

I. Analytical Procedure: **Diffusive Flammable Liquid Extraction (DFLEX)**

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

III. Procedures

- A. Inspect the fire debris sample container for the presence of the red DFLEX device “alert” label. If one is found proceed to step F.
- B. If an alert label is not found, open the DFLEX device pouch.
- C. Remove the cover or cut open the fire debris sample container.
- D. Empty the device from the pouch directly into the container. Do not touch the device but simply “pour” the device into the fire debris sample container.
- E. Carefully reseal the fire debris container immediately.
- F. Place the fire debris container with DFLEX into an oven for at least sixteen (16) hours at 60°C.
- G. After sixteen (16) hours remove the fire debris container with DFLEX from the oven and allow it to cool.
- H. When cool, remove the DFLEX device from the container and with a clean cutting device, such as a razor blade, cut through the membrane and remove the charcoal strip.
- I. Cut the strip into pieces that will fit into and lay on the bottom of a suitable glass vial.
- J. Add approximately 0.5 milliliters of carbon disulfide to the vial to cover the pieces of charcoal strip.
- K. Agitate for fifteen (15) minutes in an ultrasonic cleaner.
- L. Inject a sample of the carbon disulfide into a gas chromatograph and/or mass spectrometer.

REFER TO THE DFLEX INSTRUCTION MANUAL AND TECHNICAL GUIDE FOR FORENSIC LABORATORIES FOR ADDITIONAL DIRECTIONS AND DISCUSSION.

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.