



# Halogen Displacement Practical

## Equipment

eye protection

pipettes ×6

white spotting tile

chlorine water (in a stoppered test tube)

bromine water (in a stoppered test tube)

iodine solution (in a stoppered test tube)

potassium chloride

potassium bromide

potassium iodide

## Risk Assessment

Hazard	Harm It Can Do	How You Will Minimise the Risk
halogen solutions and potassium salts	All of the solutions can cause eye irritation.	You should wear eye protection at all times.
chlorine gas diffusing from chlorine water	Chlorine is a toxic gas which may cause breathing difficulties, particularly if you have pre-existing breathing conditions.	Only remove the stopper when using the chlorine water, replace immediately. Do not inhale the gas. Open any windows if possible. Tell the teacher immediately if there is a spillage.
bromine gas diffusing from bromine water	Bromine is a toxic gas which may cause breathing difficulties, particularly if you have pre-existing breathing conditions.	Only remove the stopper when using the bromine water, replace immediately. Do not inhale the gas. Open any windows if possible. Tell the teacher immediately if there is a spillage.
iodine solution	Iodine solution can cause skin irritation. The vapour is harmful if inhaled.	Do not inhale the vapour. You should avoid the solution coming into contact with your skin. If spilt on skin, rinse thoroughly with water and tell the teacher. Tell the teacher immediately if there is a spillage.

**Method**

1. Use a pipette to add two drops of chlorine water in each of three dimples in the first row of a spotting tile.
2. Use a clean pipette to add two drops of bromine water in each of three dimples in the second row of a spotting tile.
3. Use a clean pipette to add two drops of iodine solution in each of three dimples in the third row of a spotting tile.
4. Use a clean pipette to add two drops of potassium chloride to each of the three dimples in column 1.
5. Use a clean pipette to add two drops of potassium bromide to each of the three dimples in column 2.
6. Use a clean pipette to add two drops of potassium iodide to each of the three dimples in column 3.
7. Observe and record any colour changes that take place.

