



North Carolina State Crime Laboratory

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FROM: Vanessa Martinucci, Director

TO: All Elected District Attorneys and Clerks of Court, Chiefs of Police and Sheriffs, Indigent Defense Services, NCADA, Director of AOC, Chief Public Defenders

DATE: June 5, 2023

SUBJECT: Requirements for the handling, preservation, and storage of biological evidence

Pursuant to G.S. 15A-268, Preservation of Biological Evidence, the State Crime Laboratory has updated its evidence protocols to ensure your office is aware of the necessary requirements for the handling, preservation, and storage of biological evidence.

The *Policy and Procedure for Evidence Submissions* is maintained on the Department of Justice web site and includes pertinent information concerning the packaging and submission of evidence for all forensic disciplines. You may access the document on the Department of Justice web site at the following link: <https://ncdoj.gov/crime-lab/iso-procedures/>. Additionally, please consult the supplemental guidance in the attached brochure.

The full text of North Carolina General Statute § 15A-268- Preservation of Biological Evidence can be found at: <http://www.ncleg.net/gascripts/statutes/statutelookup.pl?statute=15a-268>.

In accordance with the above statute, §143B-601, and §15A-266.5A, it is required for law enforcement agencies to submit unreported sexual assaults kits to the Department of Public Safety for storage. For information regarding submission, you may contact the following DPS, Law Enforcement Support Services personnel - Brenda Privott at 919-662-4700 ext. 221 / Brenda.Privott@ncdps.gov or Eric Shearin at 919-662-4700 ext. 228 / Eric.Shearin@ncdps.gov.

If you have questions or need additional clarification, please feel free to contact the State Crime Laboratory, Evidence Control Unit at 919-582-8840 or the Laboratory Legal Counsel at 919-582-8734.

Attachment





Preservation of Biological Evidence

A Guide for Law Enforcement Agencies and the Courts of North Carolina

Pursuant to G.S. 15A-268 the Crime Laboratory shall promulgate and publish minimum guidelines that meet the requirements for retention and preservation of biological evidence that shall be reviewed and updated biennially.

North Carolina State Crime Laboratory Reviewed and Updated June 5, 2023

As a chemical, DNA is relatively stable; however, certain environmental factors may break down DNA into smaller pieces. When storing evidence that might contain DNA (Biological evidence), the environmental factors may be negated by maintaining the evidence in a climate controlled environment, preventing direct exposure to light. If evidence containing DNA is packaged correctly and stored under proper conditions, it will be stable and therefore useful for forensic examination indefinitely. The State Crime Laboratory has successfully examined forensic cases where the DNA evidence was stored in excess of 20 years.

General Statute §15A-268 states “a custodial agency shall preserve any physical evidence, regardless of date of collection, that is reasonably likely to contain any biological evidence collected in the course of a criminal investigation or prosecution. Evidence shall be preserved in a manner reasonably calculated to prevent contamination or degradation of any biological evidence that might be present, subject to a continuous chain of custody, and securely retained with sufficient official documentation to locate the evidence.” For the required length of time of storage of such evidence, refer to N. C. General Statute §15A-268. In accordance with this statute and §143B-601, the Department of Public Safety (DPS) has created a long term storage facility for unreported or anonymous sexual assault evidence collection kits to alleviate the shortage of storage space in law enforcement evidence retention areas. Per N. C. General Statute §15A-266.5A, a law enforcement agency shall submit an unreported or anonymous sexual assault evidence collection kit to DPS not more than 45 days after

taking custody. For information regarding submission, you may contact the following DPS, Law Enforcement Support Services personnel - Brenda Privott at 919-662-4700 ext. 221 / Brenda.Privott@ncdps.gov or Eric Shearin at 919-662-4700 ext. 228 / Eric.Shearin@ncdps.gov.

Guidelines:

- For long term storage, DNA evidence that contains tissue or bone should be frozen in a “NON-Frost free freezer” if possible. The freeze thaw cycle of any other freezer type may affect the DNA. Exhumed bone that does not contain tissue and/or bone marrow as well as teeth may be stored at room temperature. DNA extracts returned in liquid form should also be frozen in a “NON-Frost free freezer” if possible. Dried DNA extracts are stable at room temperature, should be kept in a dry condition, and should **not** be placed in a freezer or exposed to light.
- Sexual Assault Evidence Collection Kits (SAECK) should be stored at room temperature. Any SAECK currently in a refrigerator should be placed in a climate controlled room. All items inside the kit are generally dried and more stable at room temperature. Refrigeration may cause deleterious condensation on evidence inside the SAECK. The SAECK contains bags for clothing collection and may contain other physical evidence. If collected, these items may include hair evidence which could be screened to determine if there are any hairs with roots that may be suitable for DNA analysis.
- Court:
 - If at all possible, evidence should not be directly handled in court. If the evidence can be viewed through a plastic bag or container, it should not be removed. If the evidence must be removed from its container, it should be handled with latex or nitrile gloves. Gloves should be changed between the handling of each piece of evidence. Evidence should be resealed after handling in individual packaging (e.g., brown paper bags or manila envelopes).
 - On occasion, swabs or DNA extraction tubes are removed from their containers for illustrative purposes. The importance of viewing these items may be outweighed by the risk of exposure to extraneous DNA. For this reason, these items should not be removed from their containers and should remain in a sealed condition if at all possible.
- Storage prior to submission to the State Crime Laboratory
 - Liquid blood samples should be stored under refrigeration before submission to the State Crime Laboratory.
 - Toxicology – Blood and urine items collected from the victim for Toxicology testing (testing for alcohol or other impairing/incapacitating drugs) should be stored under refrigeration as much as practicable before the testing is completed.
- Storage post-analysis by the State Crime Laboratory
 - See the attached chart.

North Carolina State Crime Laboratory

ATTACHMENT: Post-Analysis Storage and Packaging Requirements of Biological and Non-Biological Evidence Exhibits

NOTE 1: Most court exhibits can be packaged in envelopes, paper bags, boxes, or wrapped in large pieces of brown paper. Most exhibits can also be stored in a climate-controlled room.¹ This chart provides detail on special packaging requirements for some specific types of exhibits for which these guidelines do not apply. If the clerk does not have the necessary storage capacity, the court can order an alternate custodian for the exhibit under Rule 14.

NOTE 2: Biological Evidence covered by N.C. General Statute 15A-268² is noted in the table below. Evidence Custodians must be aware that additional evidence NOT specifically listed by Statute COULD be deemed biological if there is a need for DNA and/or fingerprint testing. **THIS DOES NOT CHANGE THE STORAGE REQUIREMENTS LISTED BELOW.**

Type of Exhibit: <u>Biological</u>	Climate-controlled room	Refrigerator	NON-frost free freezer ³	Outer Packaging requirements	Special Instructions
Latent Fingerprint evidence	X			paper bags or cardboard boxes	
Dry hair roots or hair	X			envelopes	Make sure that the seals are secure (including envelope corners)
Dry DNA evidence (sexual assault kits, dry bone without marrow, teeth, clothing, bedding, cups, cigarettes, etc.)	X			paper bags or cardboard boxes	NOT exposed to light and in cool, dry space, NOT in plastic
DNA extracts (<i>Dried down</i>)	X			envelopes	
DNA extracts (<i>Liquid</i>) <u>liquid extracts were created by the Crime Lab during the period 10/2013-12/2016</u>			X	tubes are stored in a paper envelope	Packaging by the Laboratory with this evidence will be clearly labeled with a "Keep Frozen" label affixed to the packaging
DNA evidence <u>with human tissue attached</u> (i.e. scalp, bone with tissue attached: if something has no tissue attached, such as pieces of hair not attached to scalp and bone that is dry, it can be stored in a climate controlled room)			X	paper bag	
Urine (collected in a specimen container)			X	plastic bag	A freezer is recommended post-analysis for long-term storage to prevent bacterial growth
Feces (collected in a specimen container)			X	plastic bag	
Liquid blood not already submitted to crime lab (blood used as an individual's DNA standard)		X		plastic bag	
Blood Alcohol Kit (BAK) or blood vials collected in DWI or non-DWI toxicology testing		X		BAK specimen box or a plastic bag	

¹ Definition: A climate-controlled room is one maintained between 60° and 75° F and at a relative humidity of no more than 60%.

² § 15A-268. Preservation of biological evidence. (a) As used in this section, the term "biological evidence" includes the contents of a sexual assault examination kit or any item that contains blood, semen, hair, saliva, skin tissue, fingerprints, or other identifiable human biological material that may reasonably be used to incriminate or exculpate any person in the criminal investigation, whether that material is catalogued separately on a slide or swab, in a test tube, or some other similar method, or is present on clothing, ligatures, bedding, other household materials, drinking cups, cigarettes, or any other item of evidence.

³ Definition: Non-frost free freezer is one that does not use defrost cycles which can potentially affect the stability of DNA. It is also a storage condition in which the temperature is maintained thermostatically at or below -10°C (14°F).

Type of Exhibit: <u>Non-Biological</u>	Climate-controlled room	Refrigerator	NON-Frost free freezer	Packaging requirements	Special Instructions and Risk Assessment
Unknown White powders (non-drug evidence)	X			inner sample biohazard bag or glass vial, an inner leak proof poly bag, and an outer Tyvek envelope; NOT paint cans	POTENTIAL HEALTH DANGER: Potential to contain an explosive (see "Explosive Exhibit" description)
Fire debris samples	X		X (only soil samples which could degrade)	In airtight container; clean cans, glass jars, nylon bags; NOT paper or plastic bags	
Ignitable liquids (e.g. gasoline)	X			In airtight container; clean cans, glass jars, nylon bags; NOT paper or plastic bags	POTENTIAL HEALTH DANGER: Vented storage cabinet; separate from other exhibits; best stored with the Fire Marshall or other entity with vented storage cabinets
Glass	X			metal tins, boxes, manila envelopes; wrap large glass in flattened cardboard boxes	
Filaments (in incandescent light bulbs)	X			Styrofoam cup or box filled with tissue paper or bubble wrap	
Paint chips	X			paper folds placed in paper envelopes	
Digital evidence (e.g. computers)	X			anti-static bags or paper packaging	Due to static electricity, computer evidence must not be packaged in plastic
Firearms and ammunition	X			paper bags, wrapped in paper, or cardboard gun box	HIGHER SECURITY CONCERN (THEFT RISK): Store separately from general evidence items in a location with enhanced security (i.e. locker or closet or cage with separate padlock to secure doors)
Drug Evidence (non-plant material)	X			plastic bags	HIGHER SECURITY CONCERN (THEFT RISK): Store separately from general evidence items in a location with enhanced security (i.e. locked file cabinet with additional padlock attached or safe); area should have a negative pressure ventilation system that changes the air in the storage room 10 - 12 changes per hour
Drugs (Plant material, i.e. cannabis)	X			paper bags (to prevent mold growth)	HIGHER SECURITY CONCERN (THEFT RISK): Store separately from general evidence items in a location with enhanced security (i.e. locked file cabinet with additional padlock attached or safe); area should have a negative pressure ventilation system that changes the air in the storage room 10 - 12 changes per hour
Footwear / Tiretrack dental stone casts and gel lifters	X			paper bags (to prevent mold growth)	If stored in plastic, the dental stone casts will mold/mildew. Gel lifters stored in heat will dry up with evidence attached.
Explosives, lithium batteries, vaping devices	X			inner sample biohazard bag or glass vial, an inner leak proof poly bag, and an outer Tyvek envelope; NOT paint cans	POTENTIAL HEALTH DANGER: Vented storage cabinet; separate from other exhibits
Cash ⁴	X			envelope or paper bag	HIGHER SECURITY CONCERN (THEFT RISK): Store separately from general evidence items in a location with enhanced security (i.e. locked file cabinet with additional padlock attached or safe)

⁴ Cash offered as an exhibit at trial shall not be deposited or invested pursuant to G.S. § 7A-112 or 7A-112.1