

## The Analytical Scope and Sensitivity of Forensic Toxicological Testing of Blood in Medicolegal Death Investigations, First Edition, 2021



### 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 the laboratory 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 ensures that the toxicological testing performed in blood is sufficient and suitable for the type of investigation.

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

Forensic toxicology laboratories are encouraged to meet these minimum standards.



### 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 laboratory 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 laboratory shall be able to provide testing at the thresholds or concentrations provided in the standard.

This is a minimum standard of practice, which means that 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.

Laboratories that cannot meet the standards internally, may use external resources to meet the requirements (e.g., outsourcing, partnerships).

