

# AS and A-level Chemistry practicals: Equipment set up

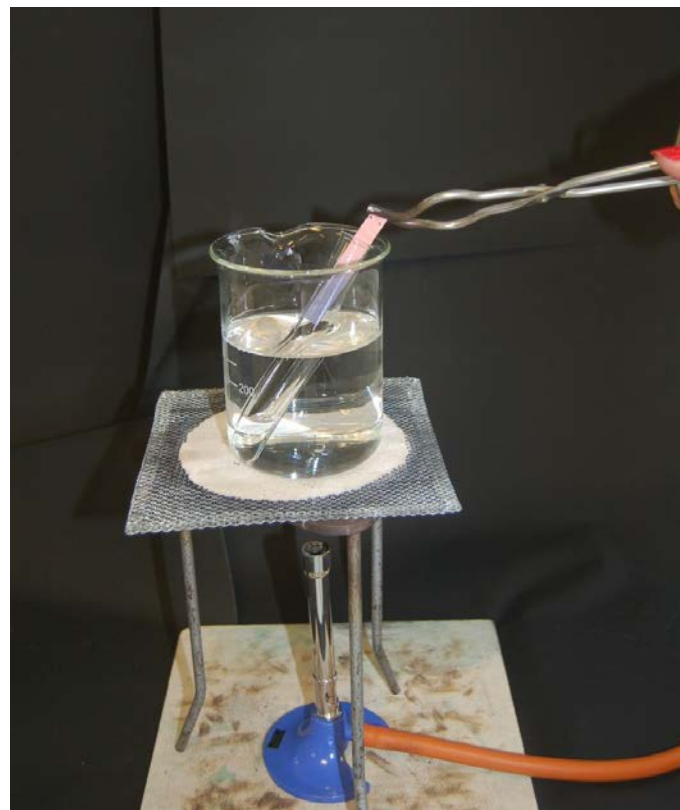
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Practical 4: Carry out simple test-tube reactions to identify

- cations – Group 2,  $\text{NH}_4^+$
  - anions – Group 7 (halide ions),  $\text{OH}^-$ ,  $\text{CO}_3^{2-}$ ,  $\text{SO}_4^{2-}$
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# Test 3: testing for ammonium ions

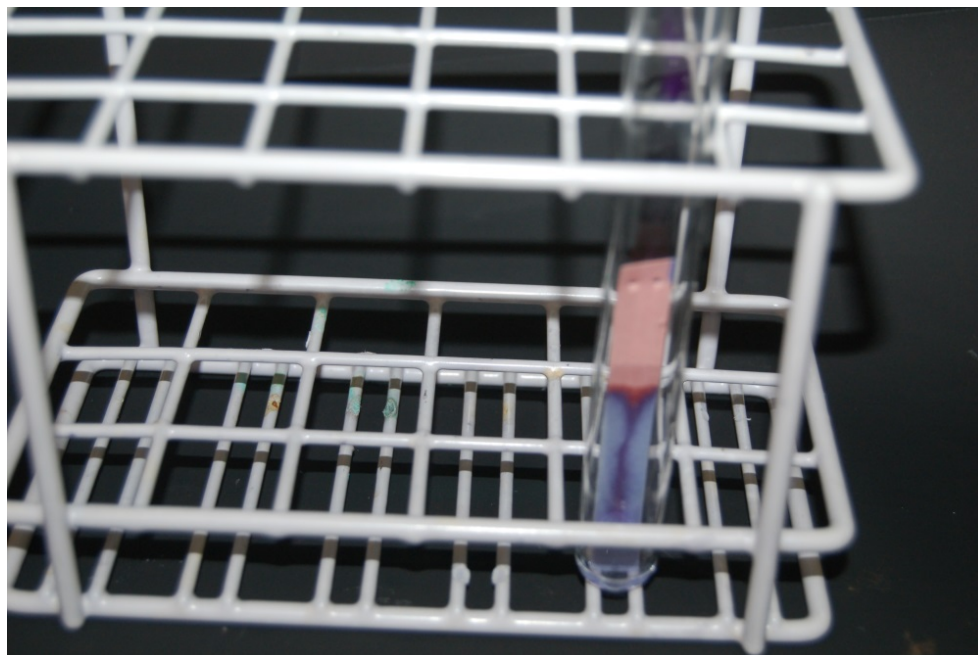
- The tube should be placed in a warm water bath and a piece of damp red litmus held near the mouth of the tube using tongs.
- The red litmus should change colour and become blue in the presence of ammonium ions.



# Test 4: hydroxide ions

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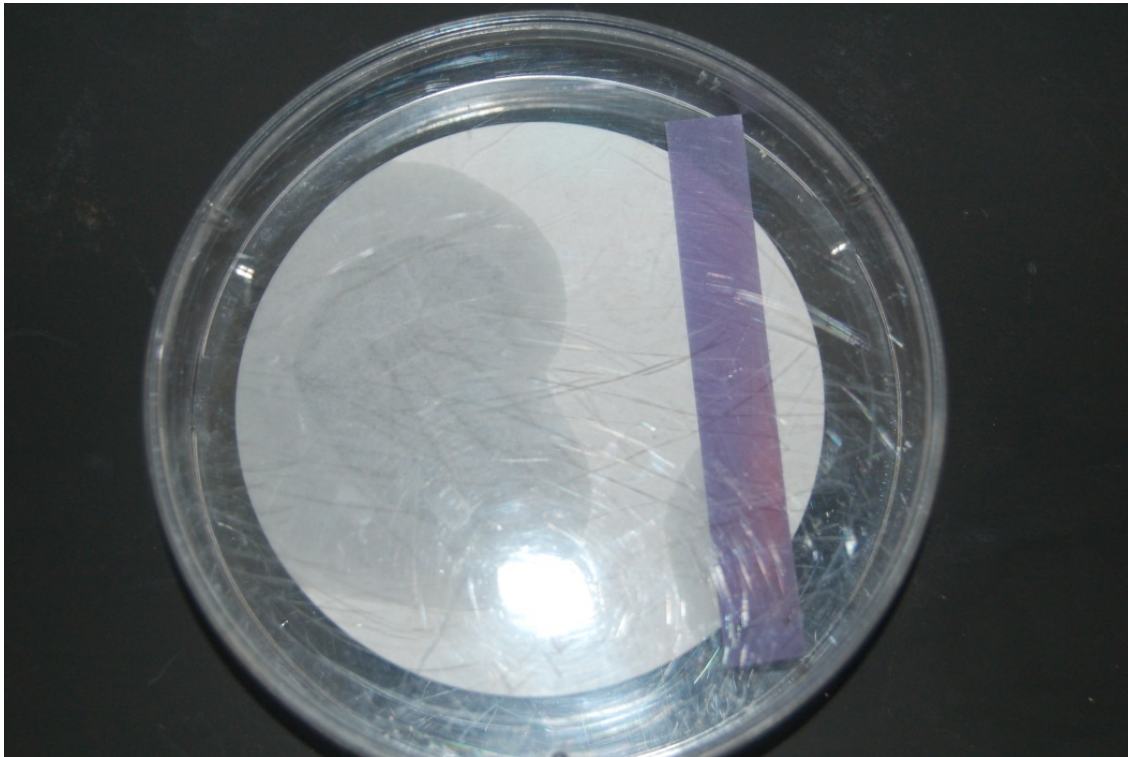
Damp red litmus paper changes to blue.



# Ammonium ions in a petri dish.

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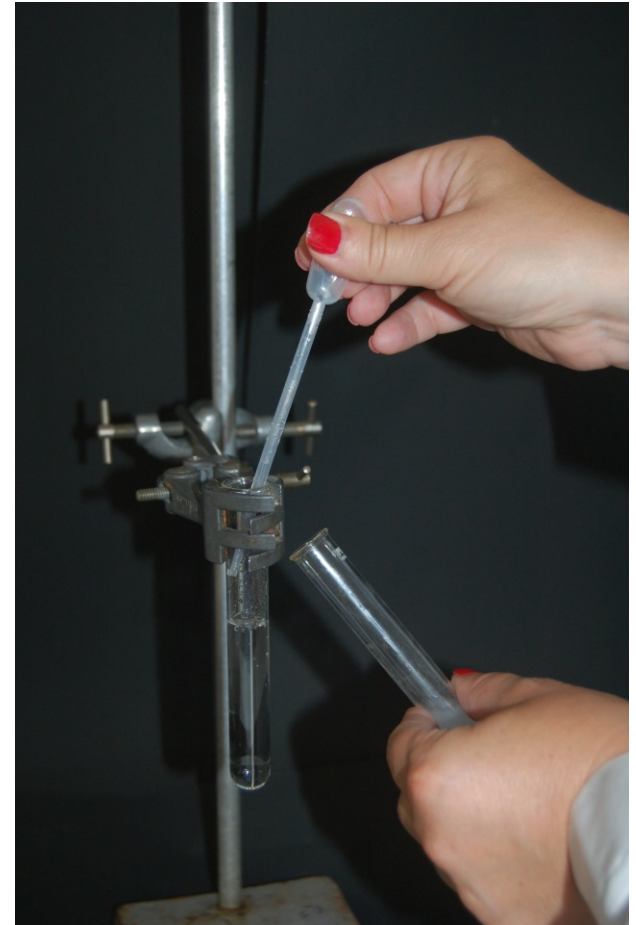
The damp red litmus is pressed on the inside of the lid.



# Pipette collection of carbon dioxide for test 5

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Several pipettes of carbon dioxide will be needed to show a change in the colour of the limewater.



# Collection of carbon dioxide for test 5 using a delivery tube

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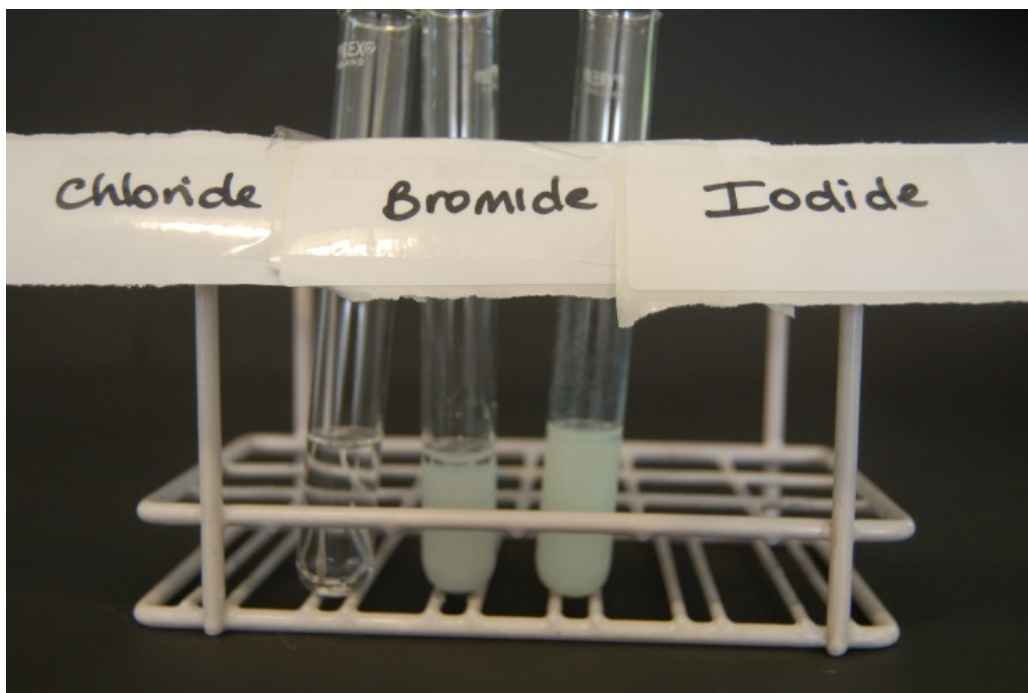
- The delivery tube can be glass or plastic and fastened in the neck of the test tube with a rubber bung.
- Limewater in a second tube is used to test for carbon dioxide.



# Halide tests

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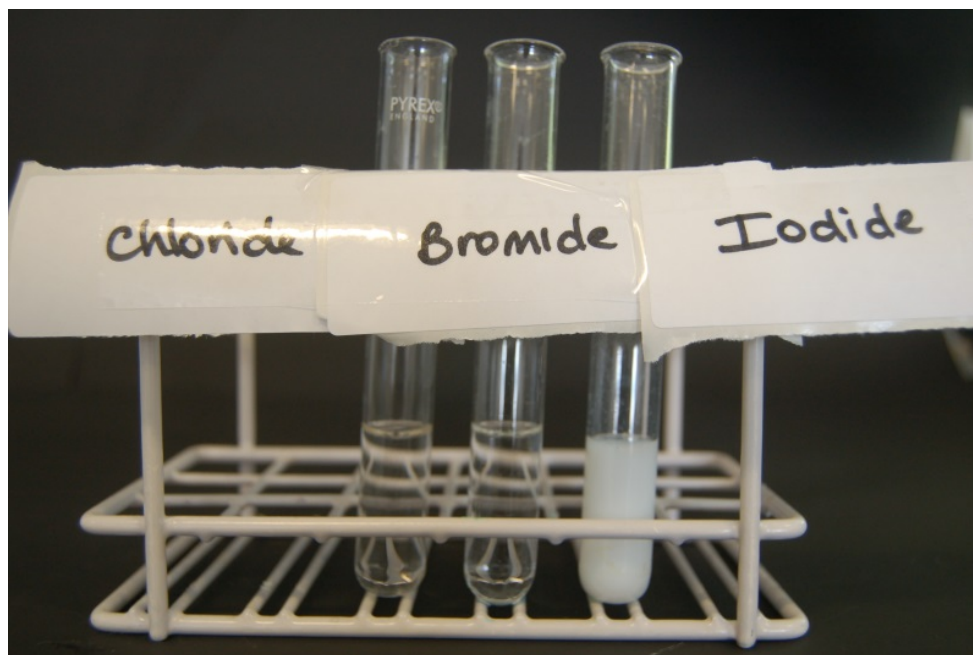
Results of the test for halides with the addition of 2M ammonia solution.



# Halide tests

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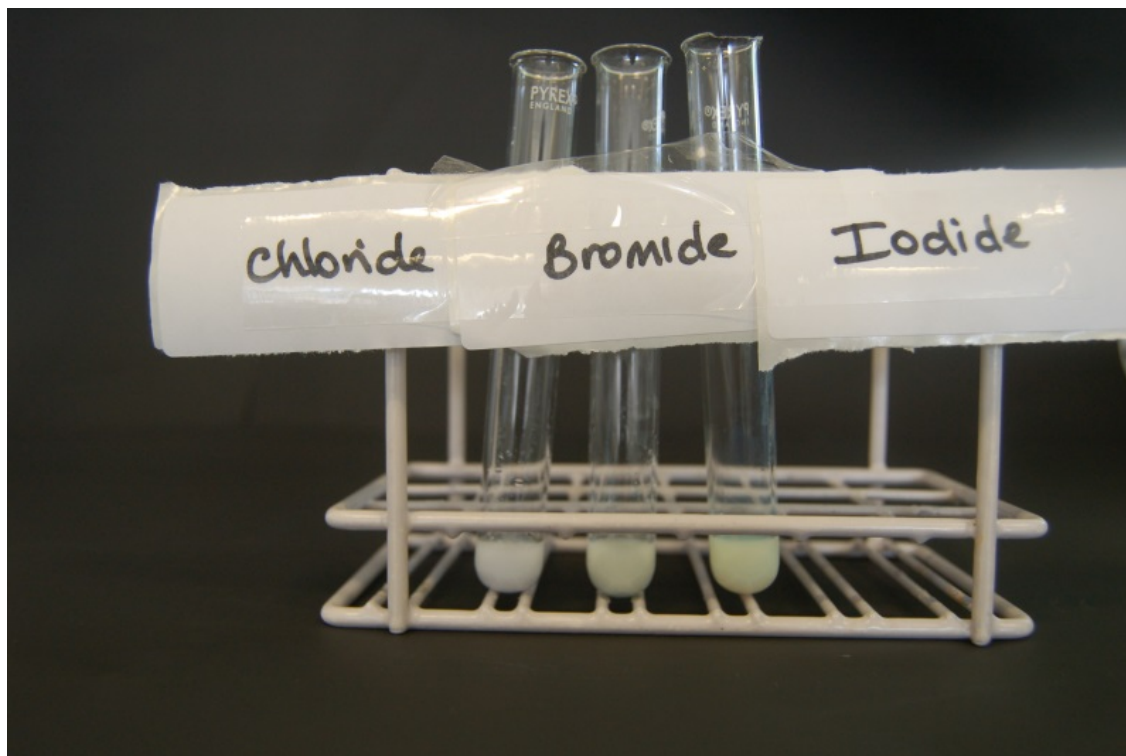
Results of the test for halides after the addition of concentrated ammonia solution.



# Halide tests

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Results of the halides with silver nitrate solution.



# Results of halides with concentrated sulfuric acid.

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This must be done in a fume cupboard.

# Potassium bromide result

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# Potassium chloride result

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# Potassium iodide result

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