

CHEMISTRY
Investigative Skills Assignment
Task Sheet

CHM3T/P09/Task

The composition of antacid tablets

Antacid tablets containing sodium hydrogencarbonate are used to reduce acidity in the stomach. The percentage by mass of sodium hydrogencarbonate in the tablets can be determined by titration with hydrochloric acid.

You are provided with a solution of the antacid that has a sodium hydrogencarbonate concentration of approximately 0.1 mol dm^{-3} . Titrate the $0.100 \text{ mol dm}^{-3}$ solution of hydrochloric acid provided with this antacid solution.

Wear eye protection at all times.
Assume that all solutions are toxic and corrosive.

Implementing

- 1 Rinse the burette with the antacid solution. Set up the burette and, using a funnel, fill it with the antacid solution. Record the initial burette reading in a table of your own design on the Candidate Results Sheet.
- 2 Using a pipette filler, rinse the pipette with the hydrochloric acid solution provided. Using this pipette, transfer 25.0 cm^3 of the hydrochloric acid solution to a 250 cm^3 conical flask.
- 3 Add 3 or 4 drops of the indicator to the conical flask.
- 4 Add the antacid solution from the burette until the mixture in the conical flask just turns pink. Record your final burette reading in your table.
- 5 Rinse the conical flask with distilled or deionised water and repeat the titration until you obtain **two** titres which are within 0.10 cm^3 of each other. (You should do no more than five titrations.)
Have one of your final burette readings checked by your teacher.
- 6 Calculate and record the average titre on the Candidate Results Sheet. Clearly indicate which titres you used in calculating this average titre.

ISA CHM3T/P09 Candidate Results SheetCentre Number

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Candidate number

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Candidate Name

Results

Present your titration results in an appropriate form in the space below.

Average titre/cm³.....

For Teacher's use only				
B		R		P
C		A		