

Exercise 7.12 – The properties of acids

Q712-01 Which of the following is/are formed when a metal oxide reacts with a dilute acid?

- I. A metal salt
 - II. Water
 - III. Hydrogen gas
- A. I only
 - B. I and II only
 - C. II and III only
 - D. I, II and III
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Q712-02 Sodium hydrogen carbonate is sometimes used as a test for the presence of an acid. Explain how this might work.

Q712-03 Restaurants often provide slices of lemon to for guests to remove the smell of fish from hands after eating shellfish. Suggest why lemon juice is good at removing fishy odours.

Q712-04 Which type of acid is needed to prepare a sulphate?

Q712-05 Name a compound that could be used to react with hydrochloric acid to make sodium chloride.

Q712-06 Why can't nitric acid and iron metal be used to prepare a sample of iron (II) nitrate?

Q712-07 Suggest two suitable compounds that could be used to make a sample of magnesium nitrate.

Q712-08 Copper metal is low down in the reactivity series and does not react with hydrogen ions in solution (acids). Why does copper successfully react with nitric acid?

Q712-09 Aluminium oxide is described as an amphoteric oxide. Which of the following is the correct definition of an amphoteric substance.

- A. A substance that doesn't react with either acids or bases.
 - B. An insoluble base that reacts with acids.
 - C. A substance that neutralises both acids and bases.
 - D. An insoluble acid that neutralises bases.
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Q712-10 The reaction between sulphuric acid and marble chips (calcium carbonate) is unsuitable for preparing calcium sulphate. Suggest a reason why this might be the case.
