

Best Practices for Specimen Collection and Preservation for Forensic Toxicology



WHAT IS AN AAFS STANDARD FACTSHEET?

The AAFS produces clear, concise, and easy-to-understand factsheets to summarize the contents of technical and professional forensic science standards on the OSAC Registry. They are not intended to provide an interpretation for any portion of a published standard.

WHAT IS THE PURPOSE OF THIS STANDARD?

This standard provides best practice recommendations for the collection and preservation of common biological specimens used in forensic toxicological analysis. Guidance includes recommended specimen amounts, preservatives, containers, and storage conditions.

This standard acknowledges that specimen types may be dictated by regulatory or jurisdictional mandates and requires individuals be familiar with these requirements. It also recognizes the importance of communication between the submitting agency and the forensic science service provider (FSSP).

WHY IS THIS STANDARD IMPORTANT? WHAT ARE ITS BENEFITS?

There may be different containers available, particularly in the clinical setting, for specimen collection. Inappropriate handling (collection, container, storage) may impact the test methods available and/or the outcome of forensic toxicological test results.

The recommendations in this standard promote collecting biological specimens in a way that minimizes specimen degradation and supports an FSSP's ability to provide the maximum range of forensic toxicological analysis available.



HOW IS THIS STANDARD USED, AND WHAT ARE THE KEY ELEMENTS?

This standard is to be used by those who collect specimens for forensic toxicological analysis and by FSSPs that provide information to customers regarding specimen collection and storage criteria. The recommendations specific to the person performing the collection activities address both the collector's safety and the specimen's integrity. The recommendations directed at the FSSP address their role to provide information related to specimen collection and storage as well as to provide information when specimen collection or storage conditions impact analysis or testing results.

The recommendations in this standard provide information on common specimens, suggested minimum amounts, preservatives/collection information, and storage for the following types of forensic toxicological testing:

- Human performance toxicology
- Postmortem toxicology
- Court-ordered toxicological testing
- Non-regulated occupational testing
- Suspected poisoning toxicology
- Infant or child welfare

Multiple specimen types are listed for each category (e.g., whole blood and urine). The standard acknowledges that there is no intent for all listed specimens to be collected for every case.