

A salt is made by adding an excess of an insoluble metal oxide to an acid.

How can the excess metal oxide be removed?

- A** chromatography
- B** crystallisation
- C** distillation
- D** filtration

A compound is a salt if it

- A** can neutralise an acid.
- B** contains more than one element.
- C** dissolves in water.
- D** is formed when an acid reacts with a base.

Two tests are carried out to identify an aqueous solution of X.

test 1 Aqueous sodium hydroxide is added and a blue precipitate is produced.

test 2 Dilute nitric acid is added followed by aqueous silver nitrate and a white precipitate is produced.

What is X?

- A** copper carbonate
- B** copper chloride
- C** iron(III) carbonate
- D** iron(III) chloride

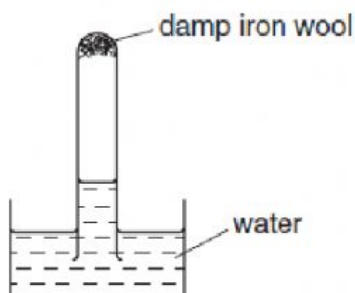
Four stages used to prepare an insoluble salt are listed.

- 1 drying
- 2 filtration
- 3 precipitation
- 4 washing

In which order are the stages done?

- A** 2 → 1 → 3 → 4
- B** 3 → 2 → 4 → 1
- C** 3 → 4 → 1 → 2
- D** 4 → 3 → 2 → 1

1. A test-tube containing damp iron wool is inverted in water.
- After three days, the water level inside the test-tube has risen.



Which statement explains this rise?

- A** Iron oxide has been formed.
- B** Iron wool has been reduced.
- C** Oxygen has been formed.
- D** The temperature of the water has risen.

The results of two tests on an aqueous solution of X are shown.

test	observation
aqueous sodium hydroxide added	green precipitate formed
acidified aqueous silver nitrate added	yellow precipitate formed

What is X?

- A** copper(II) chloride
- B** copper(II) iodide
- C** iron(II) chloride
- D** iron(II) iodide

M/J 04/P1/Q25

Which method of preparation of a pure salt solution requires the use of a pipette and burette?

- A** $\text{BaCl}_2(\text{aq}) + \text{H}_2\text{SO}_4(\text{aq}) \rightarrow \text{BaSO}_4(\text{s}) + 2\text{HCl}(\text{aq})$
- B** $\text{CuO}(\text{s}) + 2\text{HCl}(\text{aq}) \rightarrow \text{CuCl}_2(\text{aq}) + \text{H}_2\text{O}(\text{l})$
- C** $\text{KOH}(\text{aq}) + \text{HCl}(\text{aq}) \rightarrow \text{KCl}(\text{aq}) + \text{H}_2\text{O}(\text{l})$
- D** $\text{MgCO}_3(\text{s}) + \text{H}_2\text{SO}_4(\text{aq}) \rightarrow \text{MgSO}_4(\text{aq}) + \text{H}_2\text{O}(\text{l}) + \text{CO}_2(\text{g})$

Notes: Pipette and burette are apparatus that measure the volume of liquids. So that means both reactants must be liquids.

Aq = aqueous = solution/ liquid

O/N 08/P1/Q6

Solution X contains a simple salt.

The table shows the results of some tests on solution X.

test	observation
addition of aqueous sodium hydroxide	green precipitate forms
addition of acidified barium nitrate	white precipitate forms

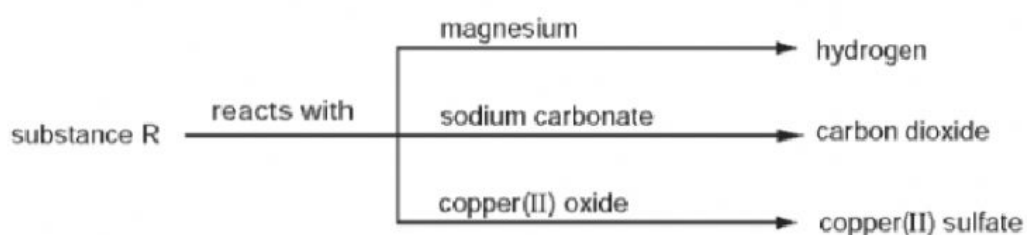
What is the name of the salt in solution X?

- A** iron(II) chloride **B** iron(III) chloride **C** iron(II) sulphate **D** iron(III) sulphate

Which process is a physical change?

- A burning wood
- B cooking an egg
- C melting an ice cube
- D rusting iron

Some reactions of a substance, R, are shown in the diagram.



What type of substance is R?

- A an acid
- B a base
- C an element
- D a salt

Zinc sulfate is a soluble salt and can be prepared by reacting excess zinc carbonate with dilute sulfuric acid.

Which piece of equipment would **not** be required in the preparation of zinc sulfate crystals?

- A beaker
- B condenser
- C evaporating dish
- D filter funnel

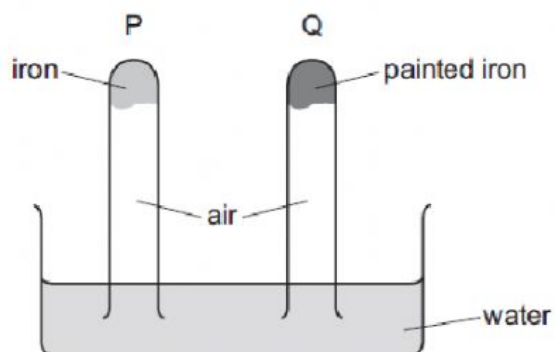
23 Salts can be prepared by reacting a dilute acid

- 1 with a metal;
- 2 with a base;
- 3 with a carbonate.

Which methods could be used to prepare copper(II) chloride?

- A** 1 and 2 only
B 1 and 3 only
C 2 and 3 only
D 1, 2 and 3

The diagram shows an experiment to investigate how paint affects the rusting of iron.



What happens to the water level in tubes P and Q?

	tube P	tube Q
A	falls	rises
B	no change	rises
C	rises	falls
D	rises	no change