



D46 The Use of Liquid Latex to Remove Soot From Arson Scenes to Facilitate Further Forensic Examinations - A Case Study

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After attending this presentation attendees, particularly arson and major crime scene investigators will learn of the development, implementation, and use of a method to remove soot from arson scenes and exhibits. Removal of soot from such scenes and exhibits allows further examination to locate, enhance and recover fingerprints and the location of bloodstaining.

This presentation will impact the forensic community and/or humanity by providing a easy, fast, reliable, and cheap method to remove soot from arson scenes and exhibits to facilitate further forensic examinations, particularly the examination for fingerprint evidence and the recovery of DNA based evidence types. The effective removal of soot from arson scenes has been an on going problem to the forensic community, and the development of this technique has removed up to 90% of soot from surfaces within arson scenes and exhibits recovered from arson scenes.

In June 2005, a murder inquiry was commenced by the Metropolitan Police Service, Specialist Crime Directorate (SCD) following the discovery of the dismembered remains of a human body, floating in a canal in northwest London. Over 120 pieces of flesh were recovered from black plastic bin bags which were also found floating in the canal. The upper half of the deceased's torso was found in a shopping trolley type bag, wrapped in black plastic bin bags that had been tied with bicycle gear/break cables to a set of gymnasium weights. Approximately one week after the location of the body parts, the head of the deceased male was also found in the canal in a black plastic bin bag. The lower half of the deceased torso, arms, and legs were never located.

Investigations by detectives of the SCD led the investigative team to a 5th floor flat in a housing estate, near to the canal where the body parts were located. The flat had been the subject of an arson attack approximately two days prior to the location of the body parts. The flat was identified as being rented by a male, who was later arrested and considered a suspect in connection with this offence. The suspect made statements to the investigating police officers, stating that this flat was often used by persons known and unknown to him and that one of these people must have been responsible for any criminal activity that may have taken place in the flat.

The flat was examined and four seats of fire were determined. Blood was spattered on the living room doors and doorways, on a hallway cabinet and bloodstaining was also present on surfaces within the bathroom. Due to the statements made by the suspect, it was necessary to examine the crime scene for the presence of fingerprints.

Preliminary examinations for fingerprints on suitable surfaces were unsuccessful due to the levels of soot present which affected the location and identification of fingerprints. The soot also interfered with light source examinations due to the contamination of the surface.

A solution of liquid latex was applied to surfaces within a homicide scene to remove soot from surfaces to allow further fingerprint examinations. Once applied, the latex was allowed to dry and when peeled from the surfaces up to 90% of soot was removed. Numerous fingerprints were located within the address, some of which were identified to the suspect, the victim and to persons of interest in this case. Further chemical enhancement of fingerprints could also be undertaken and, in addition, further bloodstain pattern examinations could be undertaken.

The development of this technique has now been adopted within the Metropolitan Police Service to examine arson homicide scenes and also items recovered from arson scenes. Items submitted to the laboratory can be treated with liquid latex to remove soot and further fingerprint and DNA recovery examinations can be undertaken. Liquid latex does not affect subsequent light source and chemical enhancement techniques, nor does it affect DNA analysis. This is a cheap, fast, and very effective method for soot removal and in the author's opinion is an easier soot removal technique than the use of sodium hydroxide solutions.

This presentation will explain the use, application and effectiveness of this technique as used on criminal casework within the Metropolitan Police Service.

Soot, Liquid Latex, Fingerprint