



California State University of Bakersfield, Department of Chemistry

Detecting Bodily Fluids



Standards:

2-PS1-1. Plan and conduct an investigation to describe and classify different kinds of materials by their observable properties.

5-PS1-3. Make observations and measurements to identify materials based on their properties.

HS-PS1-2. Construct and revise an explanation for the outcome of a simple chemical reaction based on the outermost electron states of atoms, trends in the periodic table, and knowledge of the patterns of chemical properties.

HS-PS1-4. Develop a model to illustrate that the release or absorption of energy from a chemical reaction system depends upon the changes in total bond energy.

Introduction:

Have you ever wondered how clean your surroundings really are? Grab a black light and some darkness and see the bodily fluids come alive! A black light is essentially a normal fluorescent light tube with the white coating removed and a purple coating added. The white coating contains phosphorous and the light emitted in the tube causes phosphorous to glow, giving off visible light. The purple coating blocks all visible light, but allows a harmless, non-visible ultraviolet light (UVA) to escape. The UVA will cause anything with phosphorous to glow. Since our bodily fluids are filled with various kinds of phosphorous, they glow! Test things such as cleaning agents to see if they glow and also try different bodily fluids such as sweat and saliva. Try bathrooms if you dare...

Materials:

- Black light (Ultra Violet light)
- Bodily Fluids and different cleaning agents.
- Dark Room

Safety:

- Be sure to wash your hands after dealing with areas affected by bodily fluids.

Procedure:

1. Find a dark room to test cleaning agent's luminescence or a dark bathroom to test for bodily fluids.

Data and Observations:

Record your observations in this space.

Questions:

What did you see? Anything you were not expecting? Describe it here.

References:

1. Clarkridge, Jack. Bodily Fluids in Forensic Science. Explore Forensics.
<http://www.exploreforensics.co.uk/bodily-fluids-in-forensic-science.html>