



Houston Forensic Science Center

Evidence Handbook

Client Services & Case Management Division



Table of Contents

1. Introduction and General Information	4
1.1. Introduction	4
1.2. Purpose	4
1.3. General Information	4
2. Discrepancies	5
2.1. General Information	5
3. Requests for Crime Scene Investigation (including Vehicle Processing) Services	6
3.1. Requests	6
3.2. Crime Scene Investigation Services	6
4. Requests for Testing Services	7
4.1. Requests	7
4.2. Case Priorities	7
5. LIMS Portal Procedure	8
5.1. Submitting Requests	8
6. HFSC Evidence Submission Form	8
6.1. General Information	8
7. General Evidence Handling	9
7.1. Labeling and Sealing	9
7.2. Collecting and Packaging	9
8. Crime Scene Investigation and Vehicle Processing Services	11
8.1. Scope	11
8.2. Crime Scene Services Offered	11
8.3. Crime Scene Services Not Offered	11
9. Seized Drugs	12
9.1. Scope of Testing	12
9.2. Submitting Evidence	12
9.3. Collection/Handling Procedures	12
10. Serology and DNA	16
10.1. Scope of Testing	16
10.2. Submitting Evidence	16
10.3. Collection/Handling Procedures	16



10.4. Contamination.....	18
10.5. Transportation and Storage.....	19
10.6. Elimination Samples.....	19
11. Firearms.....	21
11.1. Scope of Testing.....	21
11.2. Submitting Evidence.....	22
11.3. Firearms to be rendered safe.....	22
11.4. Collection/Handling Procedures.....	23
12. Toxicology.....	25
12.1. Scope of Testing.....	25
12.2. Submitting Evidence.....	25
12.3. General Specimen Handling Guidelines.....	25
12.4. Collection/Handling Procedures.....	26
12.5. General Toxicology Kit Collection Packaging Instructions.....	27
13. Latent Prints.....	32
13.1. Scope of Testing.....	32
13.2. Services Offered.....	32
13.3. Submitting Evidence.....	32
13.4. Collection/Handling Procedures.....	33
14. Digital and Multimedia Evidence (DME).....	35
14.1. Scope of Testing.....	35
14.2. Submitting Evidence.....	35
14.3. Collection/Handling Procedures for Forensic Audio and Video Analysis.....	35
14.4. Collection/Handling Procedures for Digital Forensics.....	37
14.5. Investigative Procedures.....	38
APPENDIX A.....	39



1. Introduction and General Information

1.1. Introduction

We appreciate you selecting the Houston Forensic Science Center (HFSC) to be your forensic science service provider. We are committed to providing quality work, timely analysis, and professional customer service. We strive to work closely with you to exceed your expectations. To help us meet our goal of impeccable customer service, this evidence handbook has been created. To allow us to better serve your needs, please ensure that you are using the most current version of this Evidence Handbook. The current version of this handbook and discipline-specific evidence handling videos can be found on the HFSC website: <https://hfsctx.gov>.

1.2. Purpose

The purpose of this handbook is to acquaint HFSC's clients with the forensic services offered and submission guidelines set by HFSC. This handbook is intended as a guide to assist clients in the proper method of evidence collection, packaging, submission, and requesting forensic services.

1.3. General Information

1.3.1. HFSC strives to provide high quality forensic services in the following disciplines:

- Seized Drugs
- Serological evidence testing for blood and semen
- DNA testing
- Firearms examinations (including serial number restoration)
- Toxicology (including alcohol analysis)
- Latent Prints
- Digital & Multimedia
- Crime Scene Investigation (including vehicle processing)

1.3.2. When requesting crime scene investigation and/or submitting evidence to HFSC, clients permit and acknowledge the following:

1.3.2.1. Once HFSC accepts a request for analysis or crime scene investigation, the accepted request is considered an agreement between the client and HFSC.

1.3.2.2. HFSC's forensic practitioners will select the most appropriate testing methods to fulfill the request based upon the information provided. Testing methods used are available for review, upon request.

1.3.2.3. HFSC may collect or select the item(s) most appropriate for analysis or elect not to collect or analyze all items based upon the needs and circumstances of the case. This is not considered a change in the agreement.

1.3.2.4. In instances where the requested analysis requires the consumption of all the evidence, the client will be notified.

1.3.2.5. Case-related discrepancies may result in the evidence being rejected. Analysis may not be conducted until all discrepancies are corrected. See Section 2 for more information.

1.3.2.6. All evidence will be returned to the responsible agency upon completion of testing.

1.3.3. HFSC may need specific information from the client in order to fulfill a request for analysis. In such circumstances, HFSC will contact the client in an attempt to obtain the



needed information. If after five business days the client has not responded, HFSC can close the request.

- 1.3.4. After receiving the report, the client, in turn, may contact HFSC to discuss the services performed or to request other services.
- 1.3.5. Evidence will not be transported for court purposes by the Houston Forensic Science Center.
 - 1.3.5.1. If evidence is needed in court, the requestor must pick up and/or facilitate the transport of evidence from the responsible agency.

2. Discrepancies

2.1. General Information

- 2.1.1. HFSC holds evidence to the highest of standards. Evidence must be submitted in a condition that ensures its unambiguous identification to a case or to an individual, as appropriate. The evidence must also be protected from loss, cross-contamination and/or deleterious change.
- 2.1.2. All evidence must be properly sealed.
 - 2.1.2.1. Please reference section 7 of this manual to see what constitutes a proper seal.
 - 2.1.2.2. Exceptions may be made for evidence items that do not easily lend themselves to sealing, such as large or bulky items.
- 2.1.3. Evidence packaging seals are verified to ensure integrity prior to acceptance at HFSC. Discrepancies in case related information may result in HFSC's refusal to accept or analyze the evidence in question. The following discrepancies may result in a notification to the client indicating the evidence has not been accepted for analysis.
 - 2.1.3.1. Inconsistent subject name (including when the name is not exactly the same on all documentation or evidence items and when the evidence and submission information do not match) when the evidence is associated with a particular individual (such as in biology or toxicology).
 - 2.1.3.2. Conflicts between dates of birth on evidence and submission form or LIMS equivalent, when the evidence is associated with a particular individual.
 - 2.1.3.3. Inconsistent case identifiers on evidence and submission form or LIMS equivalent.
 - 2.1.3.4. Evidence items not labeled with pertinent information (subject name and client case identifier).
 - 2.1.3.5. Outer-most evidence container improperly sealed.
 - 2.1.3.6. Compromised evidence (e.g., leaking, cracked, or tampered container).
 - 2.1.3.7. Inconsistent descriptions between evidence received, submission form or LIMS equivalent, and evidence documentation.
- 2.1.4. Minor discrepancies will be documented in the case record and may also be included in reports issued by HFSC.



3. Requests for Crime Scene Investigation (including Vehicle Processing) Services

3.1. Requests

3.1.1. Pending an agreement, clients may request crime scene assistance 24/7 by calling the Crime Scene Unit at 713-929-6760, option 1.

3.2. Crime Scene Investigation Services

3.2.1. Requests for crime scene investigation services will be assessed based on the crime type, complexity of forensic services needed, and available personnel. The Crime Scene Unit (CSU) typically responds to the following case types:

- Homicides
- Officer Involved Shootings
- Child Deaths
- Aggravated Sexual Assaults
- Aggravated Robberies
- Aggravated Assaults
- Death Investigations

3.2.2. A search warrant and/or “consent to search” form may be necessary. If so, a copy shall be provided to the crime scene investigator (CSI) for review prior to the processing of any vehicles at the Vehicle Examination Building (VEB). A search warrant and/or “consent to search” form should be provided physically or verbally to the CSI for review prior to the processing of the crime scene. If a search warrant is needed, please contact the Crime Scene Unit **after** obtaining the warrant.

3.2.3. The investigating agency is responsible for providing security at the crime scene for the entire duration of crime scene processing.



4. Requests for Testing Services

4.1. Requests

- 4.1.1. HFSC may receive requests for forensic services through various means, such as telephone calls, emails, or delivery services. These requests are considered reviewed and accepted when the request is created in LIMS by section management or designee. HFSC will notify clients if a request cannot be fulfilled. HFSC may outsource evidence to other laboratories or request forensic services from other forensic service providers on behalf of the client.
- 4.1.2. Generally, requests are worked on a first come, first served basis. Clients are responsible for notifying HFSC of the need for expediting a request. Requests may be worked on a rush/priority status.

4.2. Case Priorities

- 4.2.1. Case priorities will be established according to the following criteria:
 - 4.2.1.1. Crimes against persons (homicides, sexual assaults, etc.) take precedence over crimes against property.
 - 4.2.1.2. Cases set for court will be prioritized according to the notice provided. Priority status will be determined by the Section Manager or designee.
 - 4.2.1.3. Investigative priority cases that require immediate analysis.
 - 4.2.1.4. HFSC also adheres to a multidisciplinary request (MDR) policy to ensure evidence items follow a proper testing order for each requested discipline. Items of evidence that are requested for testing by multiple disciplines will be prioritized in a manner that does not affect the integrity of the evidence and may deviate from the normal case prioritization criteria.



5. LIMS Portal Procedure

5.1. Submitting Requests

- 5.1.1. Representatives with the Houston Police Department (HPD) or the Harris County District Attorney's Office (HCDAO) have access to the [Where's My Result](#) portal.
 - 5.1.1.1. All requests for analysis from these agencies must be submitted through the portal.
 - 5.1.1.2. For access to the LIMS portal system, please email wheresmyresult@hfsc.onmicrosoft.com.
 - 5.1.1.3. For all other agencies, please contact HFSC at triage@hfctx.gov.
- 5.1.2. When using the LIMS portal system to submit a request, please ensure all items of evidence being requested for testing are selected and all required fields are filled out as completely and accurately as possible.
 - 5.1.2.1. Electronic submissions serve as an agreement between the client and HFSC.

6. HFSC Evidence Submission Form

6.1. General Information

- 6.1.1. The HFSC Evidence Submission Form is designed to ensure that HFSC has all the necessary information about the case and to assess its capabilities in meeting the client's request. Submission forms must be filled out as completely as possible and **must be legible**. Please note that incorrect or incomplete submission forms may prevent the processing of evidence.
- 6.1.2. The current version of the HFSC Evidence Submission Form can be downloaded from the HFSC website: <https://hfctx.gov>.
- 6.1.3. If you have any questions regarding laboratory services, please call HFSC at 713-929-6760 or email triage@hfctx.gov.



7. General Evidence Handling

The following principles are given for general guidance. HFSC's staff can answer questions regarding handling of evidence.

7.1. Labeling and Sealing

- 7.1.1. To preserve the identity and chain of custody of each item of evidence, each sample or exhibit must be labeled. All outer evidence containers must be labeled. Labeling should not occur on the item itself; rather it should be on a tag attached to the item in an area not to be tested or on its individual container.
- 7.1.2. HFSC recommends outer containers be labeled with the agency's case number and item number(s). For inner package labeling, refer to each discipline's specific requirements. Other pertinent information may also be included, depending on each agency's policies. An item numbering system should be used when referring to item numbers on the submission form.
- 7.1.3. Small items should be placed in appropriate containers. **ALL EVIDENCE MUST BE LABELED AND PROPERLY SEALED.** Evidence seals are inspected to ensure they protect evidence from loss, cross-transfer, contamination, or deleterious change. An evidence container is properly sealed if the contents cannot readily escape and if entering the container results in obvious damage or alteration to the container or its seal. Heat sealed plastic bags are also acceptable if initials/signature are included on the seal. Please do not use staples as they do not constitute a proper seal and may present a safety hazard. All of these steps are taken in an effort to ensure that if a seal has been tampered with, it will be evident.
 - 7.1.3.1. The following are *best practices* regarding seals:
 - 7.1.3.1.1. All openings are completely sealed with tape.
 - 7.1.3.1.2. Initials/signature and date are placed crossing the barrier between the seal and the container.
- 7.1.4. Any items suspected of containing blood or other bodily fluids should be labeled as a "Biohazard".
- 7.1.5. Any items suspected of containing glass and/or sharp objects (such as syringes or knives) should be packaged in a puncture resistant container and should be identified as such on the outer container.

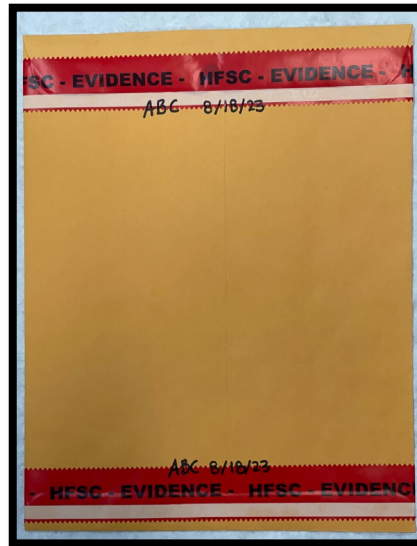


7.2. Collecting and Packaging

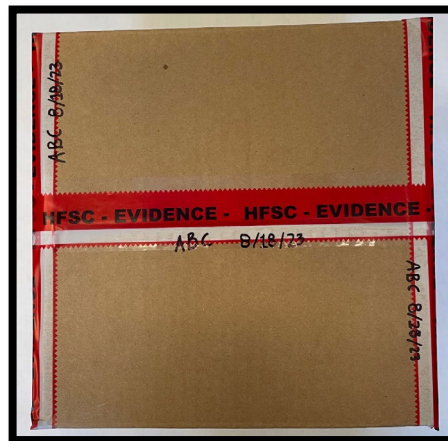
- 7.2.1. When packaging evidence, the goal is to preserve the original integrity of the samples. For this reason, samples should be properly segregated and handled with gloves so that contamination does not occur. Evidence samples must be packaged separately. All envelopes and other containers used to package evidence items must be clean and not previously used.
 - 7.2.1.1. Firearms that are suspected of being loaded or firearms that cannot be rendered safe must be clearly labeled as such.
- 7.2.2. Place the evidence of one case in external containers that have been labeled with that case information only. Do not place evidence from more than one case in the same external container unless that container is used only for the convenience of transport, does not have any case information, and is unsealed.



An example of a properly sealed envelope:



An example of a proper seal on top of a box:





8. Crime Scene Investigation and Vehicle Processing Services

8.1. Scope

8.1.1. The Crime Scene Unit provides quality documentation, preservation, and collection of evidence present at crime scenes. The Crime Scene Unit shall follow appropriate evidence collection and handling procedures detailed in the Crime Scene Unit Standard Operating Procedures when submitting evidence to the requesting agency after collection at the scene and/or VEB.

8.2. Crime Scene Services Offered

- Evidence preservation and collection
- Crime scene photography
- Vehicle examinations and processing
- Impression casting and recovery
- Latent print processing
- 3D Scanning Documentation (Diagramming)
- Presumptive blood testing and chemical blood enhancement

8.3. Crime Scene Services Not Offered

- Clandestine laboratory processing or collection of human remains
- Bloodstain pattern analysis
- Crime Scene and/or shooting reconstruction
- Major case prints and ten print card collection/processing



9. Seized Drugs

9.1. Scope of Testing

9.1.1. The Seized Drugs Section provides quality analysis of evidence received for the presence of controlled substances including pharmaceutical and illicit drugs, botanical material, related chemicals and paraphernalia as well as dangerous drugs.

9.2. Submitting Evidence

9.2.1. Please complete a submission form for all requests not made through the LIMS portal system. Please reference the HFSC Submission Form at <https://hfscctx.gov> for instructions on how to fill out the form.

9.3. Collection/Handling Procedures

9.3.1. General Packaging

9.3.1.1. Submit drug evidence in an appropriately sized container.

9.3.1.2. Evidence may require additional packaging before being placed in an outer container. Inner packaging may include zippered bags, heat sealed bags, plastic bottles, or other containers appropriate for the evidence being submitted. For example, place suspected small crack rocks in a zippered bag and seal in an evidence envelope for submission; or package liquids in spill-proof containers to prevent leaking.

9.3.1.3. Evidence from separate locations should be individually packaged and labeled appropriately before being placed in an envelope or outer container for submission.

9.3.1.4. Multiple pieces of evidence collected from multiple suspects should be individually packaged and labeled appropriately before being placed in an envelope or outer container for submission.

9.3.1.5. Large drug seizure evidence should be sub-divided into containers weighing no more than forty (40) pounds. Individual bundles weighing more than forty pounds do not have to be subdivided.

9.3.1.6. After the physical evidence is carefully placed in an outer container, the outer container is then ready for sealing. **Refer to 7.1.3 for recommendations on a proper seal.** Use tamper-evident tape, such as evidence tape or clear 2" packing tape.

9.3.1.7. An appropriate guideline to follow is to place a seal on all points of entry of the container, such as both ends of an envelope or the top and bottom of a box so that entrance into the container is evident.

9.3.1.8. If evidence is being submitted for Seized Drugs analysis as well as Biology processing and/or Latent Print processing, gloves should be worn, and handling of packaging minimized to preserve latent print evidence and prevent contamination. Submission information should clearly indicate that Latent Print and/or Biology processing is requested.



9.3.2. Plant Material

9.3.2.1. There is a large quantity of moisture present in leaves of fresh plant material; therefore, it is best to package fresh or live plant material subject to mold or mildew in a breathable container such as a brown paper bag, box, or burlap bag to allow for continued drying before and after submission. Wet or fresh plant material placed in plastic will cause condensation and fungal growth. No analysis will be performed on plant material that has undergone excessive decomposition.

9.3.2.2. HFSC recommends that roots and dirt be removed from fresh plant material before submitting.

9.3.2.3. **Dried** plant material can be packaged in a zippered bag, but it is best to package **moist** plant material in paper bags or boxes to allow for continued drying after submission.

9.3.3. Liquids

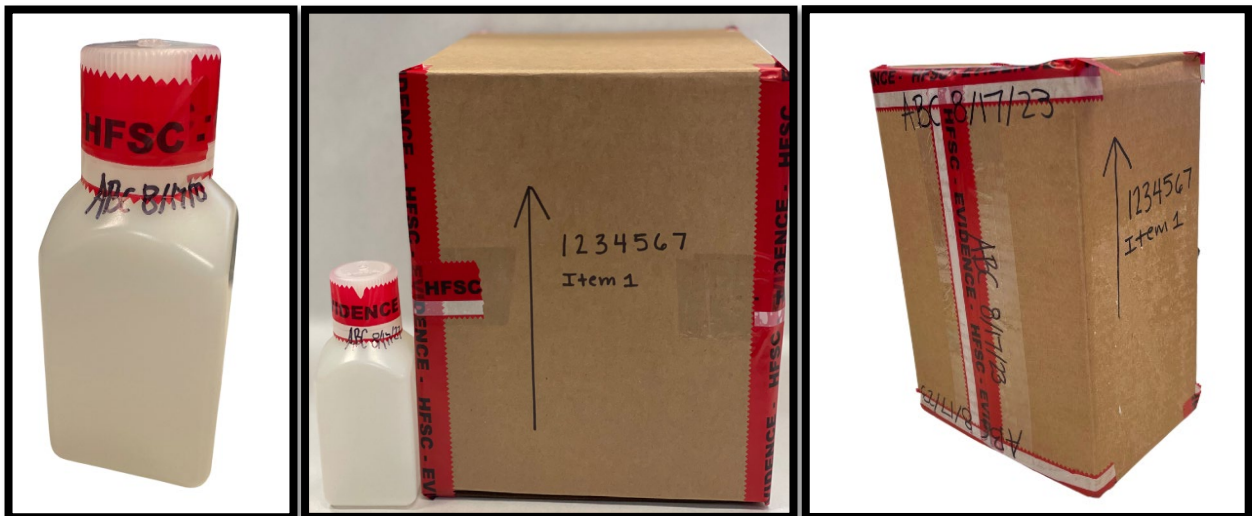
9.3.3.1. Package collected liquids in a sturdy plastic bottle 2/3 of the way full with a secure lid. When the volume is too large to fit one container, multiple containers are permitted.

9.3.3.2. Glass vials with liquid may be submitted, but the glass vials should be placed inside a zippered bag and packaged in such a way to minimize breakage.

9.3.3.3. Label bottles and/or bags clearly with item numbers and initials.

9.3.3.4. Prop bottles upright to reduce the chance of spillage. Please provide directional arrows on outer containers to indicate which end is up.

An example of proper evidence packaging:





9.3.4. Biohazard Evidence

9.3.4.1. Drug evidence confiscated from a body cavity, mouth, toilet, or other infectious environments is considered a biohazard and should be labeled and treated as such. The greatest safety hazard is associated with biological fluids and biological materials with syringes, razors, and broken glass. These items pose a threat to law enforcement and laboratory personnel for the transmission of human immunodeficiency virus (HIV) and Hepatitis. Universal bloodborne pathogen precautions should be followed. Appropriate personal protective equipment (PPE) such as eye protection, lab coat, and nitrile gloves should be used during collection and handling of biohazard evidence.



9.3.4.2. Collection

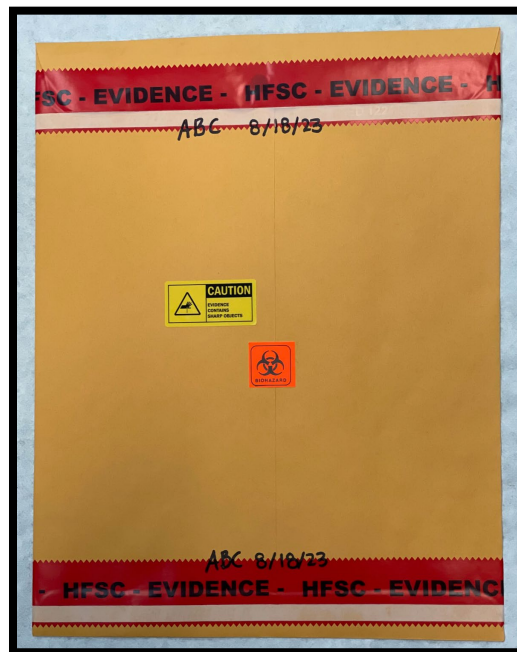
- 9.3.4.2.1. **Puncture resistant containers** should be used and appropriately labeled for any exhibits that are considered a “sharp” (for example, syringes, razor blades, broken glass or anything that could puncture the skin).
- 9.3.4.2.2. Ideally, universal biohazard labels should be placed on all layers of packaging, containers, and submission form(s).
- 9.3.4.2.3. Syringes should be capped, preferably with their own needle cover, before being placed in a puncture resistant container. It is best to leave any liquid contents in the syringe. Do not attempt to transfer the contents of the syringe to another container.
- 9.3.4.2.4. **Do not** submit syringes with exposed needles in an evidence envelope. If a syringe needle cannot be capped, then the syringe must be placed facing down in a container where the needle cannot puncture the packaging. An example of this packaging would be a syringe safety container or Nalgene bottle with a secure lid.
- 9.3.4.2.5. The syringe **will not** be analyzed if not appropriately packaged.



An example of proper sharp biohazard evidence inner packaging:



An example of proper sharp biohazard evidence outer packaging:





10. Serology and DNA

10.1. Scope of Testing

10.1.1. Serological Evidence Testing for Blood and Semen

10.1.1.1. Serological testing identifies biological material, mainly blood and semen, using presumptive and confirmatory methods. Items can also be tested for possible touch DNA. When biological material is detected, the specimen is preserved for DNA analysis.

10.1.2. DNA Testing

10.1.2.1. For cases where serological evidence is identified, the items are analyzed to develop DNA profiles. Each DNA profile is then compared to reference samples collected from known individuals associated with the case in an effort to match an unknown profile to a known individual.

10.1.2.2. The Combined DNA Index System (CODIS) is an investigative tool that enables the laboratory to exchange and compare both known and unknown DNA profiles on the local, state, and national levels. For more information on CODIS, please visit <http://www.fbi.gov/about-us/lab/biometric-analysis/codis/codis-and-ndis-fact-sheet>.

10.2. Submitting Evidence

10.2.1. Please complete a submission form for all requests not made through the LIMS portal system. Please reference the HFSC Submission Form at <https://hfctx.gov> for instructions on how to fill out the form.

10.2.2. All evidence for serology/DNA testing that is associated with an HPD incident shall be submitted to the HPD Property Room.

10.2.3. For information regarding sample submission limits, please refer to the Forensic Biology Case Management Policy at <https://hfctx.gov> under the *Evidence Submission* tab.

10.2.4. For all other submitting agencies, please contact HFSC at 713-929-6760 or via email at triage@hfctx.gov if you have any questions or require assistance.

10.3. Collection/Handling Procedures

10.3.1. Identifying DNA Evidence

10.3.1.1. The list below identifies some common items of evidence that may be collected, the possible location of DNA on the evidence, and the biological source containing the DNA.



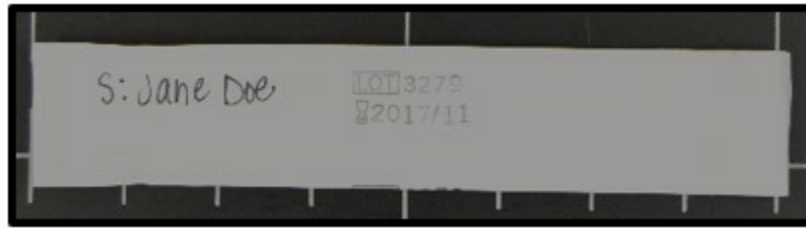
Evidence	Possible Location of DNA on the Evidence	Source of DNA
Baseball bat	Handle, end	Sweat, skin, blood, tissue
Hat, bandana, or mask	Inside	Sweat, hair, dandruff
Eyeglasses	Nose or earpieces, lens	Sweat, skin
Facial tissue, cotton swab	Surface area	Mucus, blood, sweat, semen, ear wax
Dirty laundry	Surface area	Blood, sweat, semen
Toothpick	Tips	Saliva
Used cigarette	Cigarette butt	Saliva
Used stamp or envelope	Licked area	Saliva
Tape or ligature	Inside/outside surface	Skin, sweat
Bottle, can, or glass	Sides, mouthpiece	Saliva, sweat
Used condom	Inside/outside surface	Semen, vaginal or rectal cells
Blanket, pillow, sheet	Surface area	Sweat, hair, semen, urine, saliva
“Through and through” bullet	Outside surface	Blood, tissue
Bite mark	Person’s skin or clothing	Saliva
Fingernail, partial fingernail	Scrapings	Blood, sweat, tissue

10.3.2. Evidence Collection and Preservation

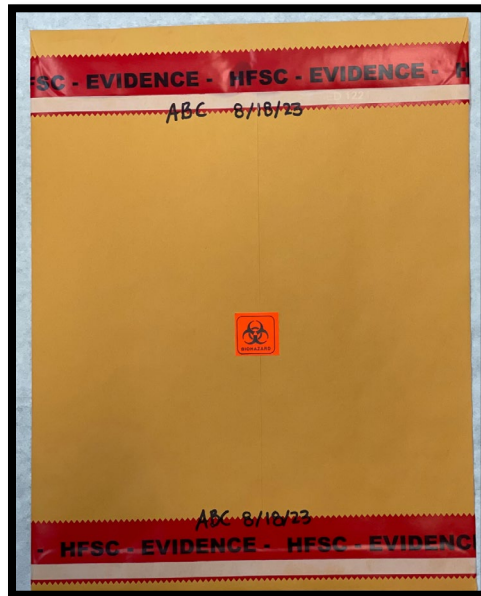
- 10.3.2.1. Clients and laboratory personnel should work together to determine the most probative pieces of evidence and to establish priorities. Biological material may contain hazardous pathogens such as the human immunodeficiency virus (HIV) and the Hepatitis B virus that can cause potentially lethal diseases. Conversely, the collecting officer could contaminate the evidence sample with their own DNA. Given the sensitive nature of DNA evidence, clients should always contact laboratory personnel or evidence collection technicians when collection questions arise.
- 10.3.2.2. For buccal swab collection, always use a sterile swab to collect evidence. HFSC recommends collecting two buccal swabs from the interior of the individual’s mouth. Use two swabs to rub the inside of both cheeks of the mouth for up to fifteen seconds to have epithelial cells deposit onto the swab. The swabs may be placed back into the sleeve of the swab packaging. Write the name of the individual from whom the sample was collected on the swab packaging. The swab should then be placed in an envelope with the outer labeling noting the number of buccal swabs present, the identity of the person to whom the swabs belong, and if the individual is a suspect, complainant, or elimination.
- 10.3.2.3. After the physical evidence is carefully placed in an outer container, the outer container is ready for sealing. An evidence container is properly sealed if the contents cannot readily escape and if entering the container results in obvious damage or alteration to the container or its seal.



An example of proper buccal swab inner evidence packaging:



An example of proper buccal swab outer evidence packaging:



10.4. Contamination

10.4.1. Extremely small amounts of DNA can be used as evidence, so greater attention to contamination issues is necessary when identifying, collecting, and preserving DNA evidence. DNA evidence can be contaminated when DNA from another source gets mixed with DNA relevant to the case. This can happen when someone sneezes or coughs over the evidence or touches their mouth, nose, or other part of the face and then touches the area that may contain the DNA to be tested. Because DNA technology called polymerase chain reaction or "PCR" replicates or copies DNA in the evidence sample, the introduction of contaminants or other unintended DNA to an evidence sample can be problematic. With such minute samples of DNA being copied, extra care must be taken to prevent contamination. If a sample of DNA is submitted for testing, the PCR process will copy whatever DNA is present in the sample; it cannot distinguish between the evidentiary DNA and DNA from another source.

10.4.2. **To avoid contamination of evidence that may contain DNA, always take the following precautions:**

10.4.2.1. Wear gloves and change them often.

10.4.2.2. Use disposable instruments or clean them thoroughly before and after handling each sample.



- 10.4.2.3. Avoid touching the area where DNA may exist.
- 10.4.2.4. Avoid talking, sneezing, and coughing over evidence.
- 10.4.2.5. Avoid touching the face, nose, and mouth when collecting and packaging evidence.
- 10.4.2.6. Air-dry evidence thoroughly before packaging or place the evidence in a container that "breathes."
- 10.4.2.7. Put evidence into new paper bags or envelopes, not plastic bags. Do not use staples.

10.5. Transportation and Storage

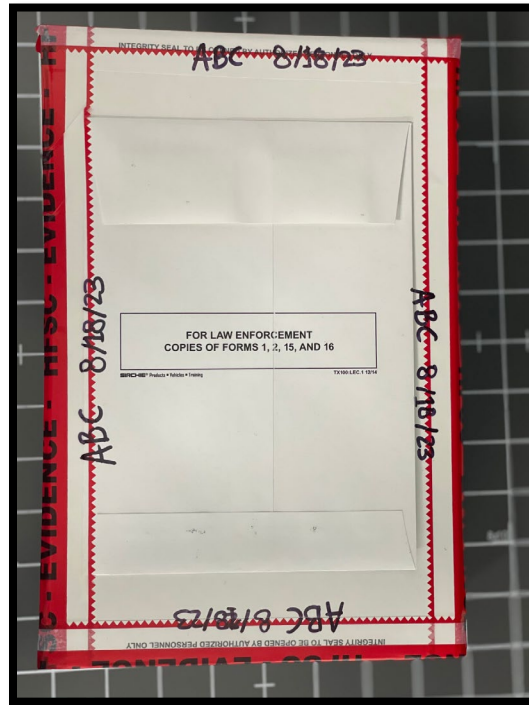
- 10.5.1. When transporting and storing evidence that may contain DNA, keep the evidence dry and at room temperature. Once secured in paper bags or envelopes, the evidence should be sealed, labeled, and transported in a way that ensures proper identification of the collection location and proper chain of custody. **Never place evidence that may require DNA analysis in plastic bags** because plastic bags will retain damaging moisture. Direct sunlight and warm conditions may be harmful to DNA, so avoid keeping evidence in places that may get hot, such as a room or police car without air conditioning. For long-term storage issues, contact the laboratory.

10.6. Elimination Samples

- 10.6.1. As with fingerprints, the effective use of DNA may require the collection and analysis of elimination samples. Elimination samples may be used to determine whether the evidence comes from the suspect or from someone else. For example, in the case of a residential burglary where the suspect may have handled household items, an officer should identify appropriate elimination candidates, such as household members.
- 10.6.2. Elimination samples may be needed for comparison with the DNA found on the household item to determine whether the DNA is probative evidence. In homicide cases, collect the victim's DNA from the medical examiner at the autopsy, even if the body is badly decomposed. This may serve to identify an unknown victim or distinguish between the victim's DNA and other DNA found at the crime scene.
- 10.6.3. When investigating sexual assault cases, collect the DNA of the survivor's recent consensual partners, if any. These samples may be used by the laboratory to eliminate consensual partners as potential contributors of DNA suspected of being from the perpetrator. If this is necessary, approach the survivor with extreme sensitivity and provide a full explanation of why the request is being made. When possible, the help of a qualified sexual assault advocate should be enlisted for assistance.
- 10.6.4. HPD Sexual Assault Information Line: 713-308-1400; HPD Sexual Assault Information Email: sainfo@houstonpolice.org.
- 10.6.5. For more information on DNA and DNA evidence collection, please visit:
 - 10.6.5.1. <http://www.forensicsciencesimplified.org/dna/resources.html>
 - 10.6.5.2. <https://www.ncjrs.gov/pdffiles1/nij/bc000614.pdf>



Examples of a properly sealed sexual assault kit:





11. Firearms

11.1. Scope of Testing

11.1.1. The Firearms Section provides examination and comparison of firearms and firearm related evidence. In addition, the Firearms Section processes items for entry/review into the ballistic imaging system (IBIS) to determine whether or not a particular firearm was fired in a prior incident.

11.1.2. Below is a summary of the evidence items that can be examined and information that can be obtained from the examinations:

Evidence	Examined and Possible Determinations
Fired projectile (bullet)	<ul style="list-style-type: none">• Caliber family, possible specific caliber• List of possible firearm manufacturers that fired the item• If multiple projectiles, were they fired from same firearm or multiple firearms
Fired cartridge case	<ul style="list-style-type: none">• Caliber• Possible manufacturer• Entry into NIBIN database• If multiple casings, were they fired in the same firearm or were multiple firearms used in the offense?
Fired projectile or cartridge case and firearm	<ul style="list-style-type: none">• If fired from/in the submitted firearm
Shot pellets / shot wads	<ul style="list-style-type: none">• Size of shot pellets• Gauge of shotgun slug• Gauge of wad
Firearm	<ul style="list-style-type: none">• General condition and if mechanically functional• Test firing to obtain test specimens for comparison• Test fire for acquisition into the NIBIN database• Serial number restoration• Barrel and overall length of long guns for conformance to statutory requirements

11.1.3. IBIS is the Integrated Ballistic Identification System and is to firearms what the Automated Fingerprint Identification System (AFIS) is to fingerprints. IBIS is the imaging component of NIBIN, the National Integrated Ballistic Information Network, the nationwide network of imaging units. IBIS collects images of fired cartridge cases and compares them against images of other fired cartridge cases (from known and unknown firearms), filtering out and displaying potential matches. If an analyst reviews the potential matches and is confident the system has identified an association, a NIBIN Lead Notification is released to the affected agencies/divisions. The items will not be microscopically compared without a follow-up request from a client.

11.1.4. The HFSC IBIS units automatically search the other regional NIBIN partners to determine



if a firearm was fired in a prior incident outside of the immediate geographic region. If a client has information indicating that a specific firearm or cartridge case may be linked to a crime in another part of the country, please notify HFSC (giving the specific location) and request that a search of that local NIBIN database be conducted for a possible match. HFSC will conduct a manual search. Manual searches can only be conducted for items entered into NIBIN by HFSC.

11.2. Submitting Evidence

- 11.2.1. Please complete a submission form for all requests not made through the LIMS portal system. Please reference the HFSC Submission Form at <https://hfscctx.gov> for instructions on how to fill out the form.
- 11.2.2. Firearms – record the gun type (semiautomatic pistol, revolver, etc.), manufacturer, caliber, model, and serial number.
- 11.2.3. Fired cartridge cases – package the items so they are properly secured in the container. This may require placing the items in an inner container before they are placed in an outer envelope.
- 11.2.4. Fired bullets – package the items so they are properly secured in the container. This may require placing the items in an inner container before they are placed in an outer envelope. Be mindful of sharp edges on many bullets and fragments. These sharp edges can protrude through thin packaging, creating a hazard as well as potential holes in the packages.
- 11.2.5. Biohazardous material – any evidence submitted to the firearms section for testing that is or is suspected of being contaminated with biohazardous material (including ALL projectiles) will be cleaned with a disinfecting solution before analysis proceeds.
- 11.2.6. If items of evidence need to be processed for prints or swabbed for DNA, those requests must be made before or concurrently with any firearms request. Not all items may be suitable for print processing or DNA testing.

11.3. Firearms to be rendered safe

- 11.3.1. If a firearm associated with an HPD case cannot be submitted to the HPD property room because it cannot be safely unloaded, it may be submitted directly to HFSC. Firearms from other clients will be evaluated and accepted on a case-by-case basis.
- 11.3.2. During regular business hours, firearms that cannot be safely unloaded may be submitted directly to HFSC. After regular business hours, firearms may be submitted to the HFSC evidence lockers located at 500 Jefferson. All firearms submitted in this way must be accompanied by a complete submission form or a portal request.
- 11.3.3. Firearms that are suspected of being loaded or firearms that cannot be rendered safe must be clearly labeled as such.
- 11.3.4. Be aware that firearms submitted for safe unloading may be damaged in the process. If a firearm needs to be analyzed, contact HFSC before submitting a request for unloading.



11.4. Collection/Handling Procedures

11.4.1. The collection process is relatively simple and not damaging to firearm evidence items. Damage may have occurred from firing, impact, or accidental. However, damage can also occur when attempting to mark items. While marking of the item can be accomplished without affecting any analyses, HFSC strongly recommends that the evidence NOT BE directly marked. Damage from marking can alter or affect microscopic marks or patterns that may be present and useful for analyses and comparison. Therefore, the preferred method of marking for future identification is to mark the outer container with the appropriate information, either with a label or handwritten.

11.4.1.1. After the firearm has been completely unloaded and ammunition removed, DO NOT place ANY foreign objects in the barrel or in the action of the firearm! Zip ties through the action are acceptable as a way to hold the firearm open.

11.4.1.2. If unfired cartridges are submitted with a firearm, package the cartridges separately from the firearm. Both the packaged cartridges and the firearm can be submitted in the same outer container.

11.4.1.3. If a firearm is recovered in liquid, submit the firearm in a water-tight container filled with liquid from where the firearm was recovered. This will help prevent corrosion of the firearm prior to analysis. Do not allow the firearm to dry before submitting.

11.4.1.4. Plastic bags are acceptable if the items are dry. Breathable packaging, like paper envelopes, should be used for bloody/damp items. If items are contaminated with blood or other bodily fluids, affix a biohazard sticker, or mark the packaging clearly.



An example of items typically submitted for analysis:





12. Toxicology

12.1. Scope of Testing

12.1.1. The discipline of Toxicology provides analysis for the presence of alcohol and other drugs in biological specimens. The laboratory typically performs alcohol and drug screening/confirmation analyses on samples associated with driving under the influence, sexual assaults, and other offenses.

12.2. Submitting Evidence

12.2.1. Please complete a submission form for all requests not made through the LIMS portal system. Please reference the HFSC Submission Form at <https://hfscctx.gov> for instructions on how to fill out the form.

12.2.2. All evidence for toxicology testing that is associated with an HPD incident shall be submitted to the HPD Property Room or a designated submission location approved by HFSC.

12.3. General Specimen Handling Guidelines

12.3.1. The following recommendations are provided as general guidelines for toxicology specimen collectors and based on ANSI/ASB 156 Best Practices for Specimen Collection and Preservation for Forensic Toxicology:

12.3.2. All specimens should be collected and handled using universal precautions.

12.3.3. As a general rule, specimens should not be collected in expired tubes. HFSC recognizes, however, that the expiration date may not reflect the suitability of a particular collection tube.

12.3.4. Except in postmortem cases, blood specimens should be collected using aseptic techniques and a suitable non-alcohol-based antiseptic (e.g., povidone-iodine, hydrogen peroxide, aqueous chlorhexidine).

12.3.5. Specimens should be stored in containers that mitigate leakage and limit the headspace above any fluid. Containers should be checked for a tight seal before transport.

12.3.6. Unless otherwise specified in this document, specimens should be collected and stored in glass or plastic containers. Consult with the laboratory about any potential effects the type of container may have on a specific drug or toxin. If specimens stored in glass are to be frozen, care must be taken to mitigate the potential loss of specimen due to breakage (e.g., plastic sleeve around container).

12.3.7. For collection tubes containing additives (e.g., anticoagulants and/or preservatives):

12.3.7.1. the presence and labeled identity of any additive should be visually confirmed prior to collection, and

12.3.7.2. capped tubes should be inverted a minimum of eight times immediately after collection.

12.3.8. Tubes containing a gel separator (e.g., orange, red/gray, gold, light green, green/gray) should not be used. HFSC Toxicology will not perform analysis on tubes containing a gel separator.

12.3.9. Containers shall be labeled with sufficient information to link the specimen to a specific individual. The specimen type (e.g., heart blood), date and time of collection, and identity of the collector should also be provided to the laboratory (e.g., on the label, in a requisition form, within chain of custody documentation). Refer to 12.4 and 12.5 for more



details.

- 12.3.10. Unless immediately transported, specimens should be stored following the guidelines in Table 1 below.
 - 12.3.10.1. HFSC performs testing regardless of collection timelines as long as the sample is in an appropriate specimen type for specified testing (e.g., liquid, blood, urine, serum, plasma). Table 1 includes recommended, not required, storage conditions. HFSC performs testing even if the recommended collection and storage conditions are not followed as long as the sample meets the HFSC requirements.
 - 12.3.10.2. HFSC does not analyze oral fluid, hair, umbilical cord, fingernail, toenail, meconium, or postmortem specimens.
- 12.3.11. Specimens should be sealed in a secondary container and transported in a timely manner to the laboratory.
- 12.3.12. Specimens should be packaged to prevent damage during transport (e.g., protect tubes in Styrofoam sleeves or other protective material).

Table 1. Recommended Specimen Collection and Storage Conditions

Specimen	Recommended Minimum Amount	Preservatives/Collection Information	Storage
Whole Blood	3 x 10 mL	Sodium fluoride (1-2%), potassium oxalate (0.2%); e.g., gray top tubes Immediately invert*	≤ 8°C
Urine	20 mL	No preservative	≤ 8°C
Serum	10 mL	Separate serum from other blood components within two hours (e.g., red top tube). DO NOT USE A SEPARATOR GEL	≤ 8°C
Plasma	10 mL	EDTA or another anticoagulant (e.g., purple top tube). Separate plasma from other blood components within two hours. DO NOT USE A SEPARATOR GEL	≤ 8°C

*See Section 12.3

12.4. Collection/Handling Procedures

- 12.4.1. Outer containers of blood and urine must be labeled with an agency case number. Blood samples should be collected in grey top tubes which contain potassium oxalate and sodium fluoride. Additional information such as the sample donor's name, agency case number, date, and time of collection as well as the individual collecting the sample should be included on the specimen itself, if available, for samples not collected with the HFSC collection kit. For HFSC collection kits, the Specimen ID Form must contain necessary identifiers, **the seals located on the bottom of the Specimen ID Form must be placed over the top of the blood tubes**, and the Specimen ID Number on the specimens must be consistent with the number on the Specimen ID Form. Any information regarding an indication of drug use other than alcohol can be included in the submission documentation.



- 12.4.2. At a minimum, the sample(s) should be in a sealed container to prevent the possibility of undetected tampering with the contents. A proper seal is one in which there is no possibility that the packaged contents can be removed, altered or a substitution made without the seal being obviously disturbed. **Refer to 7.1.3 for recommendations on a proper seal.** Use tamper-evident tape, such as evidence tape or clear 2" packing tape.
- 12.4.3. All samples should be stored under refrigeration prior to submission to HFSC.
- 12.4.4. Requestors may contact HFSC if assistance is needed with determining the appropriate specimen, preservative and collection information, and storage requirements.

12.5. General Toxicology Kit Collection Packaging Instructions

12.5.1. The HFSC collection kit comes complete with everything needed for blood collection. The components include: a povidone-iodine prep pad, two or more grey top blood collection tubes containing potassium oxalate and sodium fluoride, blood collection set, two blue security box seals, Specimen ID Form, and outer plastic foam container.

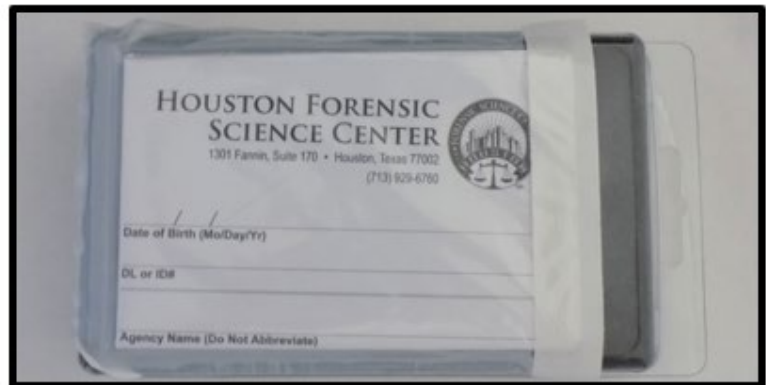
1. During collection, use the povidone-iodine prep pad to clean and prepare the collection surface area. **Do not use alcohol based prep pads to prepare the collection surface area.**
2. After sample collection, verify that the blood tubes are properly sealed across the top with the Specimen Seals for the HFSC collection kit (seals are located on the bottom of the Specimen ID Form). For other kits, the blood tubes must be labeled properly with the donor's name, agency case number, and/or date of birth. The date and time of collection as well as the individual collecting the sample are useful information. In addition, verify information on all blood tubes collected is consistent.
3. The next step is to place the blood tubes inside the plastic foam container. Complete the information on the corresponding Specimen ID Form, ensuring the agency case number is included, and place the Specimen ID Form back into the pouch on the back of the HFSC collection kit. For other collection methods, verify that the information on the blood tubes is consistent with the information on the other evidence pieces including the labels affixed by the submitting agency's evidence storage unit.

HFSC requires the consistent and correct spelling of first and last names on all items of evidence, evidence labels, and case related documentation.

4. Seal the plastic foam container with the blue security seals provided. HFSC recommends that all seals be initialed. An evidence container is properly sealed if the contents cannot readily escape and if entering the container results in obvious damage or alteration to the container or its seal.
5. At a minimum, the evidence container should be labeled with the agency case number, item number and a biohazard sticker.



An example of an HFSC collection kit and contents:



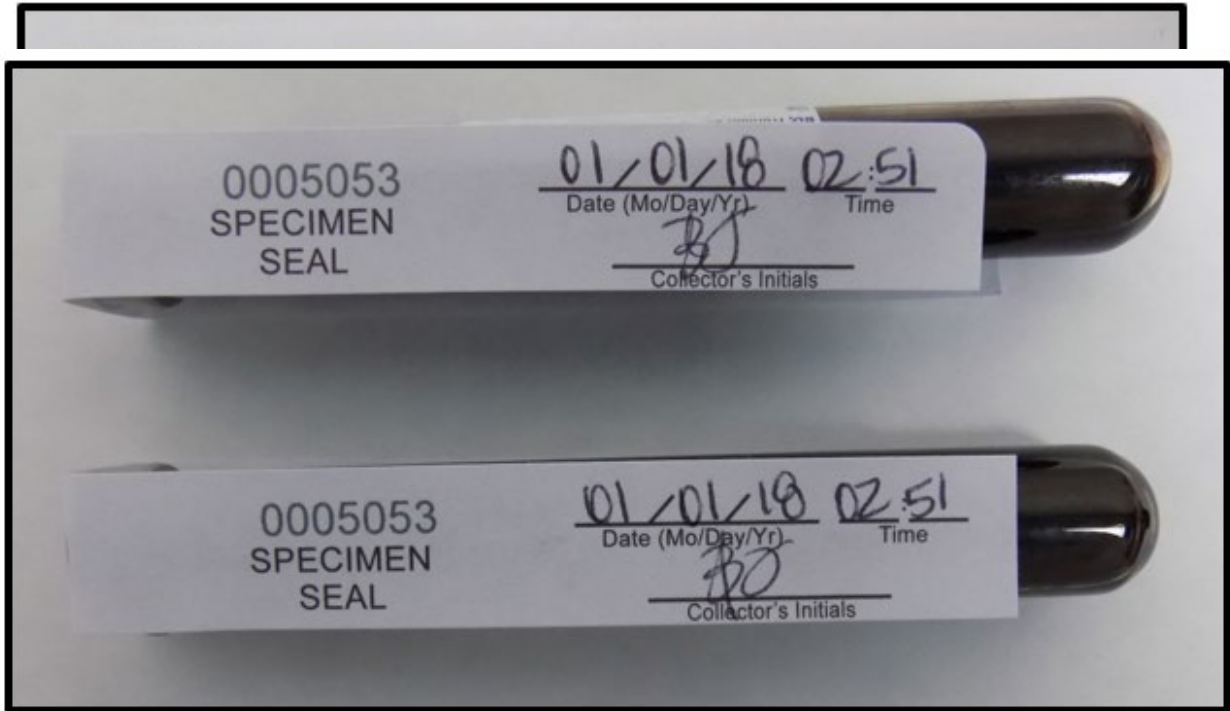


Houston Forensic Science Center
Evidence Handbook
Client Services & Case Management Division





An example of a proper, complete collection kit submission form and tubes seals:



Notes:

0005053 SPECIMEN ID NO. **A**

0005053 SPECIMEN ID NO. **B**

0005053 SPECIMEN ID NO. **C**

0005053 SPECIMEN ID NO. **D**

PLACE OVER CAP

0005053 SPECIMEN SEAL

Date (Mo/Day/Yr) Time

Collector's Initials

PLACE OVER CAP

0005053 SPECIMEN SEAL

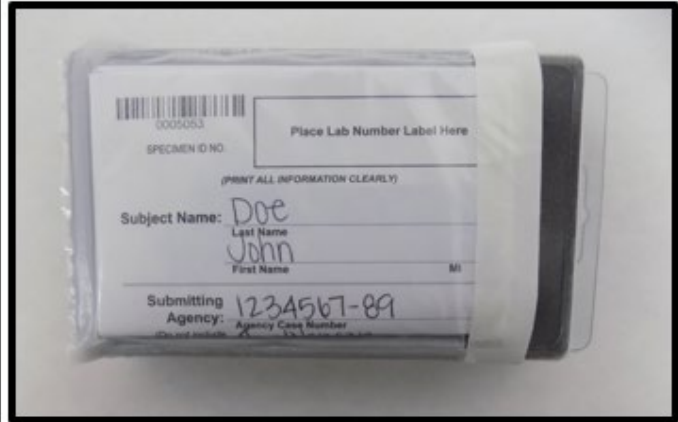
Date (Mo/Day/Yr) Time

Collector's Initials

Issued By: HFSC Toxicology Section Issue Date: March 15, 2016



An example of proper HFSC collection kit outer packaging:



An example of proper **urine** toxicology packaging:





13. Latent Prints

13.1. Scope of Testing

- 13.1.1. As a full-service friction ridge laboratory, the Latent Print Section utilizes state-of-the-art forensic technology to process a wide range of evidence for the detection, development, and identification of latent fingerprints, palm prints, and footprints. A latent print is an invisible chance reproduction of the friction ridges of the fingers, palms, and soles of the feet that may be left on objects with which a person comes in contact.
- 13.1.2. In addition to having a staff of latent print examiners that are capable of comparing unknown latent prints for identification or exclusion, the section also has the capability to search developed or submitted unknown latent prints through various automated fingerprint identification systems (AFIS) that maintain records of finger and palm prints of known individuals. These systems include the Next Generation Identification System of the Federal Bureau of Investigation (FBI) and other similar databases maintained by Harris County Sheriff's Office and the State of Texas.

13.2. Services Offered

13.2.1. Latent Print Processing

- 13.2.1.1. Items of physical evidence (papers, firearms, bottles, knives, etc.) collected at crime scenes should be submitted to the section for chemical and physical processing to develop possible suitable latent prints (PSLs). PSLs can then be forwarded for latent print examinations. Any developed latent prints will be analyzed for suitability by a latent print examiner to determine their eligibility to be searched in one or more of the AFIS databases. **If suspects are known please include the suspect's name, date of birth, Harris County Identification Number, State Identification Number and/or FBI Number with the submission.** If available, include fully rolled fingerprints and palm prints of subjects for elimination purposes.

13.2.2. Latent Print Comparisons

- 13.2.2.1. Latent prints developed at crime scenes, such as latent lifts or photographs, should be submitted to the Latent Print Section for examination and possible AFIS entry.
- 13.2.2.2. **If suspects are known, please include the suspect's name, date of birth, Harris County Identification Number, State Identification Number and/or FBI Number with the submission.** Original inked fingerprints and palm prints can be submitted as well. If available, include fully rolled fingerprints and palm prints of subjects for elimination purposes. Any latent prints **that are suitable and** not identified to submitted suspects will automatically be searched through one or more AFIS databases in order to try and identify **their source.**
- 13.2.2.2.1. **Even if you believe your suspect's prints are in AFIS, submit their information for comparison.** Physical comparisons by a latent print examiner must be done to determine if a latent came from a certain individual.
- 13.2.2.3. Latent prints developed at crime scenes with no known suspects, such as latent lifts or photographs, should be submitted to HFSC for searches through the Harris County Sheriff's Office, State of Texas, and the FBI's Automated Fingerprint Identification Systems in order to possibly identify the sources of the latent prints.

13.3. Submitting Evidence

- 13.3.1. Please complete a submission form for all requests not made through the LIMS portal



system. Please reference the HFSC Submission Form at <https://hfscctx.gov> for instructions on how to fill out the form.

- 13.3.2. All evidence for Latent Print Services that is associated with an HPD incident shall be submitted to the HPD Property Room.
- 13.3.3. Large items (doors, windows, etc.) can be submitted as evidence, and technical personnel are available to help with proper handling and packaging of large items.

13.4. Collection/Handling Procedures

- 13.4.1. When developing latent prints at a crime scene, use caution to prevent destruction of latent prints.
- 13.4.2. When collecting latent prints, always take the following precautions:
 - 13.4.2.1. Wear gloves when processing latent prints.
 - 13.4.2.2. Avoid touching the area where latent prints may exist.
 - 13.4.2.3. Ensure evidence collected is sealed to prevent the deposit of unintentional latent prints.
- 13.4.3. When photographing and/or lifting latent prints, apply the following techniques:
 - 13.4.3.1. Photograph all latent prints prior to processing.
 - 13.4.3.1.1. Use a tripod when photographing latent prints.
 - 13.4.3.1.2. Use 35mm lens capable of half size and full-size reproductions.
 - 13.4.3.1.3. Ensure the latent print is perpendicular to the camera lens.
 - 13.4.3.1.4. Capture each latent print individually and include a scale within the frame of the picture. Alternative light sources or lasers may be used to visualize the latent print when capturing the image.
 - 13.4.4. Black powder or magnetic powder can be applied to latent prints.
 - 13.4.5. Use a fiberglass filament brush, camel hair brush, or cotton to remove any excess black powder. Clarity is lost by over-brushing, heavy pressure and/or excessive powder.
 - 13.4.6. Use a magenta brush when using magnetic powder. Lightly dust the magnetic powder over the surface area. Clarity is lost by over-brushing, heavy pressure and/or excessive magnetic powder.
 - 13.4.7. For best results when attempting to remove excess powder, sweep lightly with the flow of the ridge lines of the prints and not across as this can damage the fragile prints.
 - 13.4.8. Photograph latent prints after processing, but prior to lifting, whenever possible.
 - 13.4.8.1. Use transparent lifting tape for the latent lift.
 - 13.4.8.1.1. The color of the latent lift card should contrast with the color of powder used.
 - 13.4.8.1.1.1. Example: if black powder is used then a white lift card should be used for the latent lift.
 - 13.4.8.1.2. Attach the latent lift to the glossy side of the submission card.
 - 13.4.8.1.3. Gel lifters may also be utilized to lift latent prints from surfaces.
- 13.4.9. Latent Print Submission Card
 - 13.4.9.1. At a minimum, the latent lift card should be labeled with the following information:
 - 13.4.9.1.1. Incident/Agency case number
 - 13.4.9.1.2. Date the lift was created
 - 13.4.9.1.3. Individual lifting the latent print
 - 13.4.9.1.4. A brief description of the location from where/what the lift was obtained



- 13.4.9.2. A small sketch of the item or location is strongly preferred. This aids in the examination of the latent lift.
- 13.4.9.3. Latent lift cards should be submitted in an envelope, which must be properly sealed and contain the agency case number. An evidence container is properly sealed if the contents cannot readily escape and if entering the container results in obvious damage or alteration to the container or its seal.

An example of completed latent lift card:

A photograph of a completed latent lift card. The card is divided into two main sections. The left section contains handwritten information: Case # 1234567, Date/Time 6-15-15 09:30 am, Type of Offense Burglary, Location 1234 Main Street Houston, TX, Victim (blank), Prints Lifted From Exterior store front window - bottom right corner, and Prints Lifted By Officer L. Adams. The right section is titled "Diagram of Lift Location" and features a hand-drawn 2x2 grid with an 'X' in the bottom-right quadrant. At the bottom of the card, it reads "Lynn Peavey Company 800-255-6489".

Case #	Date/Time
1234567	6-15-15 09:30 am
Type of Offense	Burglary
Location	1234 Main Street Houston, TX
Victim	
Prints Lifted From	Exterior store front window - bottom right corner
Prints Lifted By	Officer L. Adams

Diagram of Lift Location

Lynn Peavey Company 800-255-6489



14. Digital and Multimedia Evidence (DME)

14.1. Scope of Testing

- 14.1.1. DME is responsible for the analysis of audio and video evidence in analog or digital form, and digital evidence.
- 14.1.2. Forensic Audio Analysis is the scientific examination of recordings for the purpose of increased speech intelligibility, attenuation of noise, and/or improvement of the overall audio quality of a recording. Forensic Audio Analysis can be applied to both analog and digital recordings. These recordings include but are not limited to recordings from mobile devices, body microphones, answering machines, 911 call recordings, investigative interviews, and audio from surveillance video.
- 14.1.3. Forensic Video Analysis involves the scientific examination of video evidence. Video clarification is a process intended to improve the visual appearance of video recording sequences or specific features within the video recording.
- 14.1.4. Digital Forensics is the forensic analysis and retrieval of evidence from a variety of different digital media sources. These include, but are not restricted to computers, cellular devices, electronic tablet devices, digital storage media (thumb drives, flash cards, etc.), digital camera memory (internal and removable media) and other similar devices.
 - 14.1.4.1. Analysis is conducted in a manner compatible with the type of crime being investigated. For example, for financial crimes, the examination often focuses on retrieving documents, spreadsheets, pictures of documents, emails and/or text messages pertinent to the investigation, etc. For child pornography, the search is mainly focused on contraband picture or video files. The forensic examiner will also attempt to determine how the contraband material was deposited on the device (See Appendix A).

14.2. Submitting Evidence

- 14.2.1. Please complete a submission form for all requests not made through the LIMS portal system. Please reference the HFSC Submission Form at <https://hfscctx.gov> for instructions on how to fill out the form.
- 14.2.2. All evidence that is associated with an HPD incident shall be submitted to the HPD Property Room.

14.3. Collection/Handling Procedures for Forensic Audio and Video Analysis

- 14.3.1. DME responds to scenes to collect DVR recorded information when investigators or business owners cannot retrieve it. Digital media evidence that requires a search warrant, court order, letter of consent, or prior written approval is the responsibility of the client. DME will not retrieve evidence without proper legal documentation, as applicable.
- 14.3.2. If evidence is submitted to the laboratory that has been seized from a scene, submit the following:
 - 14.3.2.1. DVR, including the power cord
 - 14.3.2.2. DVR passwords (if applicable)
 - 14.3.2.3. DVR ID or username (if applicable)
 - 14.3.2.4. Remote control (if applicable)
 - 14.3.2.5. System manuals (if available)
- 14.3.3. When seizing a DVR, document any differences/discrepancies (daylight savings time,



etc.) between the time shown on the live view of the DVR compared to the actual time using a cell phone or other standard source.

- 14.3.4. Submit digital media evidence in an appropriately sized container under a proper seal. An evidence container is properly sealed if the contents cannot readily escape and if entering the container results in obvious damage or alteration to the container or the seal. Evidence that is submitted in-person to DME may be received unsealed if the evidence needs to be viewed with a DME examiner.
- 14.3.5. For DVRs and desktop computers that do not have outside packaging, evidence tape should cover the power source of the device.

An example of properly packaged evidence:





14.4. Collection/Handling Procedures for Digital Forensics

- 14.4.1. Digital media evidence that is submitted without proper search authority (i.e., search warrant, court order, written, or verbal consent, will not be accepted by HFSC for examination.
- 14.4.2. For mobile devices such as mobile phones, smart phones, tablets, etc., take steps to prevent incoming and outgoing signals to and from the device.
 - 14.4.2.1. If the device is on, enable airplane mode and disable Wi-Fi and Bluetooth, if possible. If unable to place in airplane mode, package the device in a shielded bag such as faraday isolation bags with a portable charger, if one is available. Note: Power will drain quickly from the device while in a faraday bag so expedited processing may be needed.
 - 14.4.2.2. Data may be inaccessible if the mobile device is turned off or a reboot occurs.
 - 14.4.2.3. If the device is off, package in an appropriately sized container. Do not power the device on.
 - 14.4.2.4. If the device is a feature phone (a mobile device that offers basic communication functions like calls or texts but without the advanced features of a smartphone), turn the device off and remove the battery.
- 14.4.3. Submit evidence in an appropriately sized container. Submit the charger and/or power cord(s) with the evidentiary device, if available.
- 14.4.4. Peripheral equipment not designed to store digital data (e.g., monitors and keyboards) will not be accepted unless those items are required to facilitate the examination.
- 14.4.5. After the evidence is carefully placed in an outer container, the outer container is ready for sealing. An evidence container is properly sealed if the contents cannot readily escape and if entering the container results in obvious damage or alteration to the container or seal.
 - 14.4.5.1. For evidence that is too large for outside containers (e.g. desktop computers), evidence tape must be placed over the power source.
- 14.4.6. Known passwords or unlock codes/patterns must be provided for digital evidence.



Examples of properly packaged evidence:



14.5. Investigative Procedures

14.5.1. Digital Forensic Examiners utilize both investigative and forensic processes to retrieve requested evidence from source media. The person submitting evidence must provide sufficient information about the case in order to aid in the examination process. The type of evidence that is available for retrieval is also often dependent upon the type of device being examined.

14.5.1.1. If emails or text messages are requested, email addresses, phone numbers, usernames, etc. are helpful in expediting the search. Keywords are also helpful in locating evidence, especially evidence that has been deleted. Please be as thorough with the request as possible. See **Appendix A** of this handbook for a list of crimes which may involve the use of a computer or other electronic media.



APPENDIX A

Crimes and Potential Evidence That May Be Recovered from Various Types of Electronic Devices

Child Abuse and Pornography Investigations:

- Text/Chat messages
- Apps
- Contacts
- Social media
- Digital camera software
- E-mails, notes and letters
- Games
- Graphic editing and viewing software
- Images
- Internet activity
- Video files
- User created directory and file names that classify images

Computer Fraud Investigations:

- Account data from online auctions
- Accounting software and files
- Contacts
- Calendar
- Chat logs
- Client Information
- Credit card data
- Databases and Apps
- Digital camera software
- E-mails, notes and letters
- Financial asset records
- Internet activity

Domestic Violence Investigations:

- Contacts
- Text/Chat messages
- E-mails, notes and letters
- Financial asset records
- Telephone records
- Images and Videos
- Internet activity

E-mail Threats, Harassment and Stalking Investigations:

- Contacts
- Text/Chat messages
- Apps
- E-mails, notes and letters
- Financial asset records
- Images and Videos
- Calendar
- Internet activity logs
- Legal documents
- Maps to subject locations
- Telephone records
- Subject background research
- Maps

Financial Fraud and Counterfeiting Investigations:

- Address books
- Bank logs
- Calendar
- Check and money order images
- Counterfeit currency images
- Credit card numbers
- Currency images
- Client information
- Databases
- E-mails, notes and letters
- False identification
- Financial asset records
- Images of signatures
- Internet activity logs
- On-line banking software



Homicide Investigations:

- Contacts
- Text/Chat messages
- Apps
- E-mails, notes and letters
- Financial asset records
- Internet activity logs
- Legal documents and wills
- Maps
- Medical records
- Photos of subjects
- Telephone records
- Trophy photos
- Images and Videos
- Calendar

Identity Theft Investigations:

Hardware and Software Tools:

- Backdrops
- Credit card reader/writer
- Digital camera software
- Scanner software

Identification Templates:

- Birth certificates
- Check cashing cards
- Counterfeit insurance documents
- Counterfeit vehicle registrations
- Digital photo images
- Driver's licenses
- Electronic signatures
- Social security cards

Internet Activity Related to ID Theft:

- Deleted documents
- E-mail and newsgroup postings
- Internet activity logs
- On-line orders
- On-line trading information

Negotiable Instruments:

- Business checks
- Cashier's checks
- Credit card numbers
- Counterfeit court documents
- Counterfeit gift certificates
- Counterfeit loan documents
- Counterfeit sales receipts
- Money orders
- Personal checks

Narcotics Investigations:

- Contacts
- Text/Chat messages
- Apps
- Calendar
- Databases
- Drug recipes
- E-mails, notes and letters
- False ID
- Financial asset records
- Internet activity logs
- Prescription form images
- Images and Videos
- Maps

Network Intrusion Investigations:

- Contacts
- Text/Chat messages
- Diaries
- Legal documents and wills
- Maps
- Medical records



- E-mails, notes and letters
- Financial asset records
- Internet activity logs

Software Piracy Investigations:

- Chat logs
- E-mails, notes and letters
- Image files of software certificates
- Internet activity logs

Telecommunication Fraud Investigations:

- Cloning software
- Client database records
- Financial asset records

- Photos of subjects
- Telephone records
- Trophy photos
- Images and Videos

- Software serial numbers
- Software cracking utilities
- User created directories and file names which classify copyrighted software

- Internet activity logs
- Electronic serial numbers
- E-mails, notes and letters
- Mobile identification numbers