

OCR (A) Chemistry GCSE

PAG 5 - Identification of Species

(Chemistry only)

Flashcards

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Describe the test for oxygen



Describe the test for oxygen

A test tube of oxygen will relight a glowing splint



Describe the test for hydrogen



Describe the test for hydrogen

A lighted splint placed in a test tube of hydrogen will make a squeaky pop



Describe the test for carbon dioxide



Describe the test for carbon dioxide

Forms a white precipitate with calcium carbonate or turns limewater from colourless to cloudy



Describe the test for chlorine gas



Describe the test for chlorine

Damp blue litmus paper turns red then fades to white



How would you carry out a flame test?



How would you carry out a flame test?

- Clean a wire loop in HCl to remove unwanted ions
- Dip the wire loop into your sample
- Record the colour of the flame



What colour is the flame test for lithium ions?



What colour is the flame test for lithium ions?

Red



What colour is the flame test for sodium ions?



What colour is the flame test for sodium ions?

Yellow



What colour is the flame test for potassium ions?



What colour is the flame test for potassium ions?

Lilac



What colour is the flame test for calcium ions?



What colour is the flame test for calcium ions?

Orange-red



What colour is the flame test for copper ions?



What colour is the flame test for copper ions?

Blue-green



What colour is the precipitate when sodium hydroxide reacts with iron (II) ions?



What colour is the precipitate when sodium hydroxide reacts with iron (II) ions?

Green



What colour is the precipitate when sodium hydroxide reacts with iron (III) ions?



What colour is the precipitate when sodium hydroxide reacts with iron (III) ions?

Orange brown



What colour is the precipitate when sodium hydroxide reacts with copper (II) ions?



What colour is the precipitate when sodium hydroxide reacts with copper (II) ions?

Blue



What colour is the precipitate when sodium hydroxide reacts with calcium ions?



What colour is the precipitate when sodium hydroxide reacts with calcium ions?

White



What colour is the precipitate when sodium hydroxide reacts with zinc ions?



What colour is the precipitate when sodium hydroxide reacts with zinc ions?

White



How could you distinguish between Zn^{2+}
and Ca^{2+} ions?



How could you distinguish between Zn^{2+} and Ca^{2+} ions?

Add excess NaOH:

- $\text{Ca}(\text{OH})_2$ precipitate doesn't change
- $\text{Zn}(\text{OH})_2$ precipitate dissolves to form a colourless solution



Describe the test for carbonate ions



Describe the test for carbonate ions

Add dilute acid. Pass gaseous product through limewater (turns cloudy).



Describe the test for sulfate ions



Describe the test for sulfate ions

Add a few drops of dilute hydrochloric acid then a few drops of dilute barium chloride solution.

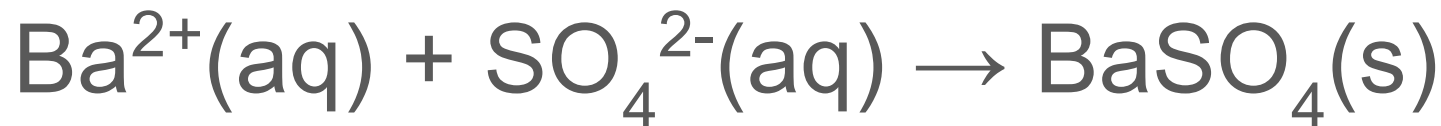
White precipitate forms.



Write the ionic equation for the test for sulfate ions (**Higher**)



Write the ionic equation for the test for sulfate ions
(Higher)



Describe the test for halide ions



Describe the test for halide ions

Add nitric acid to react with carbonate ions so no Ag_2CO_3 forms (white solid).

Add silver nitrate. Precipitate forms:

White - AgCl , Cream - AgBr , Yellow - AgI



How can you detect whether a substance is a strong acid or a strong alkali?



How can you detect whether a substance is a strong acid or a strong alkali?

Add universal indicator

Red - strong acid

Yellow - weak acid

Blue/purple - strong alkali

Light blue - weak alkali

Green - neutral



List the safety precautions to take when using a Bunsen burner



List the safety precautions to take when using a Bunsen burner

- Don't leave unattended
- Turn off gas or leave on orange safety flame when not in use
- Tie back long hair
- Keep flammable chemicals away from the flame

