

Disappearing Blue!

Try this cool experiment with your leftover
Methylene Blue Plus™ or FlashBlue™ Stain!
It's safe, quick, and easy!



What to do:

1. In a 1 liter flask, dissolve 8 g potassium hydroxide and 10 g glucose in 300 ml distilled or deionized water.
2. Add a few drops (0.5 ml or less) of FlashBlue™ or Methylene Blue Plus™ stain and gently swirl.
3. Allow the flask to settle - watch the purple or blue dye disappear!!!
4. Stopper the flask and vigorously (carefully) swirl or shake the flask - watch the purple or blue dye re-appear!!! The more you mix, the darker the color.
5. Set the flask on the lab bench and remove the stopper - again, watch the purple or blue dye disappear!!!

What you'll need:

- 1 liter flask with stopper
- Potassium hydroxide
- Glucose
- Distilled or deionized water
- FlashBlue™ or Methylene Blue Plus™ stain
- Transfer pipet
- Eye protection

Wear goggles when preparing the solutions and performing the experiment.

How it works:

An alkaline solution of glucose acts as a reducing agent and reduces added FlashBlue™ or Methylene Blue Plus™ from a blue to a colorless form. Shaking the solution raises the concentration of oxygen in the mixture and this oxidizes the FlashBlue™ or MethyleneBlue Plus™ back to its blue form. When the dissolved oxygen has been consumed, the FlashBlue™ or Methylene Blue Plus™ is slowly reduced back to its colorless form by the remaining glucose, and the cycle can be repeated many times by further shaking.

A white background helps to make the color changes more vivid. A white laboratory coat is ideal.

On a cold day it may be necessary to warm the solution to at least 20° C, otherwise the changes are very slow.

Methylene blue is a redox indicator and is colorless under reducing conditions but regains its blue color when oxidized.

The removal of the blue color is caused by the glucose which, under alkaline conditions, is reducing the methylene blue to a colorless form. Shaking the solution admits oxygen, which re-oxidizes the methylene blue back to the blue form.

