

Exam question Antacids

Hydrochloric acid is a strong acid.

(a) Winston used universal indicator solution to find the pH of some hydrochloric acid.

(i) Suggest the **colour** of the mixture of universal indicator solution and the hydrochloric acid.

.....(1 mark)

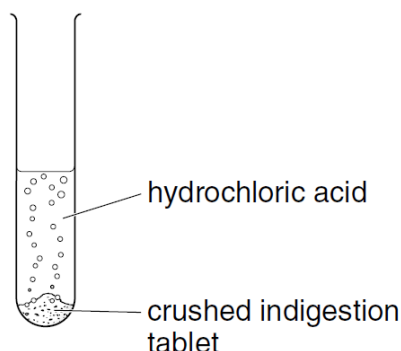
(ii) Suggest the **pH** of the hydrochloric acid.

.....(1 mark)

(b) Indigestion can be caused when too much hydrochloric acid is produced in the stomach.

Magnesium carbonate can be used to treat indigestion.

Winston crushed some indigestion tablets containing magnesium carbonate. He added them to hydrochloric acid in a test-tube. The mixture fizzed.



The word equation for the reaction is shown below.

magnesium + hydrochloric → magnesium + carbon + water
carbonate acid chloride dioxide

(i) Use the word equation to explain why the mixture fizzed when the reaction took place.

.....(1 mark)

(ii) Winston continued to add crushed tablets to the acid until the mixture stopped fizzing.

Why did the fizzing stop?

.....(1 mark)

(c) When magnesium carbonate reacts with hydrochloric acid, magnesium chloride is formed.

Which **two** words describe magnesium chloride?

Tick the **two** correct boxes.

a compound

☐

a mixture

☐

an element

☐

a salt

☐

a metal

☐

a solvent

☐

(d) It is important that the hydrochloric acid in the stomach is **not** completely neutralised by indigestion tablets.

Why is hydrochloric acid needed in the stomach?

.....(1 mark)