



Preservation of Biological Evidence

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

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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 to alleviate the shortage of storage space in law enforcement evidence retention areas. For information on this facility, you may contact the DPS, Law Enforcement Support Services at 919-324-6282 or Eric Shearin at 919-662-4700 ext. 228 and Eric.Shearin@ncdps.gov or Wanda Hicks at 919-324-6461 and Wanda.Hicks@ncdps.gov.

Guidelines:

- 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.
- For long term storage, DNA evidence that contains tissue, bone, teeth, hair roots, etc. 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 is extremely old and dried 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.
- Liquid blood samples should be stored under refrigeration before submission to the State Crime Laboratory. Once the Laboratory has processed the liquid blood in non-toxicology cases, the liquid blood may be stored at room temperature.