FACTSHEET FOR ANSI/ASB STANDARD 113, 1st Ed., 2023

Standard for Identification Criteria in 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?

Providers of forensic toxicology services test for a complex array of chemical compounds using a wide variety of analytical chemistry techniques that vary in their specificity and selectivity.

This standard establishes a point system to assist a forensic science service provider (FSSP) with selecting a testing regime that meets a minimum compound identification standard.

When used in combination with other standards, including ANSI/ASB 036, 1st Ed., 2019 and ANSI/ASB 098, 1st Ed., 2023 this standard provides a high level of confidence in the analytical results.

WHY IS THIS STANDARD IMPORTANT? WHAT ARE ITS BENEFITS?

FSSPs providing forensic toxicology services can evaluate their testing regime to ensure it provides a minimum level of specificity and selectivity for analyte identification.

The standard allows users of forensic toxicology results to have confidence in the level of rigor applied to identifying analytes of interest.

FSSPs are encouraged to meet these minimum requirements.

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

This standard creates a point system based on the various analytical techniques commonly available in forensic toxicology testing. Points are assigned based on the technique's general degree of specificity, e.g., mass spectrometry techniques earn more points than color tests. A minimum of four points must be achieved to identify an analyte.

Analyte identification requires at least one chromatographic or electrophoretic separation technique involving a concurrent reference standard for the target analyte.

While a single analytical technique may allow for the minimum point threshold to be reached, FSSPs should independently analyze more than a single aliquot.

All analytical methods used to generate identification points must be validated in accordance with ANSI/ASB 036, 1st Ed., 2019 . Mass spectral techniques must meet the requirements of ANSI/ASB 098. 1st Ed. 2023.

Identification of alcohols and routine volatiles, carbon monoxide, cyanide, and metals are not addressed.

Examples are provided of identification points achieved for commonly used forensic toxicology methods.

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