

- 1 A student was given three compounds in solution.



Solution 1



Solution 2



Solution 3

The student was told the names of the compounds, but not which was in which tube.

The names of the compounds are:

Lithium sulfate

Potassium carbonate

Sodium nitrate

Describe the test that could be used to identify each solution.

[8 marks]

Lithium sulfate

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Potassium carbonate

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Sodium nitrate

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2 Cleaning chemicals sometimes contain ammonia in solution.

The amount of ammonia in ammonia solution can be found by titration using nitric acid.

25.0 cm³ of ammonia solution is placed in a conical flask.

Describe how the volume of dilute nitric acid required to neutralise this amount of household ammonia can be found accurately by titration.

Name any other apparatus and materials used.

[4 marks]

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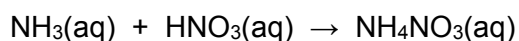
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2 (a) It was found that 25.0 cm³ of household ammonia was neutralised by 20.0 cm³ of dilute nitric acid with a concentration of 0.25 moles per cubic decimetre.

The balanced symbol equation which represents this reaction is



Calculate the concentration of the ammonia in this household ammonia in moles per cubic decimetre.

[2 marks]

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Concentration = moles per cubic decimetre

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