Acceptable Packaging:

Proper fill is approximately ½ full. Overfilling containers increase the chances of getting negative results. Material to be analyzed for ignitable liquids need to be packaged in an air-tight and vapor-tight container. Containers NOT approved for packaging of evidence suspected of containing volatile or ignitable liquids include paper bags, cardboard containers, paper products and containers, film canisters, coffee cans, or any previously used containers. Below are containers that have been approved by this laboratory for use. Evidence packaged in polyethylene bags, some plastic containers, or other questionable packaging will be evaluated by the analyst prior to or after analysis to determine the extent of any contamination related to the packaging. Improperly packaged materials for fire debris analysis may be returned to the submitting agency without analysis.

- Metal Paint cans
  - Cheap, easy to use, and require only a tool to seal the lid on the can
  - Limited sizes available, rust over time (especially when water is present), debris in located in the friction groove can prevent proper seal, they are bulky to keep and store
- Glass jars (mason type)
  - Allows you to see what is packaged, rubber ring creates a liquid tight seal, no special tools are required for use, and they are good for packaging liquids
  - Breakable and bulky to keep or store
- Fire Debris bags (Ampac - KAPAK arson bag available from www.ampaconline.com)
  - Specially designed to retain ignitable liquid vapors, easy to transport, less bulky than metal cans or jars, and can be used for odd-shaped items
  - Requires an operating heat sealer on site, more expensive, and bag can be punctured
  - Must leave enough room in the bag to allow for vapor analysis and to allow for re-sealing

Considerations when packaging

- General
  - For fire debris analysis, the term sealed refers to air-tight and vapor-tight
  - Place item in an approved container so that the most likely part to contain an ignitable liquid is on top (strips of carpet/chimney rolls, etc)
  - Increase the surface area by breaking or tearing
  - Remove excess water; if a rainbow is noticed, package and submit separately
  - Label as biohazard appropriately (if removed from or touching a body, tissue, etc)
  - Do NOT place gloves or evidence tags inside cans with evidence
  - Once evidence is collected and placed in an approved container, place a strip of evidence tape over the lid to prevent tampering
  - Provide the lab with control blanks for absorbent materials and containers.
- Clothes
  - Packaging can be difficult, cut and package separately if needed
- Shoes
  - Whole shoes can be placed inside the can (up to about a men’s size 11)
  - Larger shoe sizes must be cut
  - Consider separating the upper portion from the sole and package separately
• Liquids
  o Collect and handle liquids last to prevent accidentally contaminating other items for testing
  o Pour liquids from their original containers to obtain a small amount for testing (<1oz); especially true when submitting container for Latent Print analysis
  o Liquids should be placed in a glass vial with a screw cap and then secured in a second container (such as a pint sized paint can); surround glass jar with absorbent material to prevent breakage if desired
  o Provide the lab with ALL information from the labels of any liquids submitted
  o Absorbent materials may be used instead of collecting liquid; submit a comparison sample of material used

• Special Considerations
  o Light volatile organics
    • Alcohols, acetone, MEK, etc.
    • If suspected, note on the evidence submittal form in the description
  o Microbes
    • Some microbes use ignitable liquids as a food source
    • Notify evidence technician if recovered sample is from a body, contains soil or other biological materials.
    • Store in freezer to reduce the likelihood of degradation
  o Human Tissue
    • Isolated by ME or Coroner as soon as possible (trachea, lungs, skin)
    • Do not use or allow the use of preservatives in the sample; if used, a comparison sample of the preservative must be submitted
    • Place in approved container, label as biohazard and submit to the laboratory as soon as possible for testing
    • Store in freezer
    • Notify evidence technician/analyst upon evidence intake so it can be stored and handled properly

• Comparison samples
  o “a sample of material collected from a fire scene which is, to the best of the investigator’s knowledge, identical in every respect to a sample suspected of containing an ignitable substance, but which does not contain ignitable substance.” (ASTM E1732-09)
  o “a sample of suspected ignitable substance submitted for the purpose of comparing with any ignitable substance separated from a debris sample.” (ASTM E1732-09)

• Possible Sources of Cross Contamination
  o Contaminated turnout gear used during suppression or overhaul
    • Wear clean or disposable clothes such as Tyvek suits
    • Use disposable gloves; discard before collecting next sample
  o Portable fuel-powered equipment or vehicles
  o Contaminated tools
    • Clean tools between uses. For metal tools, use a grease cutting detergent, brush, and rinse with a strong water stream.
    • Do NOT use scented detergents
  o Improperly stored evidence collection supplies
    • Use new, clean containers
    • Send a negative control along with the case