

WJEC (Wales) Chemistry A-level

SP 1.6b - Qualitative Analysis

Flashcards

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Given the solutions below, how could you carry out a test to identify them from 6 unlabelled bottles?

 $Ba(NO_3)_2$, $Pb(NO_3)_2$, $MgSO_4$, KI, Na_2CO_3 , $Zn(NO_3)_2$









Given the solutions below, how could you carry out a test to identify them from 6 unlabelled bottles? Ba(NO₃)₂, Pb(NO₃)₂, MgSO₄, KI, Na₂CO₃, Zn(NO₃)₂

- 1. Draw out a table to record all observations.
- 2. Test 2 cm³ of each solution with a few drops of each of the other solutions in turn.
- 3. Record your observations in the table.









What is observed when $Ba(NO_3)_2$ is added to $Pb(NO_3)_2$?









What is observed when $Ba(NO_3)_2$ is added to $Pb(NO_3)_2$?

No reaction observed - solution remains colourless.











What is observed when $Ba(NO_3)_2$ is added to MgSO₄?









What is observed when $Ba(NO_3)_2$ is added to MgSO₄?

A white precipitate is produced.











What causes the white precipitate in the reaction between Ba(NO₃)₂ and MgSO₄?







What causes the white precipitate in the reaction between Ba(NO₃)₂ and MgSO₄?

The sulfate ions.

BaSO_₄ is a white precipitate.





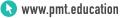




What is observed when $Ba(NO_3)_2$ is added to KI?









What is observed when $Ba(NO_3)_2$ is added to KI?

No reaction observed - solution remains colourless.









What is observed when $Ba(NO_3)_2$ is added to Na₂CO₃?









What is observed when $Ba(NO_3)_2$ is added to Na₂CO₃?

A white precipitate produced.











What causes the white precipitate in the reaction between Ba(NO₃)₂ and Na₂CO₃?









What causes the white precipitate in the reaction between Ba(NO₃)₂ and Na₂CO₃?

The carbonate ions.

BaCO₃ is a white precipitate.









What is observed when $Pb(NO_3)_2$ is added to MgSO₄?









What is observed when Pb(NO₃)₂ is added to MgSO₄?

A white precipitate is produced.











What causes the white precipitate in the reaction between Pb(NO₃)₂ and MgSO₄?







What causes the white precipitate in the reaction between Pb(NO₃)₂ and MgSO₄?

The sulfate ions.

PbSO_₄ is a white precipitate.







What is observed when $Pb(NO_3)_2$ is added to KI?









What is observed when $Pb(NO_3)_2$ is added to KI?

A yellow precipitate is produced.









What causes the yellow precipitate in the reaction between Pb(NO₃)₂ and KI?









What causes the yellow precipitate in the reaction between Pb(NO₃)₂ and KI?

The iodide ions.

Pbl₂ is a yellow precipitate.











What is observed when $Pb(NO_3)_2$ is added to Na₂CO₃?







What is observed when Pb(NO₃)₂ is added to Na₂CO₃?

A white precipitate is produced.











What causes the white precipitate in the reaction between Pb(NO₃)₂ and Na₂CO₃?









What causes the white precipitate in the reaction between Pb(NO₃)₂ and Na₂CO₃?

The carbonate ions.

PbCO₃ is a white precipitate.











What is observed when MgSO₄ is added to KI?









What is observed when MgSO_₄ is added to KI?

No reaction observed - solution remains colourless.









What is observed when MgSO_₄ is added to Na₂CO₃?









What is observed when MgSO₄ is added to Na₂CO₃?

A white precipitate is produced.











What causes the white precipitate in the reaction between MgSO₄ and Na₂CO₃?







What causes the white precipitate in the reaction between MgSO₄ and Na₂CO₃?

The carbonate ions.

MgCO₃ is a white precipitate.







What is observed when MgSO_₄ is added to $Zn(NO_3)_2$?









What is observed when MgSO_₄ is added to $Zn(NO_3)_2$?

No reaction observed - solution remains colourless.









What is observed when KI is added to $Zn(NO_3)_2$?











What is observed when KI is added to $Zn(NO_3)_2$?

No reaction observed - solution remains colourless.









What is observed when KI is added to Na₂CO₃?











What is observed when KI is added to Na₂CO₃?

No reaction observed - solution remains colourless.









What is observed when $Zn(CO_3)_2$ is added to Na₂CO₃?











What is observed when $Zn(CO_3)_2$ is added to Na₂CO₃?

A white precipitate is produced.











What causes the white precipitate in the reaction between Zn(CO₃)₂ and Na₂CO₃?











What causes the white precipitate in the reaction between Zn(CO₃)₂ and Na₂CO₃?

The carbonate ions.

 $Zn(CO_3)_2$ is a white precipitate.









Why does it not matter exactly how much of each solution is added to the other?









Why does it not matter exactly how much of each solution is added to the other?

It is qualitative analysis which means the exact measurements are not being recorded. It only matters that enough of the solution is added for a possible reaction to be observed.





