ForensiKit

Blood Detection

Can you clean up a crime scene to fool the luminol?

Investigators use luminol to reveal bloody crime scenes. How hard is it to get rid of blood? Try this experiment to find out.

1. Choose something to use as your test surface.
    - Scrap fabric like an old t-shirt or pillowcase that you can throw away
        - For an extra challenge, use dark fabric so the synthetic blood won't be visible after application.
    - A sealed concrete sidewalk or driveway that you can hose down afterward
        - **Note: Synthetic blood will stain unsealed concrete. Only perform this experiment on sealed concrete.**

2. Create three areas on your test surface.
    - If you're using fabric, cut it into three pieces for best results.
3. Place a bloody mark inside each area.
4. Consider each of them a bloody crime scene, and try to clean them so there's no trace of the blood.

Try a different cleaning technique on each area, and see if you can beat the luminol.

Important

1. Full directions for using the hemastix and luminol included with each packet.
2. Review all safety and handling information before starting any experiment.
3. Follow the manufacturers' directions when using cleaning products. Do not mix products together.

Test #1

1. On Area A, use soap and water to clean away your bloody mark
2. Allow it to dry and spray with luminol.
3. Your mark should glow.

Test #2

1. On Area B, use a degreasing household cleaning product to clean away your bloody mark.
2. Allow it to dry and spray with luminol.
3. Did it glow?

Test #3

1. On Area C, try a bleach-based cleaner to clean away your bloody mark.
2. Allow it to dry and spray with luminol.
3. Did it glow?

If your luminol produces a glow, that's a presumptive positive result for blood. Confirm the blood with hemastix.

Test #4

1. Locate the area that produced luminescence.
2. Use a swab moistened with water to rub the area for 30 seconds.
3. The Hemastix strip will turn green if the stain sample on the swab is blood.

Want more Blood Detection activities? Visit https://www.forensikit.com/blood-detection

Luminol

Perpetrators of crimes may go great lengths to clean and hide materials soaked or splattered with blood. Though a surface may appear spotless, luminol can reveal even trace amounts of blood. That's what makes luminol a powerful tool in crime scene investigation.

Luminol works through chemiluminescence, the same type of chemical reaction that generates the light of fireflies as well as the light in glow sticks used in parties, recreation, and emergency situations.

In chemiluminescence, the energy generated by the chemical reaction is emitted as light instead of heat. With luminol, that light is a blue glow generated when the luminol solution comes into contact with hemoglobin found in blood.

Luminol can also react with other substances including copper, bleach, and horseradish. That's why luminol findings are considered presumptive and follow-up tests are required to confirm that the substance really is blood.

Bluestar luminol was used to illuminate hidden bloodstains on this sink

Hemastix

Hemastix are routinely used by people with diabetes to test for blood in their urine. They also come in handy for testing if stains at a crime scene might be blood.

Hemoglobin is iron-rich. This iron acts as a catalyst in the chemical reaction that blood identification tools undergo when an oxidizing agent comes in contact with it. It's this reaction that indicates a presumptive positive result for blood.

However, these tests aren't perfect. Like luminol, Hemastix may show a false positive in the presence of bleach or copper, which can also react as a catalyzing agent.

Synthetic Blood

Our synthetic blood allows professional trainees and amateur investigators to safely conduct blood-related experiments because it contains no biological ingredients. Instead, it contains copper, which acts as a catalyst with luminol, Hemastix, and other such tests.

Synthetic blood is a chemical and not the same as stage blood. It should never be ingested, and it cannot be used to create crime scenes for theater or video.

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