

I. Analytical Procedure: **Adsorption Elution Extraction with Charcoal Tubes**

II. Suggested Uses: An extraction procedure for arson samples that have no accelerant odors.

III. Procedures

- A. Transfer a portion of the debris to a clean metal paint and seal with an appropriate lid.
- B. Puncture two (2) holes in the lid and insert rubber septa.
- C. Carefully insert a charcoal tube through one septum (SEE CHARCOAL TUBE PREPARATION PROCEDURE).
- D. Carefully insert an empty clean pipette through the second septum.
- E. Produce a positive flow of nitrogen gas through the empty pipette, into the can, and venting out the charcoal tube. The nitrogen gas is supplied by a section of tygon tubing that is attached to a clean nitrogen cylinder.
- F. Place the can into a controlled temperature heating mantle and regulate the heat to approximately 90°C.
- G. Allow the sample to be heated for a sufficient time to extract accelerant vapors (approximately 45 minutes).
- H. Allow the sample to cool, remove the charcoal tube, and place it in a marked test tube.
- I. Extract the eluate from the tube by washing with a small amount of carbon disulfide.
- J. Separate the carbon disulfide from any water that may be present, and if necessary concentrate the sample by evaporation with dry nitrogen gas.
- K. Inject a sample of the carbon disulfide was into a gas chromatograph and/or mass spectrometer. SEE INSTRUMENT PROCEDURE MANUAL OR MANUFACTURER'S OPERATION MANUAL.

IV. Safety Concerns

- A. Carbon disulfide may be toxic. Consult Material Safety Data Sheets for information on safe use.
- B. Glass pipettes are sharp and can be dangerous.

V. Other Information-consult the Hewlett Packard instrument manuals and the Trace Evidence Instrument Manual.