Edexcel Chemistry IGCSE

2.42 - Acids, bases and salt preparations

Prepare a sample of pure, dry hydrated copper(II) sulfate crystals starting from copper(II) oxide

Flashcards

Is copper oxide soluble or insoluble?

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Insoluble

Is copper oxide an acid, base or alkali?

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Base

Explain what an acid is and what a base is in terms of proton transfer

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Acid - proton donor

Base - proton acceptor

How could you prepare a sample of pure, dry copper sulfate crystals from a sample of insoluble copper oxide?

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- React warm sulfuric acid with excess copper oxide
- Filter to remove the excess copper oxide
- Heat the solution to start evaporation
- Turn off the heat and leave until all the water has evaporated
- Left with copper sulfate crystals

Why should the copper oxide be added to the sulfuric acid in excess?

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To ensure all the acid reacts.

The excess copper oxide can easily be removed by filtration as it is insoluble.

Why should sulfuric acid be warmed before reacting it with copper oxide?

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Warmed sulfuric acid will react faster which helps to make sure all the acid reacts with the copper oxide

What apparatus would be required to prepare a sample of pure, dry copper sulfate crystals from a sample of insoluble copper oxide?

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- Bunsen burner
- Measuring cylinder
- Beaker
- Funnel and filter paper
- Evaporating basin
- Glass rod

Write the chemical equation for the reaction between CuO and H_2SO_4

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$$CuO + H_2SO_4 \rightarrow CuSO_4 + H_2O$$

What safety precautions need to be considered when preparing a pure dry salt from an insoluble compound?

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- Bunsen burner should be turned off or put on the safety flame when not in use
- Sulfuric acid is corrosive so wear eye protection