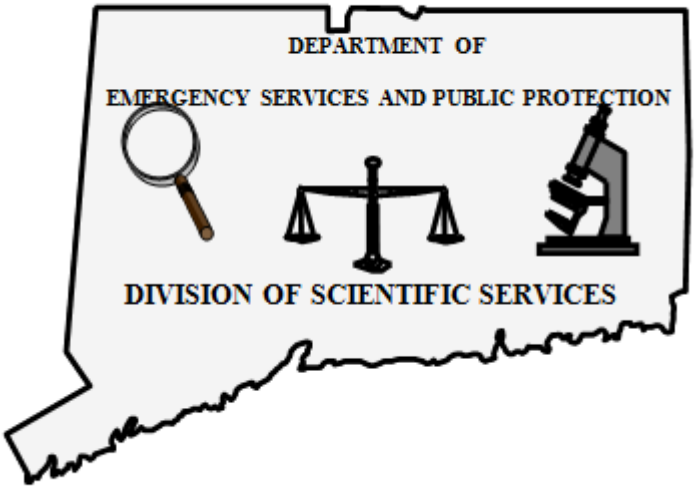
Division of Scientific Services

Evidence Submission Guidelines



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1.0 GENERAL EVIDENCE SUBMISSION INFORMATION

In general, physical evidence must be submitted according to the following guidelines. Evidence examination request forms (ER-SOP 2:1) must be completed in full. **Please be advised that as of January 1, 2015, a new guideline protocol was effective replacing the "Limiting Forensic Examination Submissions to the Division of Scientific Services".** If there are questions or concerns about the submission of physical evidence, please contact the Case Management Unit at 203-427-4098.

The Evidence Receiving Unit of the Division of Scientific Services (DSS) is the first point of contact for all agencies submitting evidence to the DSS. This Unit plays an integral role in maintaining the proper storage and chain of custody of all evidence. The Evidence Receiving Officers or other DSS personnel will evaluate the evidence, the requested services, and the case history to ensure that the needs of the submitting agency can be met by the DSS. A case synopsis or report can assist in evaluating the requested services. Due to accreditation requirements concerning proper submission of evidence, strict adherence to the following guidelines is necessary in order to protect evidence from being lost or contaminated.

Submitting agencies are requested to keep the DSS informed of any changes in the case *(e.g. new suspects developed, arrests made, court disposition, cased closed at the Troop/P.D. – including how the case was closed).* All case updates should be communicated to the Case Management Unit of the DSS at 203-427-4098.

1.1. General Packaging Requirements:

1.1.1 All evidence shall be submitted sealed in a manner that is tamper-evident. The packaging of all evidence shall be of the appropriate size and containers must not be re-used.

Manufactured evidence storage bags must have a self-sealing capability with initials placed on the seal(s). It is suggested that all other plastic bags, used for packaging, be heat sealed and initialed over the seal.

1.1.2 A tamper-evident seal must be initialed. Tamper-evident tape is evidence tape that will not remain intact upon its removal. Tamper-evident includes:

a. Heat seal on zip-lock or other plain plastic bags.
b. Paper bags and envelopes taped end to end, over the opening.
c. Staples alone are **not** sufficient. If staples are used, they must be covered with evidence tape.

d. Metal cans taped over the top on opposing sides.
e. Specially manufactured evidence storage bags (Tyvek, plastic, etc.) must be sealed with tamper evident material.
f. When submitting evidence in a gun or knife box, all punch holes must be sealed.

1.1.3 Computers or other electronic devices with visible data ports/slots should have evidence tape placed over the power supply slot and over disk, CD, DVD and backup tape slots. Use evidence tape from the back to the sides to ensure computer case integrity. Initials shall be placed on the tape and seal(s). Faraday bags may be used to contain smaller electronic devices.

Large items of evidence that do not lend themselves to packaging should be submitted with the areas of interest protected. Example: car bumper – cover the damaged portion.

1.1.4 All outer packaging or containers should be labeled with:
a. Submitting Agency case number
b. Description of item
c. Item number
d. Date and time seized
e. Name/initials/badge# of seizing officer

Packaging Type	Uses
Paper bags or envelopes	Any biological material (blood or semen stained items, condoms etc.…) and plant material (marijuana, psilocybin mushrooms). *Note: all items are to be air-dried prior to packaging. If unable to air dry, freeze any items containing biological materials and submit to the DSS as soon as possible. Notify Evidence Receiving that the evidence was not dried and needs to remain frozen.* *Note: condoms containing fluid should be placed in a plastic container and frozen.*
Plastic bags or Ziplocs	A non-biological material such as powder drug samples, cartridges casing, or projectiles. *Note: heat sealed is preferred to ensure integrity of the seal, but if they are manufactured evidence bags, the adhesive seal is sufficient.*
Metal Cans	Fire debris evidence, liquid PCP samples *Note: if DNA testing is needed, please indicate on form since accelerant analysis is considered destructive testing.*
Glass vials	Liquid drug samples, syringe contents, blood samples. *Note: glass vials should be packaged inside a cardboard box or other protective device to prevent breakage.*
Paper folds placed into a larger envelope	Small pieces of trace evidence such as glass particles, paint chips, residue amount of powder drugs. *Note: make sure that the corners of these envelopes are sealed to prevent small items from falling out.*
Cardboard boxes	Firearms, knives, large pieces of plate glass, surfaces with shoe prints, large clothing items, bedding. *Note: the submitting agency seals will be broken in accessing the contents of these boxes.*
Plastic containers	Condoms or other items containing liquids. *Note: do not use for arson samples; biological evidence should be frozen immediately.*

Note: All physical hazards (i.e. sharps or broken glass) must be packaged in a puncture proof container.

1.2 Request for Analysis Form:

Each case must have its own request form. Separate request forms are not required for each piece of evidence submitted**.** Related cases will be cross-referenced.

1.2.1 The form is generated so that it may be typed or neatly and legibly handwritten. This form is available on the Division of Scientific Services website and may be downloaded by its customers. Please ensure that you are using the most current form available on the website. The DSS will post notification in the Evidence Receiving Unit of any changes/updates made to this form.

If evidence from a case was previously submitted to the DSS, mark the appropriate box and list the previously assigned DSS case number.

1.2.2 Fill in or respond to all blank spaces and questions included on this form, including agency case number, name and contact information for the investigating officer with an email address.

1.2.3 List the full names and DOB of all suspects and victims in the appropriate location. If additional suspects are developed at a later time, please contact the Case Management Unit of the DSS at 203-427-4098 to update this information.

In this area, please indicate if the suspect has been arrested in connection to the incident and evidence being submitted.

1.2.4 Give a brief summary of the case. Emphasize facts that are relevant to the evidence examination request. If there is a companion case, state that fact in the summary. List each item and a brief description of that item. The agency may attach the incident report or search warrant to provide the case summary details.

1.2.5 The listed item numbers must correspond with the evidence numbers written on the actual evidence containers.

1.2.6 Check off all examinations that you want completed for each piece of evidence. DSS personnel will evaluate the evidence and determine the appropriate type and sequence of testing.

The Division of Scientific Services is accredited to perform analysis in the following disciplines:

The management and technical operations of this laboratory were assessed and found to conform with **ISO/IEC 17025:2005**, the **ASCLD/LAB-*International* Supplemental Requirements for Testing Laboratories (2011)** and all other requirements of the ASCLD/LAB-*International* program. The laboratory was found to be competent and was accredited in the following area (s):

Field of Accreditation

Forensic Science Testing

Discipline (s)

1.0 Drug Chemistry
2.0 Toxicology
3.0 Biology
4.0 Trace Evidence
5.0 Firearms/Toolmarks
6.0 Latent Prints
7.0 Questioned Documents
9.0 Digital & Multimedia Evidence
10.0 Other

Categories of Testing:

1.1 Controlled Substances
1.3 General Chemical Testing
2.1 Human Performance Forensic Toxicology
3.1 DNA - Nuclear
3.2 DNA - Mitochondrial
3.3 Body Fluid Identification
3.4 Individual Characteristic Database
3.7 Hair (Screening Only)
4.1 Paint
4.4 Gunshot Residue (elemental analysis)
4.10 Fire Debris
4.15 General Physical and Chemical Analysis
5.1 Firearms
5.5 Individual Characteristic Database
6.1 Latent Print Processing
6.2 Latent Print Comparisons
6.3 Individual Characteristic Database
7.1 Document Examination
9.1 Computer Forensics
9.2 Video Analysis
9.3 Audio Analysis
9.4 Image Analysis
10.1 Impression Evidence (footwear/tires)
10.2 Serial Number Restoration

Note: In this laboratory, category of testing 10.1 is considered a part of the Question Documents discipline and category of testing 10.2 is considered a part of the Firearms/Toolmarks discipline.

1.2.7 Remarks: Include any pertinent information. E.g.: SPBI number of suspects, evidence previously examined, evidence exposed to known adverse chemical or environmental factors.

1.3 Criteria for Evidence Submission

Examination of evidence will ***not*** be performed at the forensic laboratory unless the submitted items meet the following criteria:

1.3.1 Evidence or material generated in the course of criminal investigations that is intended to support criminal prosecution/defense, determine innocence, exoneration or to further a criminal investigation.

1.3.2 Evidence or material where the examination of such is necessary to further the cause of public safety or welfare.

1.3.3 Evidence or material that was ***not*** previously examined by another analyst or law enforcement laboratory unless prior approval by the Director of the Division of Scientific Services has been obtained.

1.3.4 DSS examinations may require reference materials for comparison or additional communications with the investigating officer and/or prosecutor. If a response to a documented request is not received within a reasonable time, the DSS reserves the right to return the submitted evidence to the investigating agency until an appropriate response has been obtained.

1.3.5 The Director of the Division of Scientific Services or his/her designee may refuse to accept evidence that does not meet these criteria or that could endanger the safety of DSS personnel.

1.3.6 For large cases or "Cold" cases, DSS staff will review the evidence with the submitting agency prior to submission. Please contact the Case Management Unit at (203) 427-4098.

1.3.7 Evidence of a civil nature will not be analyzed, unless prior approval by the Director of the Division of Scientific Services has been obtained.

1.3.8 Guidelines for requests for analysis effective 1-26-2015.

GUIDELINES FOR FORENSIC SERVICE REQUESTS TO THE DIVISION OF SCIENTIFIC SERVICES
EFFECTIVE 01/26/2015

FORENSIC BIOLOGY/DNA REQUESTS	LATENT PRINT REQUESTS	SEXUAL ASSAULT CASES
Number of samples tested for the following types of crimes: • Property Crimes: 1-2 • Robbery/Assault 2nd & 3rd: 5 • Other types: case dependent	To preserve the integrity of the evidence, we ask that all hard evidence be superglued prior to submission.	If a Sexual Assault Kit produces negative findings, the clothing items will be analyzed.

GENERAL LABORATORY REQUESTS

The following types of cases are not normally analyzed: Suicides, Found Property, Criminal Mischief, Infractions and Administrative Inquiries

For large cases, Laboratory staff will review the evidence with the submitting agency prior to submission.

Exceptions to these guidelines may be addressed to the Director of the Division of Scientific Services.

QUESTIONS

For questions regarding the submission of evidence, please contact the Case Management Section at 203-427-4098.

For packaging and evidence submission guidance, refer to the Guidelines for Evidence Submission policy located on the main page of the Division of Scientific Services Website:
http://www.ct.gov/despp/cwp/view.asp?a=4154&q=487824&desppNAV_GID=2064&desppNav=|

1.4 Joyce Warrants

1.4.1 Clearly identify the submitted evidence that will be examined pursuant to the issuance of a "Joyce" search and seizure warrant.

1.4.2. Submit a copy of a signed search and seizure warrant, with Joyce language present in this warrant.

1.4.3 The warrant copy may be date stamped, and personnel from the DSS will sign the copy of the warrant. A copy of the stamped (when appropriate) and signed warrant will be issued to the submitting agency.

1.4.4 When a Joyce Warrant is required, the warrants must be submitted at the same time the physical evidence is submitted. If evidence was submitted without a Joyce warrant and subsequently you are advised of the need for a warrant, notify the DSS **IMMEDIATELY** so that testing is held until the warrant is received.

1.4.5 The submitting officer is required to file the return on the warrant in compliance with statutory requirements and department guidelines.

1.5 Contact Information:

Director of Division of Scientific Services	203-694-6525	Guy.Vallaro@ct.gov
Deputy Director of DNA/Forensic Biology	203-427-4026	Dahong.Sun@ct.gov
Deputy Director of Identification	203-694-6534	Lucinda.Lopes-Phelan@ct.gov
Deputy Director of Toxicology, Controlled Substances, and Chemistry	203-427-4040	Michael.Rickenbach@ct.gov
Quality Section Manager	203-427-4037	Jane.Ridley@ct.gov
Laboratory Administrative Manager	203-639-6455	Kristin.Sasinouski@ct.gov
Case Management	203-427-4098	CT.ForensicLab@ct.gov

1.6 Guidelines for Case Type

1.6.1 All reference specimens of identified individuals should be collected and submitted prior to DNA analysis or fingerprint examination. These reference samples will include samples from individuals that may have reason to be on evidence (e.g. homeowners samples in a burglary case involving their residence).

1.6.2 To ensure optimal use of DSS resources, the lab limited the number of samples that they will examine per case. The following are general guidelines for the number of samples examined:

1) Burglary/property crimes: 1-2 DNA samples.

2) Sexual Assault cases: the most intimate samples first (CT 100 Kit), then one or two additional samples of clothing/bedding items if needed.

3) Robbery/Assault 2nd and 3rd cases: up to 5 DNA samples will be tested.

4) Other cases: number of samples is case dependent. DSS staff will review cases with the submitting agency if there is a large number of evidence to be tested.

5) Firearms evidence on bullets recovered from non-occupied buildings or vehicles, the caliber will be established and provided to the agency; further examination will be done by request only.

6) Toxicological evidence will have screening tests done for the presence of the following Amphetamines, Barbiturates, Benzodiazepines, Cocaine, Methadone, Opiates, Phencyclidine and Tetrahydrocannabinol.
If appropriate, confirmatory testing will be done on request from the agency.

Note: Exceptions to this policy may be addressed to the Director of the DSS.

1.6.3 All expedited requests should be made in writing via letter or email addressed to the Director of the DSS. The letter should come from your agency's Chief of Police/Commanding Officer or the State's Attorney.

1.6.4 All DNA or fingerprint comparison testing from one case to another must be requested by the State's Attorney via letter or other form of written communication such as email. For other case to case comparison types that involve other disciplines, a letter from the submitting agency is sufficient.

1.6.5 The State's Attorney of the jurisdiction from which the evidence was submitted will be notified via email or by a letter of any samples identified as a consumption issue. Testing on such samples will be released for testing approximately 30 days after communication of such consumption issue. Should the defendant or his/her representative request to be present or have an expert present during such testing, the State's Attorney should

communicate such requests to the DSS as soon as possible prior to the elapse of the 30 days.

2.0 COLLECTION/PACKAGING OF DIFFERENT TYPES OF PHYSICAL EVIDENCE

2.1 BIOLOGICAL SAMPLE/DNA SAMPLE COLLECTION

Due to the potential of contamination, it is recommended that crime scene personnel wear masks when collecting evidence. Gloves should be changed regularly. Collection tools such as tweezers must be cleaned with bleach and alcohol between samples. Single use supplies are recommended whenever possible.

Generally, any body fluid or cellular material can be used as a source of DNA. These sources would include, but are not limited to: blood, semen, saliva, skin, sweat, hair roots, bone, tooth pulp, sloughed cells.

DNA recovery can be unpredictable. Many factors influence the recovery of DNA from a stain including age, exposure to light, moisture, heat and other environmental insults.

2.1.1 Swabbing of Blood or other Bodily Fluids:

1. Place gloves on hands. Use a disposable mask for the mouth/nose.
    a. If you touch something which may contaminate the sample, replace gloves.
2. Open the packaging of 1-2 sterile swabs and remove swab(s).
    a. Retain the swab(s)' packaging.
    b. The swab(s) should only come into contact with the suspected stain/area of interest.
    c. If you must store the swab(s) prior to collection, return them to packaging.
    d. Indicate on the packaging where the swabbing(s) were collected from.
3. If stain/suspected sample is dry, moisten the swab(s) with one or two drops of sterile distilled water or saline solution. Do not saturate the swab(s) or you may dilute the sample.
    a. The wet swab(s) will add moisture to dry stains, loosening the stain material and allowing it to be transferred more easily to the swab(s).
4. If the stain/suspected sample is wet, the sterile swab(s) is used directly on the stain/suspected sample.
5. Swab the area of interest vigorously until the stain is collected (approximately 10-30 seconds).
    a. Try to collect the sample on the tip of the swab(s) thus concentrating the stain on one area of each swab.
    b. Do not swab so hard that the swab surface starts to break down.
6. Swab(s) should be dried before packaging in outer envelope/paper bag.
    a. Swab(s) can be returned to original packaging to dry.

   b. Multiple swabs can be dried in the packaging of one swab (if they were used at the same time to collect the same sample).
   c. When possible, place swabs used for the same sample in the same packaging to dry.

7. Swab(s) and/or swab(s) in original packaging should be packaged in paper material:
   a. Envelope.
   b. Paper bag.
   c. Cardboard box

   ***Do not use plastic for outer packaging.**

   NOTE: Swabs from the same location (collected simultaneously) should be placed in the same package. In the event that two swabs are collected from a stain/location using Cap-Shure® brand collection swabs, place both capped swabs in the same envelope/paper bag and indicate on the label "two swabbing(s) from …….."

8. Envelope/paper bag should be labeled to identify sample taken and location (i.e.):
   a. Blood-like stain from table.
   b. Saliva sample from ground.
9. Seal envelope/paper bag with evidence tape.
10. Store at room temperature.

2.1.2 <u>Swabbing for Touch DNA:</u>

1. Place face mask over mouth and nose.
2. Place gloves on hands.
   a. If you touch something which may contaminate the sample, replace gloves.
3. Open the packaging of 1-2 swabs and remove swab(s).
   a. Retain the swab(s)' packaging.
   b. The swab(s) should only come into contact with the area of interest.
   c. If you must store the swab(s) prior to collection, return to packaging.
4. Moisten the swab(s) with one or two drops of sterile distilled water or saline solution. Do not saturate the swab(s).
5. Swab the area of interest vigorously (evenly applied pressure, approximately 10-30 seconds).
   a. Try to collect the sample on the tip of the swab(s).
   b. Do not swab so hard that the swab(s) surface breaks down.
6. Swab(s) should be dried before packaging in outer envelope/paper bag.
   a. Swab(s) can be returned to original packaging to dry.
   b. Multiple swabs can be dried in the packaging of one swab (if they were used at the same time to collect the same sample).
   c. When possible place swabs used for the same sample in the same packaging to dry.

7. Swab(s) and/or swab(s) in original packaging should be packaged in paper material:
    a. Envelope.
    b. Paper bag.
    c. Cardboard box

    ***Do not use plastic for outer packaging.**

8. Envelope/paper bag should be labeled to identify sample taken and location (i.e.):
    a. Swabbing of counter top.
    b. Touch sample from cash register keys

    NOTE: Swabs from the same location (collected simultaneously) should be placed in the same package. In the event that two swabs are collected from a stain/location using a Cap-Shure® brand collection swab, place both capped swabs in the same envelope/paper bag and indicate on the label "two swabbing from …….."

9. Seal envelope/paper bag with evidence tape.
10. Store at room temperature.

2.1.3 <u>Collection of Buccal Sample:</u>

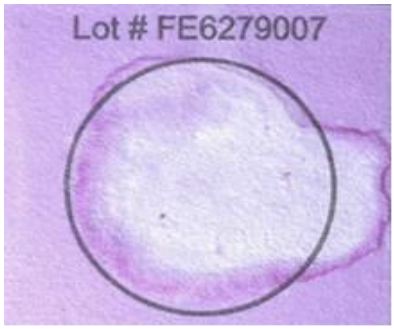
Swabbing:

1. Place gloves on hands.
    a. If you touch something which may contaminate the sample, replace gloves.
2. Place FTA card on clean dry surface. Optional: label the card with identifying information.
3. Open packaging of the swab and remove swab.
    a. Retain the swab's packaging.
    b. Do not let the swab come into contact with anything prior to swabbing.
    c. If you must store the swab prior to collection, return to packaging.
4. Moisten the swab on both sides, by inserting the swab end into the mouth and scraping/rubbing against the gums and under the tongue.
5. Once the sponge is wet,
    a. Vigorously swab the inside cheek area on one side of the mouth.
    b. Use the opposite side of the swab to collect a sample from the other cheek.

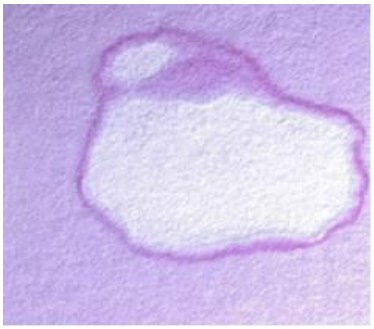
6. Lift cover of the FTA card.

7. In the circle lined area of the FTA card, place the swab flat to the surface of the FTA card.
    a. Press down for 15-30 seconds. Do not rub the sponge back and forth (this may damage the FTA card).
    b. Flip the swab and repeat with the other side of the swab.
    c. The FTA card should turn from pink to white. If the card does not turn from pink to white, use a new FTA card kit and recollect.
    d. Once the swab touches the FTA card, do not return to mouth.

Example of a good collection and transfer:



Front side



Reverse side

Example of a poor collection and transfer:

Front side

Reverse side

8. Repackage the swab in the original wrapper.
9. Allow the swab and FTA card to dry.
10. Place FTA card and repackaged swab in an envelope or paper bag. Do not use plastic for outer packaging.

11. Seal and label the packaging. Note: label should include source's full name.
12. Store at room temperature.
13. When filling out the Request for Analysis form – make sure to clearly indicate the source of the sample(s) with full name.

Note: If Indicating FTA cards are unavailable, a sample may be collected using the sterile swab technique.

2.1.4 Collection of Pseudo Knowns:

If there is insufficient probable cause to obtain reference sample(s) from a suspect, the investigator may submit a water bottle, straw, cigarette filter or similar item that was used by the suspected individual. The investigator should be able to document that an individual used the item submitted and that this item is reasonably expected to contain DNA from only the user. Upon collection of the item it should be treated as evidence with a documented chain of custody.

The DNA profile obtained from the "pseudo known" item can be compared to the DNA results from the evidence. **The conclusion in the report will compare the questioned sample(s) to the item submitted as a "pseudo known" and not to the individual in question.** If the profile appears to match; your agency may be able to use the report confirming the match as probable cause to obtain a reference sample from the suspect to confirm. **A known sample will still need to be obtained and submitted to the DSS for comparison purposes.**

2.1.5 Products of Conception

In the event that products of conception are to be collected as evidence, please alert the medical staff to provide the biological material/tissue in a sterile specimen container. It is preferred that no liquid media is provided in this container; but if the medical facility needs to add a liquid, saline is preferred. **Do not use formalin or formaldehyde since these preservatives may affect the DNA results.**

2.1.6 Missing Persons/Unidentified Human Remains

DNA samples related to a missing person or unidentified humans remains case can be submitted to DSS for testing. All samples should be submitted with an Evidence Examination Request Form (ER-SOP 2:1). Also, the Additional Information Required for Requests for Missing Persons Testing Form is required http://ct.gov/despp/lib/despp/dss/forms/missing_persons_form_sop-dna.pdf . All relevant areas are to be filled out in full to better facilitate the processing of these cases, this includes NamUs, NCIC and VICAP numbers. If there are specific questions or concerns about the submission of physical evidence for these types of cases, please contact Dr. Angela Przech at 203-639-6413 or Angela.Przech@ct.gov.

1. **Sources of Samples**

   a. Direct Reference Sample (DRS): samples obtained directly from the missing person.

      - Medically obtained blood cards, whole blood, or a tissue specimen that was collected from the missing person
      - A toothbrush/hairbrush used ONLY by the missing person

   b. Family Reference Samples (FRS): samples obtained from family members of the missing person.

      - Buccal/Oral swabs
      - Blood Cards

   c. Unidentified Human Remains Samples (UHR): samples obtained from unidentified human remains

      - Tissue (blood is preferred when available)
      - Bones (long bones are preferred when available)
      - Teeth (non-restored teeth are preferred when available)

2. **Collection of family samples**

   Family reference samples should be submitted in the following order (when permitted):

a. Biological Mother and Father
b. Biological Child(ren)
c. Biological Full-sibling(s)
d. Maternal Relative
e. Paternal Relative (only when the UHR is male)

2.2 BIOLOGICAL EVIDENCE – PREVENTING CONTAMINATION

It is important when collecting an item of evidence or collecting a stain to take precautions to avoid contamination by transferring DNA/biological materials from one piece of evidence to another within a crime scene. The following are a list of preventative measures that can be used to reduce contamination:

2.2.1 Wear protective equipment (i.e. gloves, masks, booties, and gowns) when collecting biological evidence.

2.2.2 Change gloves frequently and between samples.

2.2.3 Sterile collecting material such as swabs or gauze should be used to collect evidence. Swabs should be lightly moistened with sterile distilled water prior to collecting dried stains. If gauze is used, lightly moisten the area that the sample will be collected onto with sterile distilled water.

2.2.4 Use clean or disposable tools with each sample being collected (razors, forceps, swabs, etc.). A diluted bleach solution followed by alcohol should be used for cleaning between uses if the tools are not disposable.

2.3 BIOLOGICAL EVIDENCE – COLLECTION

To obtain the best sample possible for analysis, the following measures should be taken when collecting evidence for DNA analysis:

2.3.1 Collect the entire item or take a cutting of the item.

2.3.2 Collect sufficient material for testing and preservation. When possible, **collect at least 2 swabs** of a suspected biological material.

2.3.3 Document how the swabs were collected, simultaneously (at the same time) or consecutively (one after the other).

2.3.4 When collecting a small stain, attempt to concentrate the stain on the tip of one swab.

2.3.5. Liquid Samples: Collect on a sterile cotton swab and air dry before packaging.

2.3.6 Known Blood Samples: Obtain one purple top (EDTA additive) vial of blood, ensure

that the date on the tube is not expired.

2.3.7 Dried Bloodstains: Photograph and document the pattern with a scale prior to collecting. The preferred method is to send the entire article containing the stain to the DSS. The second option is to use a sterile cotton swab moistened with sterile distilled H_2O. Air-dry the swab prior to packaging. Place into a druggist fold/paper fold.

2.3.8 Bloodstained clothing or clothing and articles containing other body fluids: air dry and wrap in paper or place in a paper bag. (If possible, lay flat and wrap/fold with a paper protecting the stained area.)

2.3.9 Condoms with liquid – can use a plastic specimen container. Refrigerate or freeze and deliver as soon as possible to the DSS. DO NOT PACKAGE IN PAPER.

2.3.10 Bedding – mark position of top/foot of bedding and circle any wet stains using a permanent marker. Package in a paper bag, box or wrap in brown paper. If submitting bedding for a sexual assault, it is recommended that the agency submit only the layer of bedding that was in direct contact with the victim.

2.4 BOMB AND EXPLOSIVE DEVICE EVIDENCE

2.4.1. Prior to submission the device must be inspected and deactivated by Emergency Services personnel. **Note: No active explosive devices will be accepted at the Division of Scientific Services.**

2.4.2. Whenever possible, photograph the device before submitting it to the DSS.

2.4.3. Submit the explosive material for chemical analysis.

2.4.4. Collect residue from the bomb scene and package in arson collection cans, glass jars or druggist folds.

2.5 COMPUTER CRIMES AND ELECTRONIC EVIDENCE

The computer forensic unit performs forensic analysis on a wide range of electronic evidence ranging from memory cards to phones and computers. Every effort should be made to collect any passwords needed to access these devices.

2.5.1 Collection of Evidence

1. Whenever computer equipment is seized, caution should be directed toward the proper shut down of the equipment to prevent damage or data loss. One method of preventing data loss is the use of Faraday bags to protect the evidence from receiving digital signals.

2. Investigators should consult with Computer Crimes Unit personnel, describing the type of equipment to be seized, if known, in the event that either hardware or software will pose a problem for the investigator.

3. All hardware including printers, scanners and peripheral devices, data storage disks, CD-ROM, DVD and other data storage media should be described and removed whenever possible.

4. Prior to startup, a person skilled in computer operations should be consulted to prevent loss of data or sabotage, or to defeat password protection placed on the device.

2.5.2 Computer Crimes Evidence Checklist

Prior to submission, the agency must complete the Computer Crimes Evidence Checklist.

This form is located on the DSS website:
http://ct.gov/despp/lib/despp/dss/forms/qr-cc-1_incoming_evidence_checklist.pdf

2.6 DRUG EVIDENCE

2.6.1 Vegetative Material

Controlled plant material includes items such as marijuana, psilocybin-containing mushrooms, and synthetic cannabinoids.

1. **Use paper bags or envelopes**. Do not place fresh samples in plastic. With fresh samples, there is a large quantity of moisture present in the leaves. Wet plant material in plastic will cause condensation leading to decomposition of the plant material and fungal growth. One type of common fungus that grows can cause serious respiratory diseases.

2. Samples from separate locations should be individually packaged.

3. If your evidence comprises of a potted plant, submit a sample of the leaf material. Do not submit the entire potted plant.

4. Do not send paraphernalia (e.g. pipes and scales) if there are measurable amounts of vegetative material in the case.

NOTE: tea/mint leaves or marijuana that are charred and coated with PCP should not be packaged as above. This type of substance should be placed into a plastic bag and then into a metal can.

2.6.2 Tablets and Capsules

Tablets and capsules should be counted and each type separately packaged. This will prevent cross contamination in handling.

2.6.3 Powders

To prevent leakage, powders should be packaged in plastic jars/vials or plastic bags. If using a plastic bag, ensure that all edges are sealed. If the items are pre-packaged, such as small glassine packages, these packages should be placed in a larger plastic bag or other sealable container. If possible, items of similar markings should be packaged together in a manner to prevent cross contamination.

2.6.4 Liquids

Liquid samples may be collected in capped glass vials and placed into larger plastic bottles and/or metal paint cans to prevent spillage.

2.6.5 Syringes

Syringes should be packaged in a sharps-type container to prevent injury. Should liquid still be present in the syringe, do not empty.

Note: if other powder/pill or plant material evidence has been submitted in a case, please retain any syringes or sharps pending analysis of other evidence.

2.6.6 Clandestine Laboratories

In the event that the submitting agency encounters a clandestine laboratory, all precautions should be taken to safely collect the evidence. The Division of Scientific Services has members of its laboratory that can respond to the scene to assist in the disassembly and collection of evidence.

There are different methods being utilized in the manufacturing of clandestine drugs. Some of the common chemicals found at a "clan lab" may consist of, but are not limited to: lighter fluid fuel, methanol (heat), lithium (batteries), red phosphorus (match book striker plates), iodine, sulfuric acid (drain cleaner), hydrochloric acid (household cleaners), sodium chloride (rock salt), and sodium hydroxide (red devil lye/drain cleaner). The DSS will provide guidance on which items should be collected and which are to be submitted for testing.

Be aware that the majority of the chemicals associated with "clan labs" are hazardous. A small portion of the sample is needed for testing. The sample should be collected into a glass jar. For additional information on what items should be submitted for analysis, please contact the Deputy Director of Toxicology, Controlled Substances and Chemistry.

2.7 FIREARMS EVIDENCE

NO LOADED FIREARMS WILL BE ACCEPTED WITHOUT PRIOR APPROVAL.

If unable to check firearm or unsure if it is safe, notify the personnel in Evidence Receiving upon submission.

2.7.1 Packaging of Firearms Evidence

1. **All** firearms submitted to the DSS must be unloaded and rendered safe before entering the laboratory. In order to "render a firearm safe", the ammunition must be removed from the firearm.

2. If blood pattern or latent fingerprint examination is required, the investigator should avoid handling the firearm and specify the examination desired.

3. Any ammunition recovered along with a firearm should also be submitted to the DSS. Live ammunition may be packaged in the same container as the firearm but should be packaged so that it is not loose in the container.

4. The location of live ammunition and the position of the hammer in the cylinder of a revolver may be critical, requiring the numbering of each chamber and its corresponding round. This may be accomplished by photography or by marking with a felt tip marker, or both.

6. The magazine and cartridges can be submitted in the same box, please make sure that all items are secured and not loose in the box. Do not re-use gun boxes.

7. Submit fired cartridge cases and projectiles in sealed envelopes or non-metal

containers. Do not physically mark bullets or cartridge cases.

2.7.2 Firearms in Water

For firearms recovered from bodies of water, special precautions must be taken:

1. Collect the firearm and store it submerged in the same type of water it was removed from (e.g. lake, ocean, brackish, etc.) and transport it to the DSS.

2. Do not seal a damp firearm in plastic.

3. Firearms recovered from water should be considered loaded whenever it is impossible to check the status or to unload them. Such firearms should be forwarded to the DSS and identified and labeled as loaded and communicated to Evidence Receiving personnel.

2.7.3 Identifying and Tracing Recovered Firearms (Sec. 54-36n, C.G.S.)

Firearms may be traced and tracked; it is the submitting agency's responsibility to complete the necessary forms. Please contact the Statewide Firearms Trafficking Task Force (SFTTF) for this information.

2.7.4 Firearms Laboratory Services

1. Operability of Firearms

Operability testing is conducted to determine the operating condition of a firearm. This will include a check of make, model, serial number, safety features, trigger pull, barrel and overall length, test firing, and entry into the National Integrated Ballistic Information Network (NIBIN) database where applicable.

2. Serial Number Restoration

A serial number is a unique series of characters that identifies an object. Although serial numbers are often altered and/or removed, they can be restored through chemical, physical, and magnetic processing techniques.

3. Examination of Fired Ammunition Components

Projectiles, cartridge cases, and shotgun shells can be examined microscopically to determine whether or not they were fired in a particular firearm. Any suspect firearm

and/or live ammunition collected during the course of an investigation should be submitted to the DSS for analysis, in addition to any fired ammunition components.

Identification can at times be rendered even using distorted bullets or projectile fragments. Effort should be made to recover all projectile evidence from a crime scene.

2.7.5 NIBIN

Suitable firearms' cartridge casings and cartridge casings from scenes submitted to the DSS will be entered into the NIBIN (National Integrated Ballistic Information Network). An entry notification report will be issued to the submitting agency. If a 'hit' is generated in NIBIN, an "unconfirmed" hit report will be released. If necessary, a "Confirmed" hit report will be released once the corresponding evidence is compared microscopically.

Bullets and revolver caliber cartridge casings are not entered or searched in NIBIN.

2.7.6. Firearms Evidence with Multiple Requests

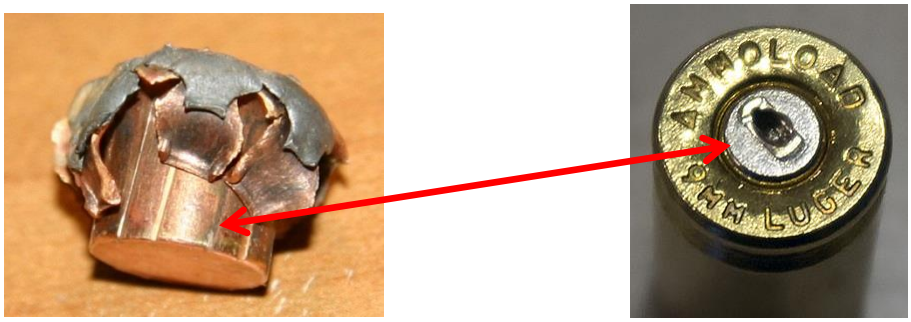
Evidence with multiple requests for other units (DNA/Forensic Biology Processing, Latent Prints) will not be examined by the Firearm/Toolmark Unit until all other units have completed their examinations. Firearm/Toolmark testing requires significant handling and can possibly compromise DNA and fingerprints on a weapon, therefore it is the last analysis completed in these types of cases. The *general* course of examination if DNA and Latent Prints testing are requested:

Forensic Biology/DNA → Latent Prints → Firearms Analysis.

2.7.7 Collection of Firearms Evidence from Crime Scene

The recovery of fired bullets and shot pellets from the ceiling, walls, floor, furniture, body of victim, etc. should be performed so as not to alter them in any way.

When bullets are embedded in wood or some other substance, it is recommended to secure that portion of the substance so that the bullet might be removed at the DSS. Avoid prying the bullet out of an object with a hard, sharp object such as a pocket knife which may alter the evidence.

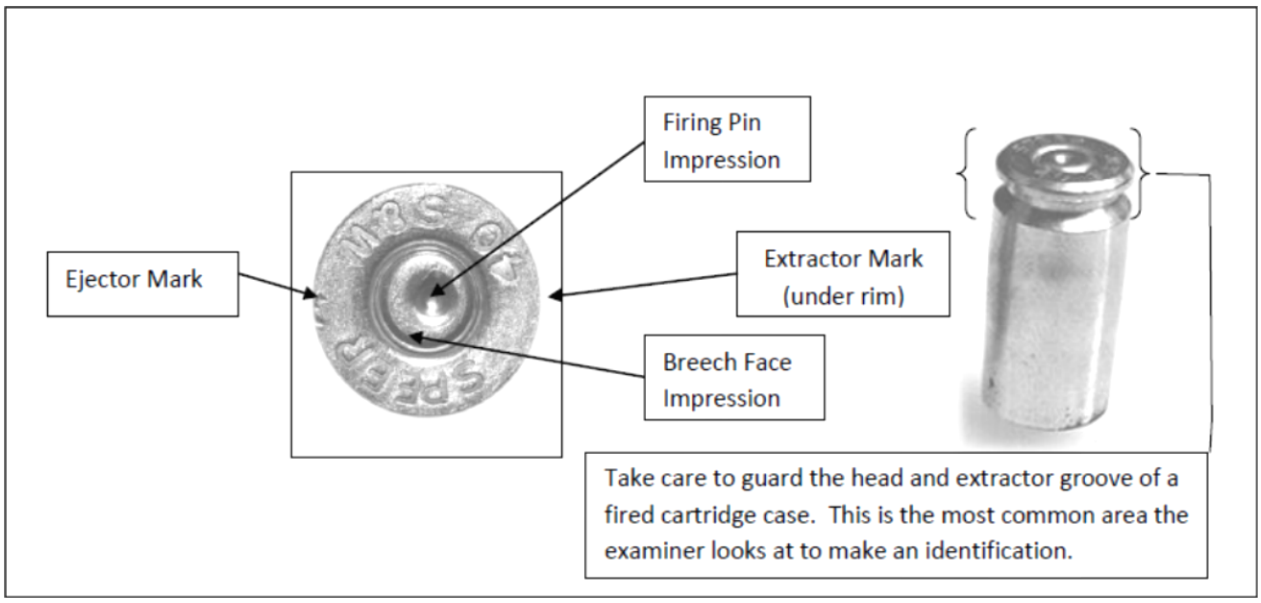


Care should be taken when collecting firearms evidence due to small markings on these surfaces that are necessary for analysis.

***Note: Internal studies have determined that it is difficult to get a DNA profile or a latent print on a fired cartridge casing due to the intense heat that is produced when a weapon is fired. This item will only be processed if information exists that the item was handled post shooting.**

Fired Cartridge Cases, Shot Pellets, and Wadding

Fired cartridge casings can exhibit marks left by the firing pin, ejector, extractor, magazine, chamber, and breech face. These marks can be compared and often matched with test fired cartridge cases from the evidence weapon. The following depicts the various areas where markings may be present that can be used in analysis:



2.7.8 Toolmarks

Questioned tool marks from a crime scene may be examined and compared microscopically to test marks from a suspect tool to determine whether or not the marks were made by that particular tool.

1. The investigator should never attempt to fit a tool into a tool mark.

2. As it is impossible for a large object to be placed under a microscope, examination may require cutting part of the object which bears the questioned mark (warn the crime victim of this whenever feasible). Submit only that part of an object with a tool mark. If an area of a large object is being cut for transportation to the DSS, the areas cut by submitting agency should be indicated.

3. There are instances in which this procedure is impossible and casting is necessary. Tool marks require the use of silicone/mikrosil. Plaster is not a suitable casting medium. Photographs aren't likely to produce the detail necessary for individualization; however, they are suitable for documentation purposes.

4. The tool and object having toolmarks should be wrapped in some type of protective garment or material so as to protect the surface from any alterations that could occur during transport to the DSS.

2.8 FIRE SCENE EVIDENCE

2.8.1. Collect debris or clothing suspected of containing accelerants. Use trained K-9 or Fire Marshal personnel to assist in locating evidence.

2.8.2. Place debris or clothing in an unused polymer coated metal paint can. The can should be not more than 2/3 full. If your item is large and you cannot obtain a 5 gallon can, the item may be wrapped in paper. Do not use plastic bags.

Glass jars can be used for liquid accelerant/flammable samples. Each item of evidence or items from different locations should be in separate containers.

2.8.3. Collect control samples from areas adjacent to the suspected sample area (e.g. carpeting, insulation, foam).

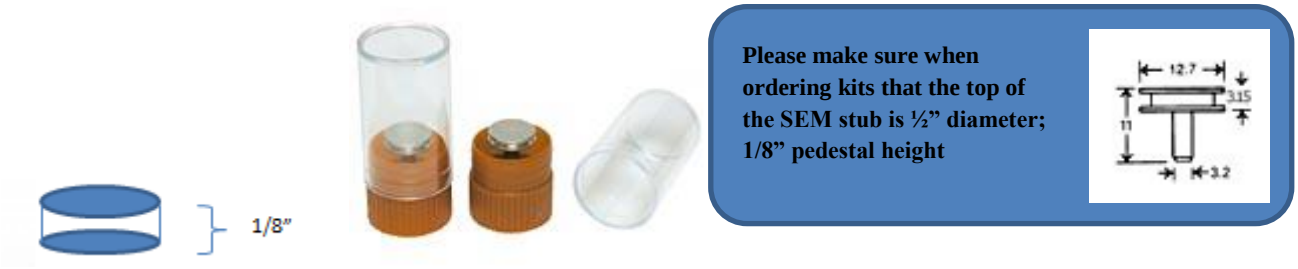
2.8.4. If DNA testing is necessary, please indicate on the Request for Analysis form. The

analysis testing method will destroy any DNA present on the evidence; therefore the request must be made when initially submitting the evidence for examination.

2.9 GUNSHOT RESIDUE AND DISTANCE DETERMINATION

2.9.1 Gunshot Residue Examination

1. Use a GSR Collection Kit which contains SEM discs. If the kit has components for both SEM samples (discs) and AA samples (swabs), use the SEM discs first. Collect samples within 4-6 hours after the shooting. During collection of the samples wear gloves to avoid contamination.



2. Obtain the samples as soon as possible and before the individual is fingerprinted or allowed to wash his/her hands.

Note: Commercial kits recommend that samples not be collected from a live subject after 4-6 hours post shooting. Verify which kit that you are using and follow those recommendations.

3. GSR collection kits can be used to collect GSR samples from vehicle interiors or other surfaces suspected of containing GSR.

4. GSR samples are not analyzed in routine suicide cases.

2.9.2. Distance Determination

Distance determination analysis processes fabric items for burned and partially burned gun powder particles and the presence of vaporous lead, all of which are byproducts of firing a weapon. This process may not be conducted on skin; any distance determination questions regarding skin should be directed to the Office of the Chief Medical Examiner.

The distance determination analysis can be conducted when it has been determined that the firearm in question is the suspect weapon by either fired cartridge case or bullet. To provide a distance of the target to the weapon, the actual weapon must be submitted. If the weapon and ammunition are not available, distance determination cannot be conducted.

1. To preserve gunpowder patterns on clothing, package items flat and when possible on a hard surface such as cardboard and wrap in brown paper.

2. No distance determination testing will be conducted on items that have been previously processed with BlueStar® or other blood enhancement reagents which were applied directly to an item.

Note: This examination will permanently alter the submitted evidence. Once this examination is performed, the evidence cannot be processed a second time for DNA or other biological analysis.

2.10 IMPRESSION/IMPRINT EVIDENCE

Impression/imprint evidence is usually comprised of footwear and tire track impression evidence, but on occasion it will consist of a mark made from a weapon, glove, socked foot or other object. Due to the nature of footwear and tire track evidence, the actual questioned impression is rarely able to be recovered and submitted to the DSS for examination purposes.

Best practice: submit the original evidence; if the original evidence is not possible, photographs/digital files are acceptable.

2.10.1 Recording Impression/Imprint Evidence

It is imperative that you take examination quality photographs before using any chemical or physical enhancement techniques or attempting to take lifts or casts of an impression.

1. The following equipment is suggested for the best documentation of imprint evidence:

- Camera 1000ppi would be optimal
- Tripod
- Scale(s)
- Placards to indicate evidence number
- Dark cloth/cardboard ambient light
- Removable flash with 6ft extension to provide oblique lighting

2. The photographs documenting this type of evidence should progress from general scene photographs in order to relate the location of the imprint evidence to the overall crime scene.

   Examination-quality photographs should then follow with maximum detail for forensic examination. All impressions should be photographed using both methods. Photographs for examination purposes should be taken at a 90° angle with a scale in the same plane as the impression, prior to collection.

3. After identifying the impressions that are to be photographed, place a scale next to that imprint in the same plane. Achieving the same plane can be accomplished by digging into the impression's surrounding material (i.e. dirt, snow) to get the scale at the same level as the bottom of the impression. Take precautions not to disturb the impression itself.

4. Place the camera on a tripod and position it directly over the impression with the back of the camera (capture surface of CCD card) being parallel to the impression. If the impression is on an angle, adjust the tripod to achieve the parallel position.

   A recommended rule on photographing the impression evidence is to "fill the frame". Cellular phone cameras are generally not suitable for examination quality photographs, but attempts can be made for analysis if no other recording device is available.

2.10.2 <u>Recovery of Impression/Imprint Evidence</u>

Casts and lifts of imprints/impressions may capture details that are not present in the examination of photographs. When possible, lift or cast the impressions. If the impression evidence consists of a tire track, it may be necessary to cast a three foot length.

Some helpful recommendations on casting/lifting:

1. Gel lifts are recommending for lifting imprints in dust. Imprints made of wet shoe/tire can sometimes be enhanced using fingerprint powders and then lifted with a gel lifter.

   Avoid using adhesive sheets for lifting imprints.

2. A dental casting stone material should be used. Avoid using plaster for the casting of impressions.

   When pouring the casting material, try to avoid pouring the mixture directly into the impression. The direct flow of the casting material can be adjusted by using a piece of cardboard to direct the flow slowly into the impression.

Avoid pouring directly onto the impression. Direct pouring may displace the details in the evidence.

   Let the mixture slowly flow into the entire impression with at least 1/2" depth of dental stone. Allow cast to dry for 20-30 minutes, before removing it from the impression.

3. After lifting the cast, place into a cardboard box and pack paper on the sides to prevent movement. Do not clean the cast off, the DSS can do this to prevent losing details in the evidence.

2.10.3 <u>Known Shoes/Tires</u>

1. Known shoes and tires should be collected.

2. Test impressions of tires should be taken while the tire is located on the vehicle. These can be taken using foam board and either ink or Vaseline and magnetic fingerprint powders.

3. If you have any questions please call the Imprint and Impression Evidence Unit of the DSS @ 203 639-6400.

2.10.4 SICAR - Solemate® and Treadmate®

The Division of Scientific Services has the ability to search the SICAR (Shoeprint Image Capture and Retrieval) database. This database contains approximately 30,000 images of the tread patterns of the major manufacturers. The examiners may be able to provide the manufacturer name and model of the shoe/tire by comparing the tread pattern and utilizing this database.

2.11 LATENT PRINTS

The Latent Print Unit processes a variety of physical evidence utilizing the latest physical and chemical development techniques, examines photographs, lifts and negatives for identifiable impressions, conducts comparisons between the latent print and known impressions, operates the Automated Fingerprint Identification System (AFIS) and Integrated Automated Fingerprint Identification System (IAFIS) and the Next Generation Identification (NextGen).

2.11.1 Packaging Recommendations for Latent Prints

All hard evidence being submitted to the DSS should be fumed with cyanoacrylate (superglue) prior to submission. This step will help to maintain the integrity of the latent print evidence during transport and while it is being processed by other units of the DSS. Gloves should always be worn when collecting latent print evidence.

Images of latent prints (with scales) prior to being lifted are encouraged to be submitted.

1. It is recommended that after developing a latent print, the print(s) should be photographed with a scale prior to lifting. Sometimes, the photograph/digital image file contains better detail than the actual lift.

2. Generally, packaging should be conducted in such a manner as to minimize contact between the object with possible prints and the surface of the packaging material.

3. After dusting an object that has not been fumed, photograph the latent with a scale and proceed to collect the developed print with a lifter. Each lift shall have identifying marks (Case number and Lift number). ***Evidence without proper markings will be returned unexamined.*** If you are unable to lift the developed print, firmly secure the dusted object within a box.

4. Any item with a porous surface, such as paper, can be placed in an envelope

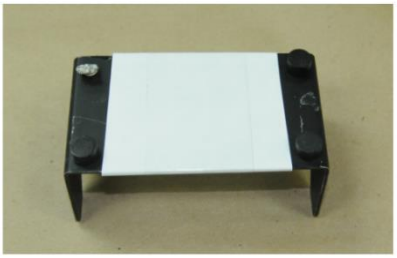
and forwarded to the DSS for chemical processing. Do not fold the evidence or the envelope.

5. Elimination Prints should be submitted whenever possible.

6. Should the agency want a specific person's fingerprints compared to latent lifts provided, the subject's fingerprint card should be submitted with the evidence.

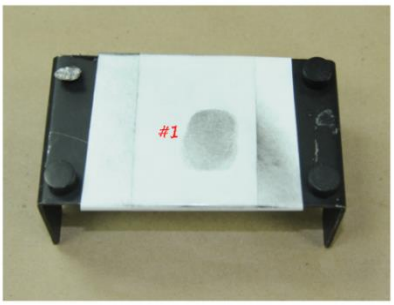
Documentation of Fingerprint Lifts

1. Take Overall Photo Prior to Processing

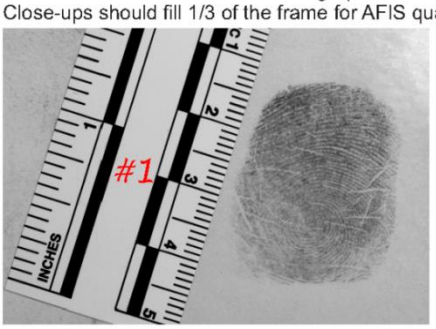


2. Dust for Latent Prints

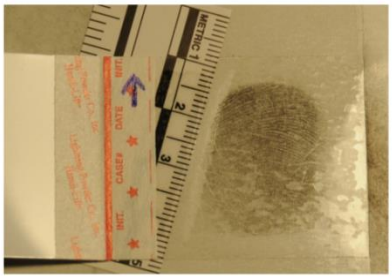
3. Take Overall Photo of Print w/Print #



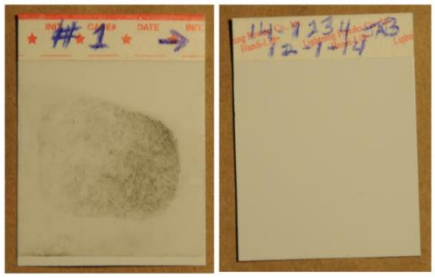
4. Add Scale with Print # and Photograph at 90°
Close-ups should fill 1/3 of the frame for AFIS quality



5. Place Lifter on Print, Draw an Up Arrow
then lift print (you can now swab area for DNA)

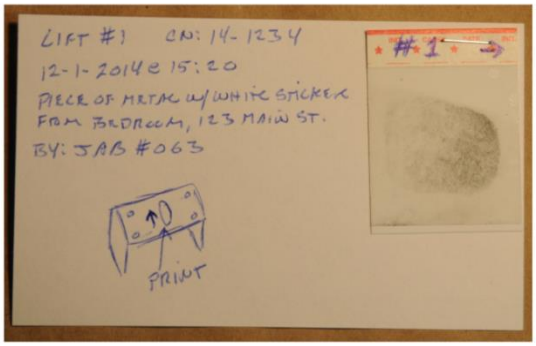


6. On Front of Lift write Lift/Print #
On Back of Lift write Case#, Initials and Date



7. Staple lift to 3x5 index card list the following information:

1. Lift#
2. Case#
3. Date/Time Collected
4. Lifted By
5. Description of item lift was taken from and location where processing was performed
6. Draw a simple diagram with up arrow



2.11.2 Latent Print Prescreening Program

In an effort to expedite latent print examination returns, DSS will accept via email (for pre-screening purposes), latent prints developed at crime scenes that are of questionable quality. These are cases where the investigator is not sure if the latent print that was developed is of value or if it should be sent to the lab for further analysis.

1. Prescreening criteria on whether to submit directly to DSS:
   1) The case has resulted in the development of no more than 5-lifts or digitally photographed latent prints.

   2) All of the latent prints lifted or photographed are of questionable quality (less than 6 points). If **any** of the latent prints contain 6 or more points, submit the case directly to the lab.

2. Protocol & Submission Guidelines:
   Call the latent print unit supervisor for approval (203-694-6558 John Brunetti) or you may call the main number to be connected to other staff in the Latent Print Unit.

   1. Have the following information ready:
      a. Local Case Number
      b. Department authorized email address. *No personal email account addresses will be accepted.*

   2. Upon approval you will receive an email with your case number listed in the subject line. Your receipt of this email will be your confirmation that you are authorized to submit your latent print(s) for pre-screening review.

   3. Reply to the email and attach the image of your latent(s) to the reply email.

   4. Add any information you feel is important about your case to the body of the email along with your Name, Agency, and Contact Phone #.

   5. Send the email.

   6. You will receive a return email as to whether or not to submit your questionable latent print(s) to the DSS for further review.

7. **No Value Response Disclaimer:** The pre-screening evaluation is based on the file's image quality. If the image does not accurately reflect the detail of the evidence, then submit the actual evidence to the DSS.

2.11.3 Recommendations for Photographing Latent Print for Email or Submission

1. Physical lifts must be scanned or photographed.

2. Scanned lifts must be at least 1000ppi and saved as jpg images compressed not more than 30% or less than High Quality setting if using Adobe Photoshop.

3. Digital photographs of latent prints:

   a. Use your camera's macro mode if available. *Note: Many cameras have to be zoomed out to wide-angle to achieve the closest possible image focusing.*

   b. The latent print must occupy at least 1/3 of the camera's image frame or achieve at least 1000ppi resolution.

   c. The photograph must contain a scale that shows inches or cm/mm.

   4. Image file names must incorporate an itemized number of your latent impression or lift. It is **important to be consistent with your labeling and file naming.** Some examples of file numbering: DCS00123, LP-1 or DCS00123, Latent-1 or DCS00123, Lift-1 or DCS00123, Lift-1, LP-1 or DCS00123, Lift-1, Latent-1

2.11.4 Evidence Not Conducive for Latent Print Processing

Certain types of evidence submitted for latent print processing either have a non-existent or extremely low chance of developing friction ridge impressions of value. Therefore, the latent print unit will not process or examine the following types of evidence without prior approval by the Latent Print Unit Supervisor/Lead or the Deputy Director of Identification Services.

1. Rocks, Stones, Bricks, Concrete Block or Similar Masonry Type Products
2. Bullets/Cartridges (live and spent)
3. Cigarettes/E-Cigarettes or small hand-held smoking devices (*i.e.* crack pipes)
4. Cords, Ropes and Wires
5. Cloth and Woven Fabric and Leather-type items
6. Coins/Currency (*does not include counterfeit paper currency*)

7. Dye Packs
8. Footwear
9. Glassine Bags
10. Heavy Gauge Rubber Gloves (*latex/nitrile or vinyl gloves are accepted*)
11. Pens, Pencils or other Writing Instruments
12. Rusted Weapons/Rusted Metal Instruments/Tools
13. Straws
14. Syringes

If appropriate, this type of evidence will be sent directly to the Forensic Biology/DNA Section for processing.

* Note: Unless blood-like stains are noted, DNA and latent print testing will not be conducted on currency due to the high exchange rate of this evidence.

2.12 MULTIMEDIA EVIDENCE

Multimedia evidence may be considered analog or digital media which contains images, video or audio files. This type of media may be contained on analog (VHS, 8mm, VHS-C) and digital (digital 8, MiniDV, camera cards/cameras, USB drives or digital video recorders (DVRs) and CDs/DVDs with various video file formats *eg. .avi, .mov, .mpg, etc. including proprietary files*). It is essential that video evidence be preserved until working copies can be generated.

2.12.1 <u>Submission of Multimedia Evidence</u>

When submitting audio, video and MiniDV tapes ensure that the erasure prevention tab has been placed in the "SAVE" or "NON-RECORD" Mode. Any audio, video or MiniDV cassette tapes which require enhancement should be cued to the appropriate location or the time/date of the incident must be provided to locate the area for enhancement.

2.12.2 <u>Collection of Analog Media</u>

Other considerations for Analog video (VHS, 8mm and VHS-C)

1. Note the time/date on the video monitor and note the real time (*i.e. using watch or cell phone*).

2. If a time-lapsed recording is being utilized, note the recording mode (*e.g. A2, A6, A12, A18, VRT, A24 or other*).

3. Note the make and model of the recorder and multiplexer if present.

4. Note any active cameras and camera view of interest. Note if any cameras are infrared sensitive (*this will change the colors of some materials*).

5. Stop the recorder, do not rewind the tape.

6. Remove tape. Once the tape is removed, remove the recording tab or set the recording slide to "save".

7. Place the tape in an appropriate evidence bag/envelope. Avoid transporting or storing near magnetic devices.

8. If viewing the tape is needed for investigative purposes, make a copy of the original tape and view the copy. If needed, personnel should seek guidance or assistance when deemed appropriate.

9. Do not use the "pause/still" or "freeze frame" functions at any time on the original tape.

2.12.3 Collection of Media on CD/DVD

Any media submitted on CD or DVD, which is from a private security office, should have the appropriate proprietary player file with the appropriate CODEC provided on the media.

All CDs and DVDs must be finalized prior to submission.

2.12.4 Collection of Digital Video Recorders or Network Video Recorders

1. When submitting DVRs, obtain all administrative, user and software passwords for the DVR. Collect any technical support phone numbers or contact names if present.

2. If seizing a digital video recorder, stop all recordings first. Prior to collecting, attempt to power down the system, as a last resort remove the plug from the wall outlet.

   It should be noted that video evidence files located on a DVR have limited archival time and will be overwritten depending on the system's settings.

3. Note the DVR's make, model and serial number and collect any manuals/software if present.

4. Note the time/date on the video monitor and note the real time (*i.e. using watch or cell phone*)

5. Note any active cameras and camera view of interest. Note if any cameras are infrared sensitive (*this will change the colors of some materials*).

6. Note if the system has a continuous recording mode or is time-lapsed or alarm/motion activated.

7. If exporting the video file from a DVR onto external media (*e.g. CD, DVD, thumb or flash drives*) make sure a copy of the proprietary player/viewer software is also included.

8. When possible, it is preferable to export in both the native proprietary format and as an .avi or .mov (Quicktime) file. When exporting to .avi or .mov file formats, use the least compression possible.

9. When exporting still images/single frames, utilize the .bmp option.

10. If extensive analysis or retrieval assistance is needed, it is preferred that the DVR be submitted directly to the DSS for examination.

11. Package any DVRs in a cardboard box or paper bag for submission. Avoid transporting or storing near magnetic devices.

2.12.5 <u>Analysis Capabilities of the Multimedia Unit</u>

The Multimedia Unit has the ability to perform audio enhancements or redactions. Due to the complexity of audio evidence processing, we request that evidence be submitted at least three weeks prior to the date needed for court.

The Multimedia Unit is able to export images, enhance images and conduct image comparisons to a known subject/item of evidence. Additionally, the Unit may be able to research the make/model of a vehicle and provide a comparative image for the submitting agency.

2.13 PHYSICAL MATCHES

The DSS is able to perform microscopic comparisons to determine if two or more items once were a single piece, such as fractured metal, fractured glass, fractured plastic, etc. When submitting this type of evidence to the DSS, please wrap the items so that the edges are protected. Do not allow this type of evidence to be loose in boxes or other packing containers.

2.14 QUESTIONED DOCUMENTS

The Questioned Document Unit of the Lab examines evidence that contains printed, written or typed materials. Examinations are conducted when the origin is unknown or the authenticity is in question.

The Questioned Documents Unit also performs writing/hand printing/signature identifications and comparisons, document alterations, counterfeit and composite documents, obliteration and/or erasures, alternate light source, charred documents, document sequencing, indented writing, lottery tickets, rubber stamp and other types of forensic analysis

In cases, such as bank robbery notes, a latent print and DNA request will be added to the evidence being submitted after processing by the Questioned Document Unit.

1. Originals of the questioned and known materials are the preferable evidence but 1st generation photocopies/high resolution scans are acceptable for submission.

2. Known standards must be collected. Known standards can be obtained through requested writings or from genuine handwriting samples. Known standards must be packaged separately from questioned samples.

3. If more than one set of standards are submitted, each set must be packaged separately.

4. Each questioned document should be packaged individually.

5. In many situations handwriting exemplars may be required for examination purposes. In cases in which handwriting exemplars are necessary, contact the Questioned Document Unit of the DSS for assistance or download the QD Handout form from the DSS website:

   http://www.ct.gov/despp/lib/despp/DSS/Forms/Collection_of_Handwriting_Exemplar_Specimen_Form.pdf

2.15 SEROLOGICAL TESTING

The Forensic Biology Unit examines evidence to indicate the presence of blood and other body fluids, such as semen, saliva, urine and fecal material. This Unit determines which samples will be forwarded to the DNA Unit for further analysis.

2.15.1 Blood

A series of tests is used to indicate the presence of human blood on evidence. If these tests produce negative results, an animal bloodstain may be suspected. If the case warrants, additional tests may be employed to determine what species of animal blood is present.

Note: The use of Luminol, BlueStar® or other blood detection tests at the scene may cause the screening test to give false negative results. Please notify the DSS if this type of test was used on the evidence being submitted.

Spraying evidence with aerosol screening tests is not recommended if "touch DNA" testing will also be requested on this evidence.

2.15.2 Semen

The DSS tests stains for the presence of semen. This type of testing is routinely conducted on clothing, bedding or items contained in a Sexual Assault Evidence Collection Kit. If a stain is suspected of being semen and if the entire item cannot be collected, cut out the area containing the stain. Note: Semen stains are sometimes not visible to the naked eye. An alternate light source might need to be used to visualize such stains.

2.15.3 Other Biological Materials

The Forensic Biology Unit is also responsible for the indication of other types of biological material such as saliva, urine and fecal material. When possible, provide information if this type of stain should be searched for on the evidence submitted.

If the examiner determines that no biological fluid is present on an item of evidence, but an individual may have come in contact with that item, then a "touch DNA" sample may be collected. The premise behind a "touch DNA" sample is that through normal handling or wearing of an object, there is a potential transfer of skin cells. A sample is collected from an area on the evidence that is a potential site of transferred skin cells. These samples may then be forwarded for DNA analysis or preserved for future testing if necessary.

Note: If a piece of evidence requires latent print processing and touch DNA collection, please add the latent print request at the time of submission.

2.15.4 Packaging of Evidence for Serological Testing

Evidence that is to be submitted for serological testing should be packaged in paper bags. When collecting bloody or wet evidence at the scene, make sure to air dry prior to sealing inside the paper bags.

2.15.5 Sexual Assault Cases

Pursuant to CT Public Act 15-207 (effective 10/01/2015), **sexual assault evidence shall be submitted to the DSS within 10 days of collection**. This includes evidence collected from an individual who wishes to remain anonymous.

https://www.cga.ct.gov/2015/act/pa/pdf/2015PA-00207-R00HB-06498-PA.pdf

Arrange for the victim to proceed to a hospital or medical facility as soon as possible. Instruct the victim to avoid going to the bathroom or cleaning in any capacity. If the victim has cleaned themselves, an effort should be made to obtain any paper towels/tissues that may have been used. Additional guidance on the collection and handling of Sexual Assault Evidence may be acquired at the State of Connecticut Commission on the Standardization of Collection of Sexual Assault Evidence website :

http://examguidelines.endsexualviolencect.org.

1. A 'CT100' Sexual Assault Evidence Collection Kit is normally utilized during the physician's examination at the hospital.

2. Take custody of the sealed and labeled 'CT100' Kit and corresponding bag of victim's clothing.

3. Refrigerate (Do Not Freeze) the 'CT100' Kit and arrange for submission to the DSS within 10 days of the evidence being collected. The clothing may be kept at room temperature.

4. The submission of evidence should include the 'CT100' Kit, victim's clothing, and any other associated evidence.

5. If a suspect is developed, the DSS may need known biological (buccal) samples. A sexual assault offender kit ('CT 200') is available. The kit contains materials for other samples and clothing if a suspect is developed soon after the incident.

6. A summary of the case should include information such as the use of a condom, ejaculation, etc.

7. If there is an indication that the assault may have been drug facilitated, a 'CT 400' kit may be collected at the hospital and submitted to the DSS to be tested by the Toxicology Unit. Note: the victim consent form should be included in this kit.

8. The victim may choose at the time of presenting to the hospital to not make a complaint to the police (sometimes referred to as "Anonymous"). In such cases, a 'CT 100' Kit and 'CT 400' should still be collected.

   "Anonymous" evidence will be held unexamined at the DSS for at least 5 years. Should an individual choose to make a complaint during that time frame, notify the Case Management Unit at (203) 427-4098 so testing can be initiated.

2.16 TOXICOLOGY TESTING

The Toxicology Unit primarily performs alcohol and drug analysis on blood/urine samples taken from individuals believed to be driving under the influence. The unit also performs alcohol and drug analysis on samples taken from victims of sexual assault collected in the "CT400 Kit". The blood should be refrigerated until delivered to the DSS.

Toxicological evidence will have screening tests done for the presence of the following Amphetamines, Barbiturates, Benzodiazepines, Cocaine metabolites, Methadone, Opiates, Phencyclidine and Tetrahydrocannabinol. When appropriate, confirmatory testing will be performed at the request from the agency.

If analysis is needed on a deceased subject, please submit this request to the Officer of the Chief Medical Examiner at 860-679-3980.

Poisonings

Cases of suspected poisoning may be submitted to the DSS upon approval from the Director or Deputy Director. Testing in these types of cases would consist of analysis of the drink that was suspected to have been tampered with. If a specific contaminant is suspected, please note that on the submission form.

2.17 TRACE EVIDENCE

Contact between individuals or objects may be established via the transfer of trace evidence. Trace evidence examined by the DSS includes paint.

**Hairs, fibers, ropes, tape, glass and soil may be submitted to the FBI laboratory for analysis. Please contact the FBI Evidence Control Unit at (703) 632-8360 for further information.

Trace material collections are examined stereoscopically in order to sort out samples of interest. These samples are further examined microscopically and may be analyzed instrumentally. The data collected from a questioned sample is compared to the data collected from a known sample. If a known and a questioned sample show the same properties with all possible tests conducted, then they are reported to be similar and the known sample is considered a possible source of the questioned sample.

2.17.1 Paint Samples

Collection and Packaging Recommendations:

1. When possible, seize the entire object containing the paint evidence.

2. If it is not possible to seize the entire object, utilize the following guidelines to collect paint evidence.

3. Utilize a straight edge razor blade to collect paint evidence. Place loose paint samples into a druggist fold. Do not submit the blade for examination. Do not reuse blade. To avoid cross contamination of samples all paint samples should be placed into a druggist fold and then into an envelope clearly marked with vehicle description and sample location example- *Black Audi front fender*.

4. Do not place paint samples in plastic bags.

5. Do not tape lift paint samples.

Note: When submitting evidence, please include on the Request for Analysis form a detailed case summary. If possible, include a description of the vehicles involved with color, make, model and year information.

Paint evidence from victim's clothing
Use care when handling victim's clothing. Paint evidence from a hit and run may be present but not visible to the naked eye. Handle clothing as minimally as possible, and only if necessary. Use care if drying clothing in a storage cabinet. Dry clothing with a paper underneath, and then put the contents of debris from paper in the bag with clothing. Place clothing in a paper bag.

Paint samples from a vehicle
Collect paint samples closest to the area of damage as possible. Scrape all the way down to the metal, wood or plastic substrate, as described above. The sample should be taken from the same panel or car part as the damaged area. The chemistry of the paint may be

different based on its location on a vehicle.

Paint smears

Use caution while collecting smears, as they tend to be fragile. It is strongly encouraged to collect the entire object or area containing the smear. If this is not possible, collect the smear along with the underlying layers of paint down to the substrate (metal, wood or plastic) using a razor blade and place into a druggist fold, as described above.