WJEC (Eduqas) Chemistry A-level

SP C1.6b - Identification of Unknown Solutions by Qualitative Analysis

Methods and images taken from the WJEC practical handbook

SP C1.6b - Identification of Unknown Solutions by Qualitative Analysis

Aim

To **plan** and **carry out** a method to **identify six inorganic salts** by the interactions between their **solutions**.

Apparatus and Chemicals

- 20 x test tube
- Test tube rack
- 5 x dropping pipette
- Solutions of the following salts, randomly labelled A–F
    - $Ba(NO_3)_2$
    - $Pb(NO_3)_2$
    - $MgSO_4$
    - KI
    - Na_2CO_3
    - $Zn(NO_3)_2$

Safety Considerations

★ $Ba(NO_3)_2$ - toxic
★ $Pb(NO_3)_2$ - toxic

Planning

1. Construct and complete a table to show the **expected observations** when each solution interacts with the other five.
2. Record a **summary of the observations** expected for each salt (e.g. two white precipitates, one yellow precipitate and two 'no change').
3. Construct another, similar table but this time labelled with the letters A–F rather than the names of the salts.

Method

1. Test approximately 2 cm^3 of each solution with a few drops of each of the other solutions in turn and **record your observations** in the second table.