



MAKES IT BRIGHT

FIRE INVESTIGATIONS

How is UV light used in arson investigations?

Arson investigators use ultraviolet light as a simple, reliable and cost effective method of arson detection. Ultraviolet light is used to detect information that is otherwise invisible to the human eye and to uncover valuable information which can be used to solve a fire investigation.

UV light is used to:

- Identify the presence of accelerants
- Identify pour patterns

Accelerants

UV light not only assists in identifying the presence of accelerants (*a substance that accelerates the spread of fire or makes a fire more intense*), but also in rapidly locating accelerant residues, and assisting in locating the point of origin of the fire. The color which accelerants glow is affected by heat exposure. The longer an accelerant is exposed to heat (i.e. the origin), the more differentiated its fluorescence color will be from other less exposed areas. Evidence of accelerants gets absorbed in a fire and is therefore almost always invisible to the naked eye. The area tarnished by accelerants however is easily discernible under UV light.

Hydrocarbons

Volatile hydrocarbons such as gasoline, kerosene and other petroleum fractions such as benzene, acetone, grease, lard, vegetable oils, paints, etc fluoresce when exposed to UV light. By using UV light, investigators can accurately identify locations where samples should be collected for further laboratory analysis. UV light can also be helpful in locating fragments of incendiary devices since explosive wrappings are frequently fluorescent. Samples collected in cans and plastic evidence bags can be heated in warm water to form condensation. The latent accelerant residue rises to the surface and this can be seen under UV light.

Pour patterns

UV light has been used to identify pour patterns, the shape of an accelerant container and pour trails leading back to containers. UV light will indicate accelerant long after its odor is discernable. Masking an accelerant will not prevent its UV detection. Accelerant on skin or clothing will fluoresce as well.

Advantages of UV light compared to canine or mechanical 'sniffers'

- Use of UV light is not affected by wind conditions.
- The 'sniffer' indicates a general area of saturation yet does not detect specific infected areas. This makes pour pattern sampling difficult. UV light detects specific areas.
- The 'sniffer' is effective only two to three days after saturation. UV lamps have been proven to effectively fluoresce samples up to two months after an incident.
- After a lengthy hot fire, the odors of accelerants have usually disappeared.

ENVIRONMENTAL INVESTIGATIONS

Illegal dumping

UV light can assist in environmental investigations by indicating the presence of hydrocarbons on land and in water. Illegal dumping has been traced using this technique. Trace dyes can be used along with UV light, and some radioactive substances fluoresce as well.

WHAT MAKES THE LABINO® UV LIGHT UNBEATABLE?

- Its high UV intensity creates new possibilities in the field of crime investigation.
- Labino® high intensity UV lamps are so powerful that they can even be used in normal lit areas or outdoors while still maintaining a high contrast-to-background while maximizing the probability of detecting valuable traces.
- Immediate start and restart – full power in approximately 5-15 seconds.
- Dust tight and temporary water proof, IP65 certified.

DISTRIBUTOR:

Raymond, E. Interfire online.[Online] Available
http://www.interfire.org/res_file/fseab_uo.asp, March 12, 2007