

Friday Worksheet

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Name:

Volumetric 6

- The active ingredient in brick cleaner is hydrochloric acid, HCl. To find the concentration of HCl in the brick cleaner, a pipette is used to deliver 20.0 mL of the cleaner into a 250 mL, volumetric flask and made to the mark with distilled water. A 20.0 mL aliquot of this diluted solution is then titrated with a standardised solution of 0.100 M sodium carbonate in a burette.
 - Write the equation to the reaction between the carbonate and hydrochloric acid.
 - If an average titre of 21.10 mL was obtained, what is the concentration in g L^{-1} of HCl in the cleaner.
- In another investigation, a student delivers a 20.00 mL aliquot of undiluted brick cleaner with a concentration of HCl of 3.65 g L^{-1} into a conical flask and places two drops of indicator into the flask. The student then makes up a standard solution by carefully weighing a pure sample of Na_2CO_3 and placing it in a 250 mL volumetric flask.
 - If the student needs to obtain a titre of 12.25 what should the mass of Na_2CO_3 , placed into the volumetric flask be?
 - Why is Na_2CO_3 considered to be a primary standard and NaOH is not?
 - The student accidentally placed three drops of indicator into the conical flask. How will this influence the mass of sodium carbonate calculated, in 3) above?

