



EVIDENCE HANDLING MANUAL

MONTANA STATE CRIME LAB





Missoula Crime Lab

The mission of the Montana Forensic Science Division is to use operationally efficient and financially responsible practices as the laboratory provides accurate, objective, and timely forensic analyses to the criminal justice community in order to maximize value to the citizens of Montana.



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Crime Lab Sections

Breath Alcohol	Statewide Law Enforcement DUI Training, Intoxilyzer Maintenance and Repair, Statewide DUI Program Administration	Impressions	Latent Prints, Footwear Examinations, AFIS, IAFIS
Chemistry	Drug Identification, Gunshot Residue, Paint Analysis, Fire Debris	Medical Examiner	Autopsies, Biological Specimen Collection, Skeletal Analysis
Evidence Front Office	Shipping/Receiving Evidence, Ordering Forms and Collection Kits	Serology DNA	Biological Materials Analysis (for type/source), Genetic Analysis, CODIS
Firearms Toolmarks	Firearm Functioning, Identification of Fired Ammunition Components and Toolmarks, Distance Determination, Fracture Match, Serial Number Restoration	Toxicology	Biological Materials Analysis (for drugs/toxins): Death Investigations, DUI/DUID, Drug Endangered Children, Sexual Assaults, and Probation and Parole

Evidence Submission Steps

1. SECURITY AND MANAGEMENT

- Clear the area of all people except those essential to the investigation.
- Limit the number of officers collecting evidence.
- Avoid using the same entry/exit path the suspect used, if it can be determined.

2. DOCUMENTATION

- Record the location of evidentiary items prior to removal or movement.
- Photograph items in their original position, using a measuring device in all photos.
- Take both overall and close-up photos.

3. AVOIDING CONTAMINATION

- Wear non-shedding clothes to a crime scene.
- Wear non-powdered gloves and disposable lab coats to package evidence.
- Change gloves often or if contaminated.
- Handle evidence as little as possible.

4. COLLECTION

5. PACKAGING

- Air-dry wet evidence.
- Package all exhibits on a clean surface, such as butcher paper.
- Use sterile or new containers.
- Package evidence in proper evidence containers. Do not package too tightly.
- Do not mark on the actual item of evidence.
- Label all evidence with the submitting officer's name, a description of the item, and the exact location of the item relative to a fixed object, if applicable.
- Keep biological samples and perishable items in the refrigerator.
- Store evidence in a vault or location with controlled and secure access.

6. SEALING EVIDENCE

- Seal all openings using red evidence tape, a heat seal, or approved self-adhesive seals.
- Do not use staples.
- **Initial or sign all seals.**

7. SUBMISSION FORM

- Type or print legibly.
- If the item is part of an active case, provide the lab case number.
- Ensure the item description and the agency item number match the submitted item.
- Complete the "Received From/By" and date on the chain of custody.
- Forms are available at: <https://dojmt.gov/crime/forms>.

8. SUBMISSION TO LAB

- Evidence should be submitted along with the following:
 - » Properly filled out Submission Form with completed chain of custody.
 - » Incident Reports and known prints.
 - » Scene or evidence photos that may be beneficial to analysis.
- Delivery:
 - » In person: 8am-5pm
 - » United Parcel Service
 - » US Postal Service
 - » FedEx

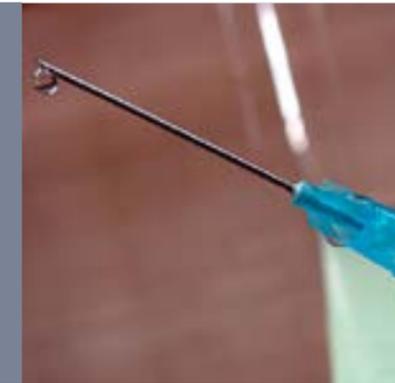
For information on collecting **specific evidence types**, refer to each section's guidelines as listed in the table of contents.

Chemistry



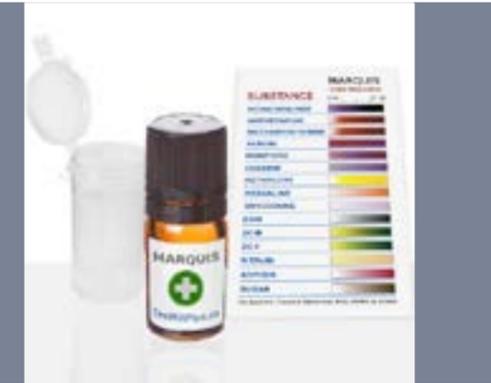
Plant Material

- Dry all dried plant material. Fresh or damp plants will mold if sealed in plastic.
- Cut plants from a grow operation off at the soil line. By statute, roots do not contribute to sample weight.
- The lab no longer analyzes misdemeanor marijuana cases. Submitted samples must be over 60 grams.



Syringes

- Syringes **MUST** be authorized by the lab prior to submission.
- Submit approved syringes in a biohazard safety canister.
- Inject syringe contents into a vial for submission, when possible.



Drug Test Kits

- Do not submit drug test kits with the evidence.
- Do not test residues with drug test kits.



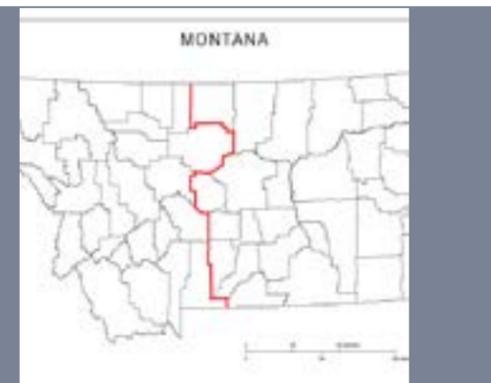
Clandestine Labs

- Contact MDCL at (406) 444-3874 or a local agency certified in clan labs.
- Do not handle the evidence in any way prior to contacting a certified responder, unless it is to secure an area or lives are in danger.



Fingerprints

- If latent print examination is needed on drug packaging, drugs must be removed and repackaged.
- Submit the drugs and the packaging as separate exhibits.



Eastern Crime Lab

- Drug evidence for Blaine, Hill, Stillwater, Fergus, Judith Basin, Wheatland, Sweet Grass, Carbon, and all counties east, must be submitted to the Billings Crime Lab.
- Drug cases involving other evidence requests must be sent to the Missoula lab.

Toxicology



Kits: Each kit contains a toxicology submission form, collection instructions, collection tubes, seals, labels, and packaging material.

DUI Requirements:

- Blood alcohol and drugs - 2 gray top tubes, 20mL blood.

Toxicology Requirements:

- Blood alcohol and drugs - 2-4 gray top tubes, 20mL blood.
- Urine drug screening - 2 gray top tubes, 20mL urine.
- Vitreous alcohol - 1 red top tube, 5mL vitreous fluid.
- Carbon monoxide poisoning - 1 green top tube, 10mL blood. (Not included in the Toxicology kits.)

Urinalysis Requirements:

- Alcohol and drugs - 2 gray top tubes, 20mL urine.
- Samples must be previously screened.

Drug Endangered Child Requirements:

- Hair testing - 200 strands.
- Urine drug screening - 2 gray top tubes, 20mL urine.

Sexual Assaults:

- Urine alcohol and drugs - 2 gray top tubes, 20mL urine.
- Blood alcohol and drugs - 2 gray top tubes, 20mL blood.

DUI Testing: Samples will first be tested for alcohol. If a BAC of 0.10 or higher is found, further testing will not be done unless requested by emailing DOJTox@mt.gov. If the BAC is lower than 0.10, drug testing will be done automatically.



DUI, Toxicology,
Urinalysis, and
Drug Endangered
Child kits can be
ordered **at no
charge** through
the crime lab.

Serology/DNA

For the complete Serology/DNA manual, please visit:

<https://dojmt.gov/wp-content/uploads/DNA-Serology-Evidence-Manual.pdf>

General Instructions

- Change gloves often and between handling different evidence items.
- Air-dry all samples before submitting them.
- Wrap and seal each item separately.
- Do not package Serology/DNA items in plastic.
- Do not submit overly large items to the laboratory without prior approval.
- For limited samples, such as "touch" samples or hair, include a consumption letter from the attorney assigned to the case.

Collection

- Liquids: Absorb liquid blood, semen, saliva, or other body fluid onto sterile swabs.
- Dry stains: Absorb stain onto clean swabs moistened with sterile water.
- Sexual assaults: Collect the evidence as soon as possible. Medical staff must collect the victim's evidence using a Sexual Assault Kit (SIRCHIE Item #MT100). The suspect's evidence may be collected using a Sexual Assault Kit or sterile swabs.
- Apparent hairs: Pick up hair with clean forceps or a Post-It note, being careful not to damage the root tissue.
- Soft tissue: Store soft tissue in sealed, plastic containers and freeze. Do not use formaldehyde.
- Bones and teeth: Package whole bones or teeth in paper. Store at room temperature.
- Reference samples: Rub inside of cheeks with sterile cotton swab. Package swabs from different individuals separately.

Call the Serology/
DNA section prior to
submitting cases with
more than five items.

Convicted Offender DNA Collection Kit

- Collection of convicted offender DNA for entry into CODIS.
- DO NOT use to collect suspect or victim reference standards.



Firearms

Render the weapon safe before transporting. Use the proper unloading technique according to the type of weapon. Never place any hard object in the barrel or action of a firearm.



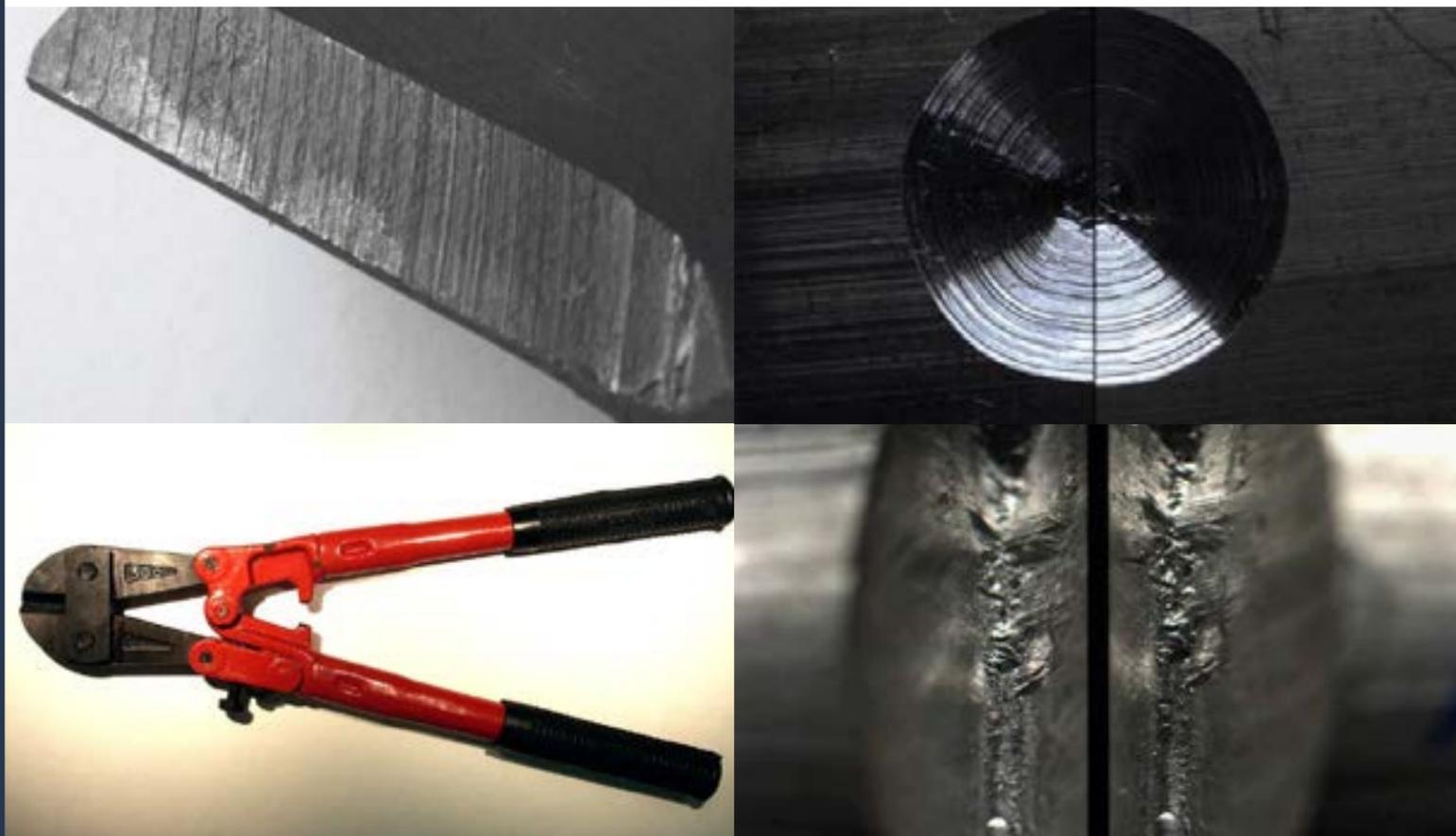
- Package each evidence item separately in an appropriate container such as a cardboard box.
- Indicate the brand, model, serial number, and caliber on the evidence label.
- If cylinder chamber position is deemed important, properly mark the cylinder by placing an "X" on both sides of the chamber located under the hammer.
- If biological or trace material needs to be collected from the weapon, wrap it in clean paper before packaging it in a box.



SUBMITTING CLOTHING FOR DISTANCE DETERMINATION

- Air-dry wet clothing.
- Handle items as little as possible.
- Lay each item flat and sandwich wrap between pieces of paper. Fold the wrapped clothing and place in a paper bag.
- Do not package different articles of clothing together.
- Label inner and outer containers with biohazard stickers if they contain blood.

Toolmarks



- Collect any whole or broken tools from the crime scene.
- Submit all suspected toolmarks on an object.
- If it is not possible to submit the evidence bearing the toolmark, submit a cast. This should only be done as a last resort and with a good casting material such as Forensic Sil, Mikrosil, or another silicone casting material.
- Mark directions ("up/down/inside/outside," as appropriate) directly on casts and toolmark evidence, such as a door jamb, so long as the writing is in a toolmark-free area.
- Package all evidence separately.
- Tools should be wrapped and sealed in paper. They must also be stabilized for shipping. This can be accomplished by securing it in bubble wrap and an extra box with additional packing material.

To avoid contamination or loss of evidence, never attempt to fit a tool into a toolmark.

Gunshot Residue Kits

Collection Timeline

- Optimal time of collection is 0-4 hours after the incident.
 - GSR collected 4-6 hours after the incident will still be analyzed.
 - GSR collected over six hour after the incident will be evaluated on a case-by-case basis.
- Collect gunshot residue (GSR) from subjects as soon as possible.
 - Carefully read and follow the instructions provided with each kit.
 - Open individual vials by gently pulling apart the brown plastic top and clear vial body.
 - Do not handle the tacky ends of the metal stubs.
 - Dab the tacky surface up and down the areas of interest.
 - Continue dabbing until all areas have been covered, even if the stub is no longer sticky.
 - If possible, avoid wet, bloody, or heavily soiled areas.
 - After collection, place the brown plastic top securely back onto the clear vial body.
 - If collecting from surfaces other than those described in the instructions, please contact the lab.

Latent Prints

When it is not possible to send items in to the lab and circumstances require latent lifts:

- Examine the item visually with a light source.
- Prior to dusting, photograph any visible prints with a high resolution format such as TIFF or RAW. Ensure that the ruler and camera are on a plane parallel to the impression when photographing.
- Allow wet prints to dry before dusting.
- Do not apply powders to greasy, bloody, dusty, or putty evidence.
- Dust with powder, photograph again, and lift with lifting tape. Place the lift on a lift card of contrasting color from the powder.
- Use of a silver-colored powder is discouraged.
- Use of notecards or paper in place of lift cards is discouraged. The best results are obtained when lifts are placed on the proper side of designated lift cards.
- Do not discard any latent lifts, even if it appears that no ridge detail was lifted. Send all lifts to the lab for analysis.

Whenever possible, it is encouraged to send items in to the lab for processing, as the lab has a number of physical and chemical processing techniques available.

Label the lifted print with your initials, the date, case number, location lifted, and an arrow indicating the direction of orientation of the latent print on the item of evidence. Include a sketch.

Whenever possible, please submit victim elimination prints.

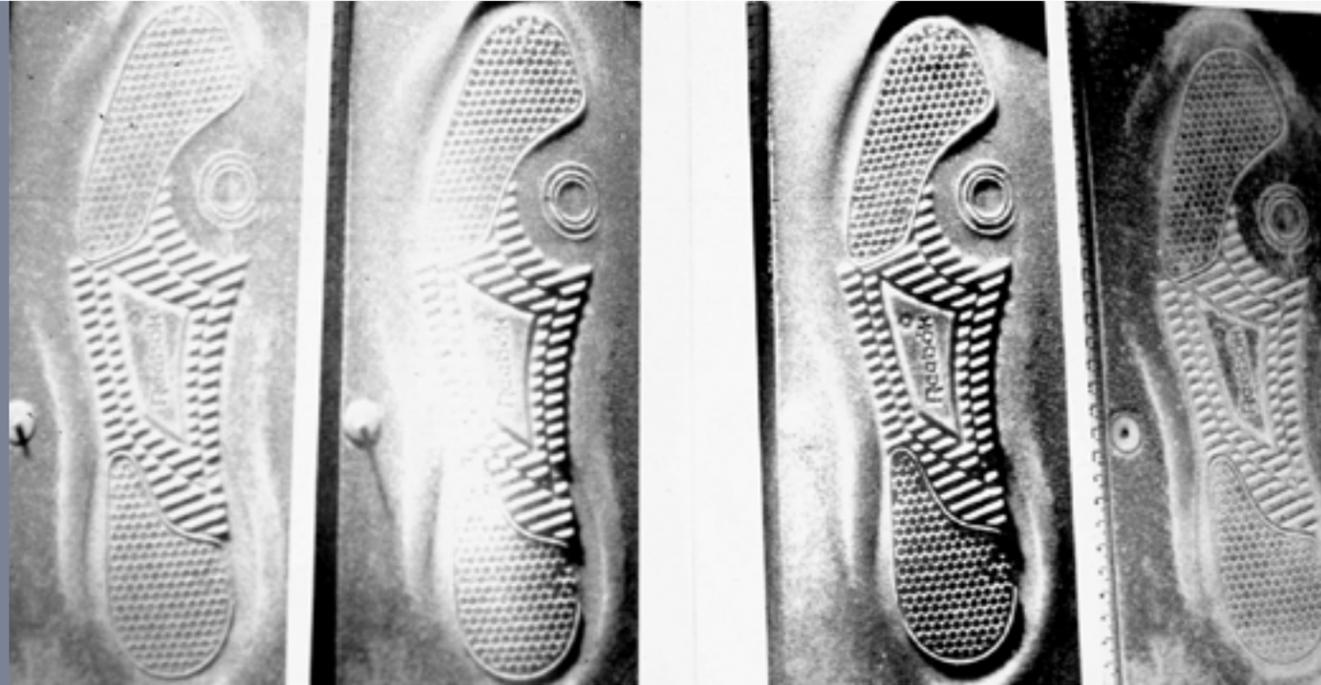
Always wear gloves when lifting or handling latent print evidence, but in the event you have handled the lift tape without gloves, please submit officer elimination prints.



- Packaging:**
- Avoid plastic; package the item in paper or cardboard.
 - Secure the item from moving around or being rubbed by the packaging.
 - Known fingerprint cards are considered evidence and should be packaged and sealed as such.
 - Mark evidence with sharps or biohazard warnings, when appropriate.

GSR kits can be ordered by calling TRI-TECH FORENSICS at 1-800-438-7884, item number GSR-SEM(1MT).

Footwear and Tire Impressions



The lab does not currently accept tire impressions.

Photographing

- Side lighting should be used to enhance details, from each side of the impression.
- Do not remove debris that is imbedded in the impression. If loose debris has fall onto the impression AFTER it was made and is clearly lying on top, it can be carefully removed. Make sure to photograph it both before and after removal.
- Include a scale in the photo in the same plane as the impression.
- Take both overall crime scene views and close-ups.
- After initial photos, a contrasting agent such as grey primer spray paint may be used for photographing snow impressions.

Casting

- Casting kits should be available for use at the crime scene, which contain a two pound Ziplock bag of Dental Stone and 10-12 ounces of water.
- Gently pour the Dental Stone mixture on the outside of the impression and allow it to flow in.
- Allow it to dry between 30 minutes and several hours before removal.
- Do not clean cast.
- Use a pencil or sharpie to label the back of the cast with the case number, date, initials, and cardinal direction.
- Allow 24-48 hours to dry, then package in paper and cardboard.
- Ordinary Dental Stone cannot be used to cast impressions in the snow. Specialized casting material for use in snow may be ordered from forensic supply companies. Please call if you have any questions.



Arson



Package arson evidence in unused paint cans. Plastic bags are not suitable.

Fill cans approximately halfway, leaving plenty of air space.

Collect samples from the edge of pour patterns and protected areas.

Absorbent materials retain ignitable liquids best.

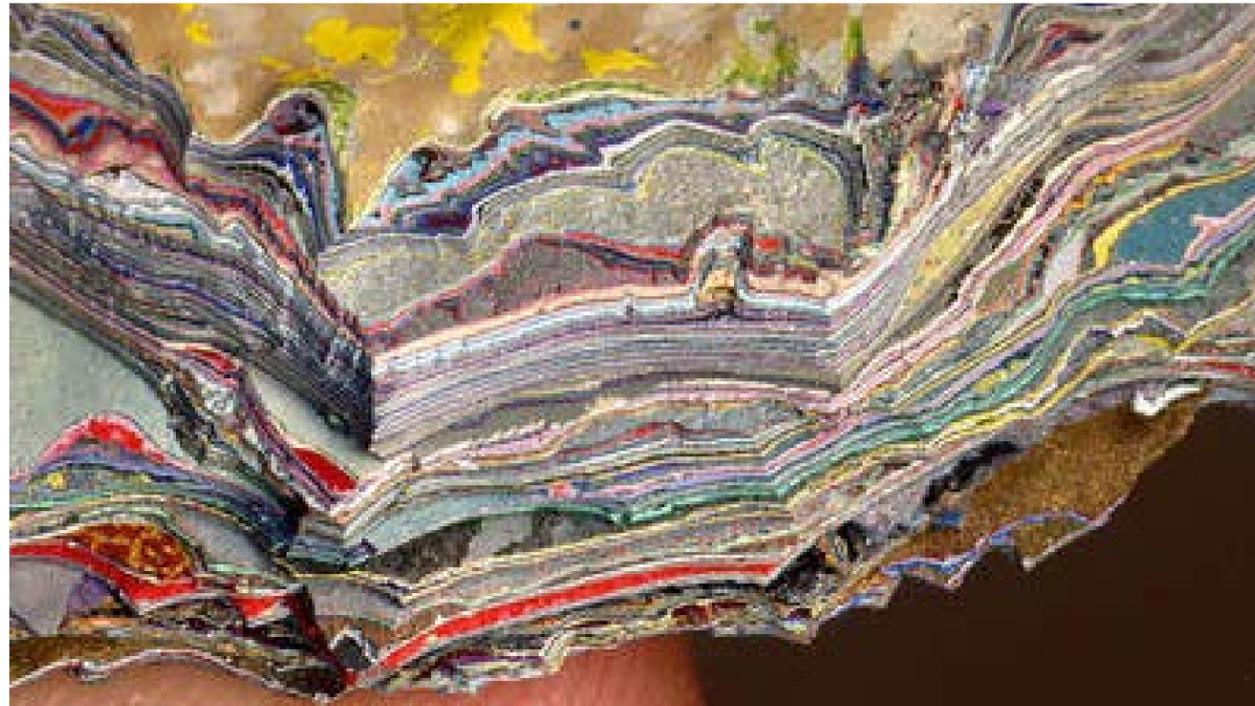
Collect and submit "negative" comparison samples of each type of sample substrate.

Samples of ignitable liquids should be shipped separately from questioned samples collected at the scene.

Be aware of other types of evidence present at the scene.

Freeze arson evidence as soon as possible.

Paint



Automotive Paints

- Examine both the victim's and suspect's vehicles for paint transfer.
- Remove any loose chips with tweezers.
- Collect any paint transfers by chipping or scraping them loose with a clean razor blade.
- Collect known paint from the same area of the vehicle, away from the area of damage.
- Ensure that all layers of paint are collected.

Burglary

- Submit any tools found at the crime scene.
- Submit a known paint sample collected adjacent to toolmarks.



Human Remains

Remains

- Keep proper chain of custody.
- Seal the body bag, making sure to include both zippers.
- Photograph the seal.
- Bag the hands of possible homicide victims in PAPER, never plastic.
- When dropping off bodies at the lab, sign the decedent into the log book with as much information as possible. After placing the individual in the cooler, lock the cage door. Leave any paperwork with the log book and not the body.

Treat bodies as evidence.



Skeletal Remains

- Federal laws protect against the disturbance of Native American remains.
- Contact the University of Montana's Forensic Anthropology Department for assistance with processing bones.
- Thorough documentation is crucial to preserving contextual evidence, including photographs at all stages of collection, mapping, and detailed descriptions.
- Package bones individually in paper.
- Cushion well for mailing.



Federal Laws protect against the disturbance of Native American remains.

Fracture Matches

FRACTURE MATCHES

- Collect all pieces from the scene.
- Package pieces from
- When possible, submit the entire item for comparison.
- If moving an item might cause a loss of evidence, reinforce the remaining pieces with tape.
- If finger prints are needed on the item, thoroughly document the remaining items prior to removal.

Large pieces of glass, frames, and laminated glass standards should be labeled **INSIDE, OUTSIDE, UP, and DOWN.**



TAPE

- Submit a piece of questioned tape evidence intact on the item to which it was stuck. Do not attempt to remove the tape.
- Place known tape (such as a roll) in a re-sealable plastic bag to prevent contamination.
- If the entire roll is not present, attach whatever tape is found to a transparency sheet.

Hair and Fibers

Please contact us for a list of **private laboratories** that perform this analysis.

Collecting Hair Evidence

- Dry wet or damp hair prior to packaging.
- Package hair in a re-sealable plastic bag and then double package in paper.
- If hair is attached to an object, cover the hair with paper and tape the edges. Submit the object with the hair intact, if possible.
- If a hit-and-run results in the deformation of a windshield or car part, submit the affected areas. Microscopic amounts of hair (as well as fibers and blood) may be present.
- Package hairs recovered from different locations in separate containers.
- Tape-lift items to secure any hairs that were overlooked.
- Vacuum only as a back-up technique.

Collecting Known Hair Standards

- Collect known hair standards from all individuals involved, including subjects for exclusion.
- Ideally, a known hair sample should include both pulled and brushed hairs.
- Pull hair samples, rather than cut. If cutting is necessary, cut or shave as close to the roots as possible.
- A known head hair sample consists of at least 50 head hairs from all over the scalp.
- A known pubic hair sample consists of at least 25 hairs from all over the pubic region.
- Hair can be a rich repository of transferred trace materials. Depending on the trace material, the subject's hair can be combed with a fine tooth comb over paper (for glass or foreign hairs) or lightly tape-lifted (for fibers).

Collecting Fibers

- Collect fiber evidence as soon as it is observed to minimize loss and contamination. Immediate collection also preserves the original location of fiber evidence before redistribution occurs.
- A magnifying glass may be used to look for fiber evidence.
- Because most fiber evidence is microscopic, tape-lift areas such as car seats, ligature marks, or a homicide victim's body and clothing.
- Vacuuming is efficient, but indiscriminate. Vacuumed debris may be useful to link a "population" of trace debris that might have been transferred.
- Be on the lookout for known fiber sources that have an unusual color. Submit whole garments or reference sources, if possible.
- Take dime-sized standards of bulky items such as carpeting or upholstery from areas most likely to have contacted the subject.
- Fiber standards to collect: Suspect's clothing, wigs/hairpieces, fake furs, fuzzy blankets, carpets/rugs, upholstery, cordage, and tape.

Tape-Lifting Procedure

- Use precut tape strips with tab ends or other high-quality, wide, clear tape. If the tape is on a dispenser, discard the exposed tape.
- Repeatedly apply tape to an area until the tackiness is reduced.
- Affix the tape to a clear transparency or page protector.
- With a permanent marker, label the transparency or page protector and label with a permanent marker.
- Several lifts of the same object may be placed on one transparency.

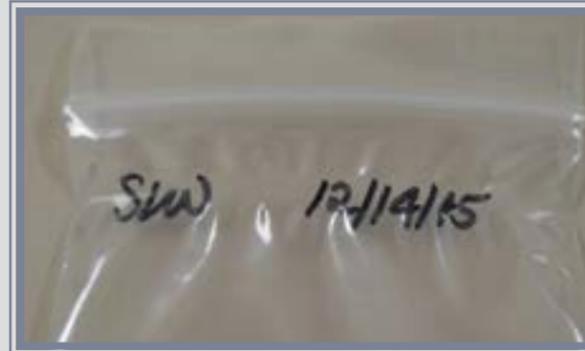
Packaging



Correct: Sealed with evidence tape and initialed.



Incorrect: Stapled or no initials on seal.



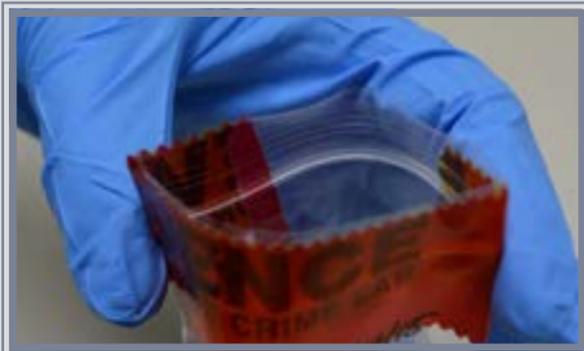
Correct: Initials ON the heat seal.



Incorrect: Initials NEXT TO the heat seal.



Correct: Seal covering top of Ziploc bag.



Incorrect: Seal around opening of Ziploc bag.



Correct: Gun secured in cardboard box.



Incorrect: Gun packaged in paper.



Correct: Two items packaged separately.



Incorrect: Multiple items packaged together.



Correct: Syringe/knife in sharps container.



Incorrect: Syringe/knife not in sharps container.



Correct: DNA evidence packaged in paper.



Incorrect: DNA evidence packaged in plastic.



Correct: Evidence packaged in loose container.



Incorrect: Evidence packaged too tightly.



Billings
Clinic

1045



Forensic Sciences Division - East

The Billings Crime Lab, located in the Billings Clinic, opened in May of 2016. This lab only accepts controlled substance evidence for cases that do not require processing by any other section of the lab.





DEPARTMENT OF JUSTICE
MONTANA STATE CRIME LAB

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<https://dojmt.gov/Crime>

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