

I. Analytical Procedure: **Steam Distillation Analysis**

II. Suggested Uses: An extraction procedure for arson samples that have strong petroleum accelerant odors (Non water soluble).

III. Procedures

- A. Transfer a portion of the debris to a glass kettle.
- B. Add water until the kettle volume is  $\frac{1}{2}$  to  $\frac{2}{3}$  full.
- C. Cover the kettle with a lid and secure with a clamp.
- D. Attach the collection trap to the kettle and the condenser to the trap.
- E. Run an adequate amount of cold water through the condenser to insure that hot vapors will be trapped.
- F. Apply heat with a heating mantle and variac which should be set to 70%.
- G. After boiling begins check and if needed adjust the variac setting and water flow.
- H. Allow boiling to continue until the organic layer (top layer in the trap) remains constant.
- I. When distillation is complete turn off the variac and allow the apparatus to cool.
- J. Pipette the organic layer from the trap and place in an appropriate vial.
- K. Inject a sample of the organic layer into a gas chromatograph and/or mass spectrometer.  
SEE INSTRUMENT PROCEDURE MANUAL OR MANUFACTURER'S  
OPERATION MANUAL.

IV. Safety Concerns

- A. Burns may result from contact with hot items such as the kettle and trap.
- B. Glass kettles and covers may break if dropped.

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