FACTSHEET FOR ASTM E3255-21

Standard Practice for Quality Assurance of Forensic Science Service Providers Performing Forensic Chemical Analysis

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 a framework for quality assurance procedures applicable to forensic science service providers performing forensic chemical analysis on evidence.

A documented quality management system shall cover all procedures and reports associated with analysis of forensic evidence to help provide customers with high quality analyses that produce reliable and accurate results.

This practice covers quality system terminology and describes specific quality areas, for which quality procedures are required to ensure the reliability of the chemical analyses that are performed.

WHY IS THIS STANDARD IMPORTANT? WHAT ARE ITS BENEFITS?

Adherence to these minimum standards establishes consistency between laboratories, improves the quality system of laboratories, and encourages general acceptance of quality assurance considerations in forensic analysis.

The standard provides direction to the forensic chemical analysis community regarding the framework for a laboratory's quality system.

Forensic science service providers (FSSPs) performing forensic chemical analyses are encouraged to meet these minimum standards.

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

This standard provides a framework of quality in the processing of evidence, including: maintaining a quality management system; personnel duties, qualifications, training, and education; facility considerations; evidence handling; analytical procedures; instrument and equipment performance; chemicals and reagents; casework documentation and reporting; proficiency and competency testing; method validation and verification; audits; deficiency of analysis; and, documentation requirements.

Processes shall exist to protect the integrity of the evidence and safeguard against loss, deterioration, or contamination. Forensic science practitioners shall take measures to be assured that identifications are correct and relate to the correct evidence. In addition, processes must be established for ensuring reference materials, instrumentation, equipment, and reagents used during the analysis are fit for purpose. Casework documentation shall contain sufficient information and clarity to allow the review and interpretation of the data, and verification of the original results. This standard discusses competency and proficiency testing, as well as audits and the handling of nonconforming work. Annex sections provide additional procedures that are discipline-specific.

This is a practice standard, which means that additional procedural steps beyond those required in the standard may be necessary. Laboratories that cannot meet the standards internally may use external resources to meet the requirements (e.g., outsourcing, partnerships).

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