Designation: E2548 – 11ε1

StandardGuide for Sampling Seized Drugs for Qualitative and Quantitative Analysis[1]

This standard is issued under the fixed designation E2548; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ε) indicates an editorial change since the last revision or reapproval.

ε[1] 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 A sampling strategy is highly dependent on the purpose of the investigation, the original question, and the ultimate 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.

4.2 The laboratory has the responsibility to develop its own strategies consistent with these recommendations. 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 and limits of the inference shall be documented.

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

[1] This guide is under the jurisdiction of ASTM Committee E30 on Forensic Sciences and is the direct responsibility of Subcommittee E30.01 on Criminalistics.

Current edition approved Sept. 1, 2011. Published October 2011. Originally approved in 2007. Last previous version approved in 2007 as E2548– 07. DOI: 10.1520/E2548-11E01.

[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.

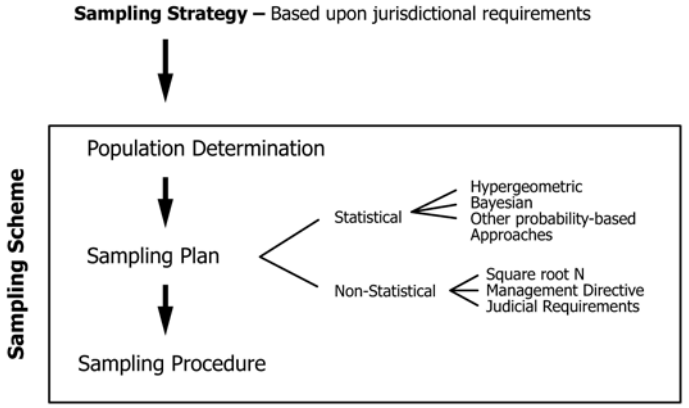

FIG. 1 Relationship of Various Levels Required in Sampling

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).

5.2 *Population Determination:*

5.2.1 The population determination shall take into account all typical forms and quantities in which exhibits may appear.

5.2.2 A population can consist of a single unit or multiple units.

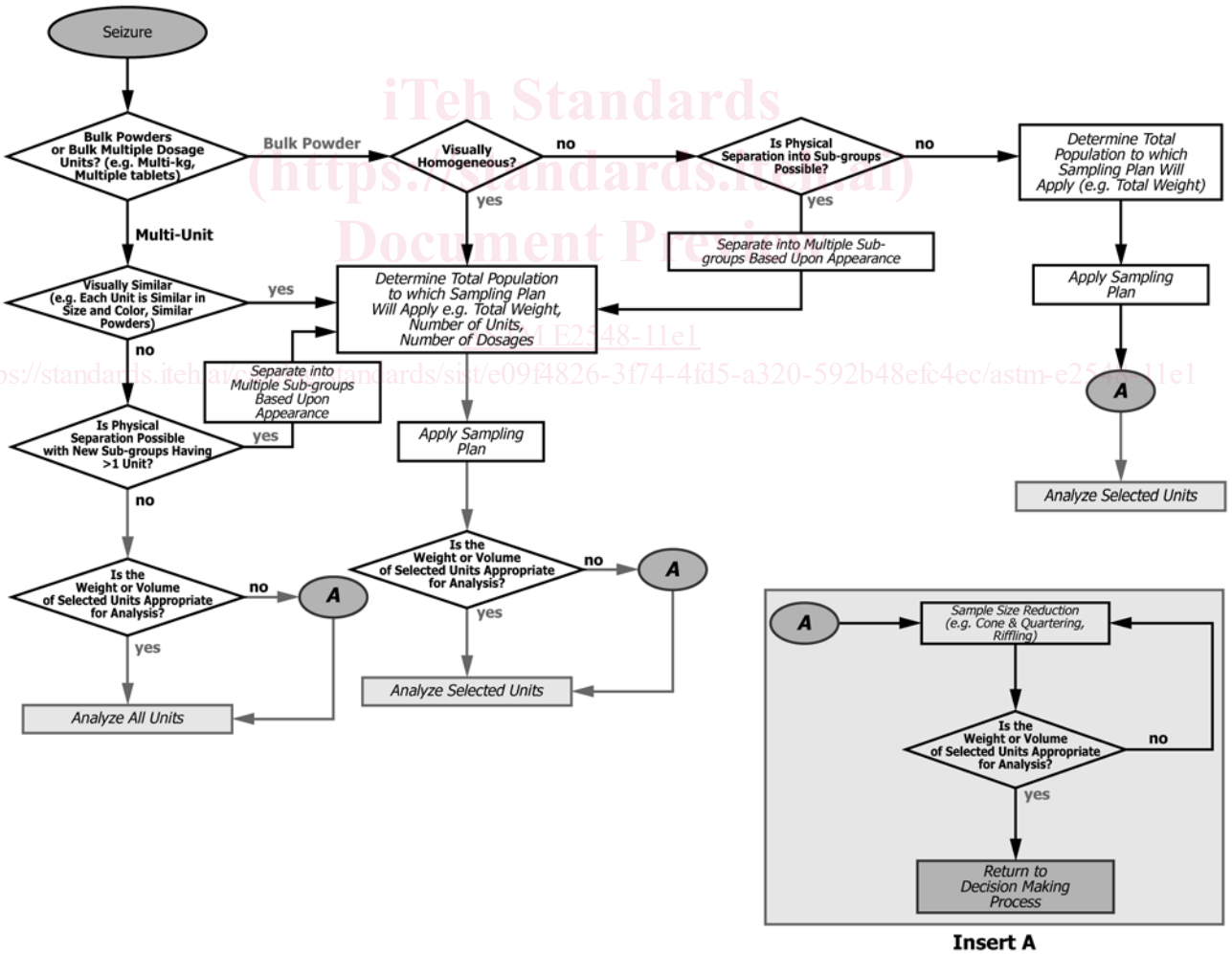

FIG. 2 Example of a Sampling Scheme—A Decision Flowchart