

## The Analytical Scope and Sensitivity of Forensic Toxicological Testing of Blood in Medicolegal Death Investigations



### 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?

Toxicology testing is often required as part of the death investigation process. This may involve the identification and quantitation (i.e., determining the quantity) of numerous substances, including drugs and alcohol (ethanol) in body fluids or tissues.

The medicolegal death investigation community (consisting of forensic pathologists and coroners) may rely upon toxicological testing to assist in the determination of cause and manner of death.

This standard establishes the various substances that a forensic science service provider must be able to identify in blood (i.e., scope of testing), as well as the appropriate level of testing (i.e., sensitivity) that is required.

### WHY IS THIS STANDARD IMPORTANT? WHAT ARE ITS BENEFITS?

Adherence to the standard promotes the performance of sufficient and suitable toxicological testing in blood for this type of investigation.

The standard provides direction to the medicolegal death investigation community regarding forensic toxicology testing and informs FSSPs of the expectations required of them.

FSSPs providing forensic toxicology services are encouraged to meet this standard.



### HOW IS THIS STANDARD USED, AND WHAT ARE ITS KEY BENEFITS?

Requirements for analytical testing of blood for investigations where there is a suspected toxicological cause of death are described in this standard. This includes tests for alcohol, drugs, drug metabolites, and other substances at specific thresholds or minimum concentrations. The scope of testing includes alcohol (ethanol), numerous classes of illicit and therapeutic drugs, and carbon monoxide.

Requirements for analytical testing of blood for investigations where there is a known or anatomical cause of death are also presented in this standard. In these instances, the scope of testing may be limited to alcohol and common drugs including sedatives, cannabinoids, cocaine, opioids, and amphetamines. In unique circumstances, the testing may be limited based on case circumstances or as directed by the customer. In these cases, the FSSP shall be able to provide testing at the thresholds or concentrations provided in the standard.

This is a standard of practice. Additional tests beyond those required in the standard may be necessary. Regional drug trends and case history should be considered to determine if additional drugs or substances should be included in the scope of testing.

FSSPs that cannot meet this standard internally, may use external resources to meet the requirements (e.g., outsourcing, partnerships).

