

Chemical analysis experiment 1

Education in Chemistry

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rsc.li/EiC517-know-your-poison

This experiment accompanies the above article 'Know your poison'.

One of Guy's initial explorations in analysis was reagent testing; simple chemical tests that can identify the drug present with a colour change.

Read the fourth paragraph of the article.

1. How do the chemical tests that Guy designed work?

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2. Why do these chemical tests need to be simple to interpret?

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In the sample vials you have four drug samples labelled A–D. The article states a number of substances are used to bulk up drugs. These 'cutting agents' are often commonly found chemicals and foodstuffs. The samples you are provided with contain the following combinations of substances:

- Sodium chloride, sodium carbonate, flour
- Sodium chloride, flour
- Potassium iodide, sodium carbonate, glucose
- Sodium chloride, sodium sulfate, flour

Challenge

A suspected illicit drugs lab is known to have ordered large quantities of sodium chloride, sodium carbonate and flour. The police assume this is for bulking up their drug samples. The police have some drug samples they previously seized. Your challenge is to plan and carry out a range of chemical tests to identify which of the samples A–D belongs to this lab. You have access to the range of chemical reagents and apparatus shown by your teacher.

Results

Design and fill out an appropriate results table for this experiment.

Conclusion

The aim of this experiment was to identify the mixture that belongs to the illicit drugs lab. With reference to this aim, write a conclusion for the experiment.