% in stoppered test tube)

bromine water (5cm<sup>3</sup> of 0.1% in stoppered test tube)

iodine solution (5cm<sup>3</sup> of 0.1M in stoppered test tube)

potassium chloride (0.1M)

potassium bromide (0.1M)

potassium iodide (0.1M)

### Notes

Sodium salts can be used if potassium salts are not available.

In mixtures where there is no reaction, students may observe the colour lighten. This can be attributed to the dilution of the colour.



## Disclaimer

We hope you find the information on our website and resources useful. This resource refers to the use of chemicals. The use of chemicals is potentially hazardous. It is your responsibility to assess whether it is safe to use chemicals in your classroom. You are responsible for ensuring the safe storage, usage, labelling and disposal of chemicals in accordance with COSHH regulations (or equivalent in the country in which you are teaching). We are not responsible for the health and safety of your group or environment and so, insofar as it is possible under the law, we cannot accept liability for any loss suffered by anyone due to the use, storage or disposal of chemicals or any other activity carried out as a result, whether directly or indirectly, of this resource. If you are unsure in any way, we recommend that you take guidance from a suitably qualified professional.

