

## Standard Practices for Proficiency Testing for Forensic Toxicology Laboratories and Breath Alcohol Programs



### 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?

Proficiency testing in forensic toxicology evaluates the overall performance, accuracy, and reliability of a forensic science service provider (FSSP) through the testing of specimens whose composition is unknown to the participant(s).

This standard defines the minimum scope, requirements, frequency, and documentation for proficiency testing for FSSPs engaged in the following sub-disciplines of forensic toxicology:

- postmortem forensic toxicology
- human performance toxicology
- general forensic toxicology

This document is not intended to cover employment drug testing or court ordered toxicology (e.g., probation and parole, drug courts, child services).

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

Proficiency testing is part of a quality assurance program that enables an FSSP to assess their capabilities and uncover areas for improvement. This standard requires investigation of both false positive and false negative results. If an FSSP's results do not compare favorably to the expected results, improvement may include increasing an assay's precision, lowering detection limits, or adding analytes to the scope of testing, consistent with the mission of the FSSP.

This standard also requires routine evaluation of the efficacy of the proficiency testing program to ensure it adequately covers the scope of the services provided by an FSSP.

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

This standard is to be used by FSSPs that provide toxicology testing for alcohol, drugs, metabolites, and other chemicals in postmortem, human performance (e.g., drug-facilitated crimes, driving-under-the-influence), and general forensic toxicology (e.g., non-lethal poisonings or intoxications) cases, or provide calibration of breath alcohol measuring instruments.

The standard requires the use of proficiency tests from accredited providers when they are available and appropriate but supports the use of other types of interlaboratory or intralaboratory comparisons when not available.

Requirements for testing laboratories are tied to the testing services provided and the matrix of specimen(s) representative of the casework of the FSSP. An FSSP is to follow the same tests/scheme as used in routine casework when completing a proficiency test.

Requirements for calibration laboratories include using instruments that have been appropriately calibrated when completing a proficiency test.

This standard establishes a minimum number of proficiency testing rounds per year, as well as a minimum number of proficiency test specimens per year.

