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COLLECTION GUIDE



FIRE DEBRIS evidence

In fire scene investigation the collection of physical evidence is an integral part of a properly conducted fire investigation. The fire investigator must be able to identify items of evidence as well as recognize the legal necessity of properly protecting, collecting and handling this important material.

REQUIRED DOCUMENTATION OF EVIDENCE

Prior to handling any physical evidence, a record must be made of its position and condition to include;

- Photographs
- Measurements
- Sketches
- Descriptive notes

COLLECTION OF EVIDENCE

The fire investigator collecting the evidence should be guided by ASTM E1188, NFPA 921, as well as by the policies and procedures of the laboratory that will examine the evidence.

Questions relative to proper evidence packaging should be directed to your laboratory to obtain any necessary clarification.

The investigator collecting evidence samples must take precaution to prevent cross contamination of samples during collection by ensuring use of disposable gloves and clean collection tools. Tools should be cleaned with liquid soap such as dish soap or other non-alcohol based cleaners and water. The gloves are to be changed prior to collection of each subsequent sample. Used gloves should **NOT** be included with the evidence sample or attached to the container. The use of gasoline powered tools must be avoided to prevent evidence contamination

EVIDENCE SAMPLE TERMINOLOGY

- Suspect Sample - Sample believed to contain ignitable liquid residue.
- Comparison Sample- Sample of like material of suspect sample but taken from a location thought to be free of ignitable liquid residue.
- Control Sample - sample of identical item as suspect sample obtained from the product manufacturer or other source from outside of the fire scene.

PACKAGING OF EVIDENCE

The selection of the appropriate container depends on the physical state and characteristics of the sample and the type of test requested. The container used must seal in any volatile ignitable liquid vapors and prevent cross contamination between samples. Acceptable containers include:

- Cans - New, clean, unused, lined metal or polyester cans of various sizes.
- Jars - New, clean, unused "Mason" or baby food type jars.
- Bags - Nylon or polyester bags made specifically for use in fire debris analysis.
Common consumer plastic bags, paper bags, and cardboard boxes are all NOT acceptable since the ignitable liquid vapors can evaporate through the package.

I) Solid Samples: Examples - Wood, plastic, carpet and clothing.

- Cans, jars and bags are acceptable containers.
- Containers should not be filled beyond two-thirds and packing down of materials within the container should be avoided.
- Ensure that the containers are closed securely to prevent loss of volatile vapors.

II) Liquid Samples: Examples - Standing pools and container contents.

Liquid samples can be collected with clean unused;

- Syringe
- Eye dropper
- Pipette
- Sterile gauze bandages.

One (1) ounce or five (5) milliliters of liquid sample is sufficient for analysis. Liquid samples should be secured in small screw cap bottles. The bottle should then be secured inside of a clean unused can. Clean paper towels can be used to protect the bottle inside of the can. When gauze is utilized, a comparison sample of the gauze must be submitted in a separate container. All other liquid collection tools should be discarded, NOT included with the evidence sample.

III) Soil Samples: Examples - Dirt, sand, leaves, grass, and foliage.

Soil readily absorbs and retains ignitable liquid residues which makes it a good source for laboratory analysis.

- Collect in new, clean, unused proper cans.
- Sample should be refrigerated or frozen. Soil contains bacteria which will destroy hydrocarbon products. Freezing of the sample will preserve the integrity of the evidence.

IV) Samples with multiple purposes.

Investigators will on occasion secure evidence that will require multiple types of testing such as;

- Ignitable liquid and residue identification
- Finger prints
- DNA

Situations such as this require the investigator to seek input from the laboratory personnel prior to collecting the sample. In some cases the type of test requested will dictate the type of container to be used and the sequence of the tests to be performed. In some cases multiple testing will not be possible and priority will need to be established for the type of tests desired. Procedures used to perform one test may eliminate the possibility of other tests. In these cases the investigator will have to decide which form of evidence and test will provide the strongest evidence for the case.

LABELING/SEALING

All containers must be properly labeled according to your agency's procedures and in accordance with the ASTM E1459 standard to contain as a minimum;

- Agency Name
- Case Number
- Location of sample collection
- Date/time of collection
- Name of person collecting evidence

The evidence label is to be placed on the side of the evidence container and not on the top of it.

All evidence containers must be properly sealed to prevent loss or contamination. Seals should be initialed and dated by the collector. A written evidence log must be started and maintained from the time the evidence is secured until the final conclusion of the case.

FIRE DEBRIS EVIDENCE ~ ID# _____	
Agency: _____	Case# _____
Investigator: _____	Phone: () - _____
Incident Date: ___/___/___	Time _____ Collected: ___/___/___ Time _____
Collected By: _____	Agency: _____
Location Found: _____	
Type of Sample: Suspect Sample []	Comparison Sample []
Detected by: Canine []	Mechanical Sniffer [] Human Nose []
Description: Glass []	Soil [] Liquid [] Paper [] Wood []
Carpet []	Cloth [] Plastic [] General Fire Debris Type Unknown []
Comment/Other _____	
Agency Surrendered To: _____	Date/Time _____

example template

* form is available at the Office of Fire Prevention and Control website:
www.dhSES.ny.gov/ofpc

SUBMISSION TO LABORATORY

Ignitable liquid residue is volatile and must be transported to the laboratory as soon as possible to prevent evaporation and container failure.

Evidence can be hand delivered by the collecting agency or transported via certified courier services such as USPS, UPS, or FedEx. Requirements for proper chain-of-custody must be followed. All submissions must be accompanied by a properly and completely filled out request for laboratory analysis form.

Upon completion of the laboratory analysis, a report will be generated reflecting the laboratory's findings. These results are confidential and will not be released to anyone other than the submitting agency or an appropriate officer of the court.