Oxford Cambridge and RSA

Friday 21 June 2024 – Morning

A Level Chemistry B (Salters)

H433/03 Practical skills in chemistry

Practical Insert

Time allowed: 1 hour 30 minutes

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INSTRUCTIONS

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INFORMATION

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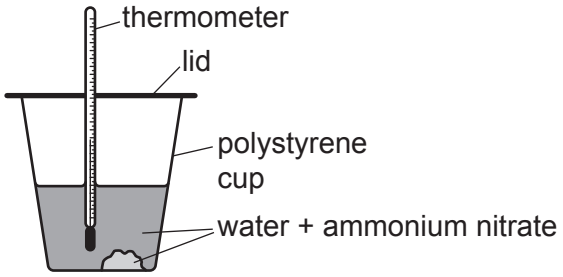
Investigating the enthalpy change of a solution

A group of students investigates the enthalpy change that occurs when ammonium nitrate, NH_4NO_3, is dissolved in water.

Method

A simple polystyrene cup and lid is used as a well-insulated calorimeter for this investigation.



- 7.20 g of ammonium nitrate is weighed out.
- 100 cm^3 of distilled water is poured into the cup, using a measuring cylinder.
- The temperature is taken at the start and then every minute for a total of 10 minutes.
- The ammonium nitrate is added after two minutes and stirred until it all dissolves.
- The results are tabulated below.

Results

Time / minutes	Temperature / °C
0.0	19.5
1.0	19.4
NH_4NO_3 solid added 2.0	19.4
3.0	17.8
4.0	15.5
5.0	14.6
6.0	14.8
7.0	15.0
8.0	15.3
9.0	15.5
10.0	15.7

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