The OFPC Arson Bureau is publishing this technical advisory as a follow-up to an issue reported in 2009 relative to container failures as experienced from the degradation of certain metal evidence containers when being used for collecting fire debris and submission for analysis. As a result of an ongoing study and through a joint effort by OFPC, the Arson Technical Work Group representing the public crime laboratories throughout the state and the SUNY Forensic Sciences Program, the following recommendations are made in relation to the proper selection and use of evidence containers as utilized for Fire Debris Analysis.

- NEVER use a metal can which exhibits any signs of rust on the interior, exterior, lid or lid seal to collect evidence. New metal Cans with an epoxy lining are preferred.

- Prior to being used for evidence collection, store all metal evidence cans with their lids tightly affixed and in an environment to avoid contamination by ignitable liquid residues or vapors. Clean cans should not be stored in the same location as containers of ignitable liquids (i.e. gasoline, lighter fluids, paint, etc.).

- When using an epoxy lined metal container, a batch tracking process should be established by the fire investigation agency whereby a sealed empty can is selected from each batch of cans purchased to serve as an exemplar with this exemplar can submitted to your local forensic crime lab for testing as a representative control of the background profile of the epoxy lining.

- Prompt Submission of fire debris evidence to the laboratory for analysis is Critical
  - Trace residue of ignitable liquids in fire debris is susceptible to rapid degradation and loss during storage and must be tested promptly.

- WHEN POSSIBLE AND PRACTICAL, REFRIGERATE OR FREEZE fire debris samples containing soil, foliage or organic materials between the time of collection and transport to the forensic laboratory.
  - Refrigeration or freezing has proven successful in facilitating the preservation of the volatile substances as often associated with fire debris samples and preventing microbial degradation of ignitable liquid residue.
  - DO NOT use a Frost Free Unit to refrigerate or freeze a fire debris sample. The freeze/thaw cycle may degrade the sample and ability to identify any trace ignitable liquid present; and promote the formation of rusting of the containers.
LIQUID SAMPLES
- The preferred method is to collect a small amount of the suspect liquid utilizing a new clean and unused pipette, placing the sample in an appropriate glass vial suitable for ignitable liquid, packaging the tightly closed vial in a sealed lined quart evidence can for submission to the laboratory.

- When utilizing a cotton swab to collect a liquid sample the preferred method is to place the swab in a quart can to minimize excessive head space which will aid in capturing the sample.

When using EVIDENCE BAGS, be sure the bag is specifically designed for fire debris which is suspected of containing ignitable liquid residues, that the bag specifications indicate it is hydrocarbon free, and to follow the specific requirements of the evidence bag manufacture to achieve the proper seal which should include a double seal method. Once sealed, no evidence bag should be found to leak air prior to submission to the laboratory.

- Selecting the proper container and assuring an effective seal are Critical in preserving the fire debris and/or ignitable liquid sample and preventing contamination.

For questions regarding this bulletin please contact the NYS OFPC Arson Bureau at 518.474.6746 or your local public crime laboratory.