

Determining dosage – student handout

Education in Chemistry

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rsc.li/EiC517-know-your-poison

This experiment accompanies the above article *Know your poison*. Read the article before you begin.

One of the methods used to identify a drug mixture is a mass loss test. The team crush the pills and dissolve the drug molecules using methanol, leaving the inactive cutting agents and dyes behind. The difference between the pill's mass before and after washing gives a dose estimate.

However, the individual components in a drug mixture will behave differently in different solvents: some will be completely soluble while others may be only slightly soluble or completely insoluble. With the range of tablets, potential solvents and apparatus shown to you by your teacher, consider how you could use a mass loss method to determine the identity of a tablet being passed off as an illicit drug.

Think carefully about how the mass loss test works. Here are some questions to prompt you:

- In the method described in the article, why is mass lost from the samples?
- How will you prepare your samples before the solvent is added?
- What measurements will you need to take at each stage of the experiment?
- Does the volume of solvent used matter?
- How many times will you need to test each tablet to ensure consistent results?
- What are the disadvantages of using water as the solvent?
- Does it matter if the samples are different masses initially? Can you do something with your results to take account of this?