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Standard Guide for Sampling Seized Drugs for Qualitative and Quantitative Analysis¹

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^{e1} NOTE—Editorial corrections were made to Sections 1 and 8 in December 2011.

1. Scope

1.1 This guide covers minimum considerations for sampling of seized drugs for qualitative and quantitative analysis.

1.2 This guide cannot replace knowledge, skill, or ability acquired through appropriate education, training, and experience and should be used in conjunction with sound professional judgment.

2. Referenced Documents

2.1 *ASTM Standards*:²

[E105 Practice for Probability Sampling of Materials](#)

[E122 Practice for Calculating Sample Size to Estimate, With Specified Precision, the Average for a Characteristic of a Lot or Process](#)

[E141 Practice for Acceptance of Evidence Based on the Results of Probability Sampling](#)

[E1732 Terminology Relating to Forensic Science](#)

[E2329 Practice for Identification of Seized Drugs](#)

[E2334 Practice for Setting an Upper Confidence Bound For a Fraction or Number of Non-Conforming items, or a Rate of Occurrence for Non-conformities, Using Attribute Data, When There is a Zero Response in the Sample](#)

2.2 *ISO Standards*:³

[ISO 3534-1 Statistics – Vocabulary and Symbols – Part 1: Probability and General Statistical Terms](#)

[ISO 3534-2 Statistics – Vocabulary and Symbols – Part 2: Statistical Quality Control](#)

3. Significance and Use

3.1 This guide provides information for the sampling of seized-drug submissions.

3.2 The principal purpose of sampling in the context of this guide is to answer relevant questions about a population by examination of a portion of the population. For example:

What is the net weight of the population?

What portion of the units of a population can be said to contain a given drug at a given level of confidence?

3.3 By developing a sampling strategy and implementing appropriate sampling schemes, as illustrated in Fig. 1, a laboratory will minimize the total number of required analytical determinations, while ensuring that all relevant legal and scientific requirements are met.

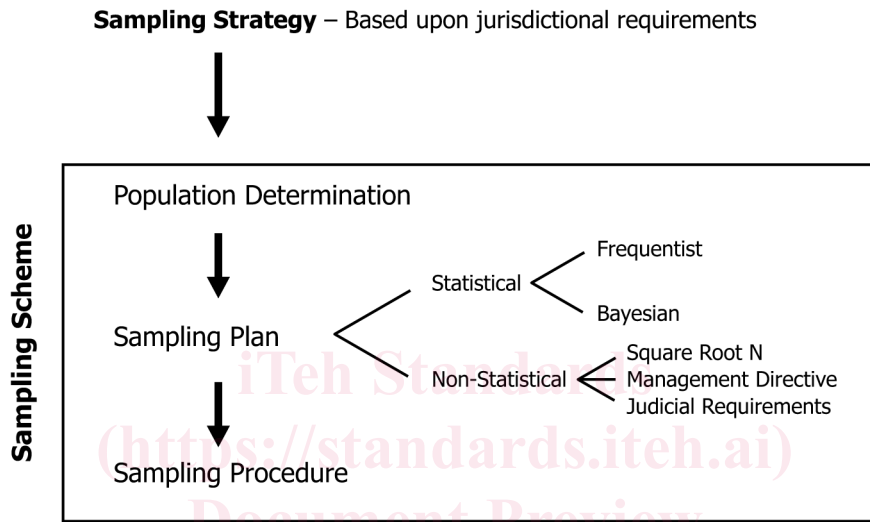
4. Sampling Strategy

4.1 ~~An appropriate~~ An appropriate sampling strategy is highly dependent on the purpose of the investigation, the ~~original question, customer's request, and the ultimate anticipated~~ original question, customer's request, and the ultimate anticipated use of the results. Laws and legal practices form the foundation of most strategies and shall be taken into account when designing a sampling scheme. Therefore, specific sampling strategies are not defined in this guide.

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² For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

³ Available from International Organization for Standardization (ISO), 1 rue de Varembé, Case postale 56, CH-1211, Geneva 20, Switzerland, <http://www.iso.ch>.



4.2 The laboratory has the responsibility to develop its own strategies consistent with these recommendations: this guide. It is recommended that the following key points be addressed:

4.2.1 Sampling may be statistical or non-statistical.

NOTE 1—For the purpose of this guide, the use of the term *statistical* is meant to include the notion of an approach that is probability-based.

4.2.1.1 In many cases, a non-statistical approach may suffice. The sampling plan shall provide an adequate basis for answering questions of applicable law. For example,

Is there a drug present in the population?

Are statutory enhancement levels satisfied by the analysis of a specified number of units?

4.2.1.2 If an inference about the whole population is to be drawn from a sample, then the plan shall be statistically based either statistically based or have an appropriate statistical analysis completed and limits of the inference shall be documented.

4.2.2 ~~Statistically selected~~ Selected units shall be analyzed to meet Practice E2329 if statistical inferences are to be made about the whole population.

5. Sampling Scheme

5.1 The sampling scheme is an overall approach that includes population determination, selection of the sampling plan and procedure and, when appropriate, sample reduction prior to analysis (Fig. 2).