



Standard Practice for Education and Training of Seized-Drug Analysts¹

This standard is issued under the fixed designation E2326; 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.

1. Scope

1.1 This practice describes prerequisite formal education, training, and continuing professional development for those performing seized-drug analysis. It also describes the kinds of professional documents (for example, texts, manuals, or journals) that should be present in laboratories where analysis of seized drugs is conducted.

1.2 This practice does not replace knowledge, skill, ability, experience, education or training and should be used in conjunction with professional judgment.

1.3 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.*

2. Referenced Documents

2.1 ASTM Standards:²

E2327 Practice for Quality Assurance of Laboratories Performing Seized-Drug Analysis

E2329 Practice for Identification of Seized Drugs

E2548 Guide for Sampling Seized Drugs for Qualitative and Quantitative Analysis

E2549 Practice for Validation of Seized-Drug Analytical Methods

E2764 Practice for Uncertainty Assessment in the Context of Seized-Drug Analysis

E2882 Guide for Analysis of Clandestine Drug Laboratory Evidence

2.2 Other Documents:

Scientific Working Group for the Analysis of Seized Drugs Recommendations for: A Code of Professional Practice for Drug Analysts, Education and Training, Quality Assurance, Methods of Analysis

European Network of Forensic Science Institutes Drugs Working Group: “Education and Training Outline for Forensic Drug Practitioners”

3. Significance and Use

3.1 These are minimum standards applicable to those performing seized-drug analyses.

3.2 These standards are intended to apply to any laboratory analyst who:

3.2.1 Examines and analyzes seized drugs or related materials, or directs such examinations to be done;

3.2.2 Independently has access to unsealed evidence in order to remove samples from evidence for examination; and

3.2.3 As a consequence of such examinations, signs reports for court or investigative purposes.

4. Education/Experience Qualifications

4.1 All newly recruited analysts shall have at least a bachelor’s degree or equivalent (generally, a three to four year post-secondary degree) in a natural science or in other sciences relevant to the analysis of seized drugs. The degree program shall include lecture and associated laboratory classes in general, organic and analytical chemistry.

5. Continuing Professional Development

5.1 All forensic scientists have an ongoing responsibility to remain current in their field. In addition, laboratories shall provide support and opportunities for continuing professional development. Seized-drug analysts are expected to undergo:

5.1.1 Twenty hours of training every year. Training can be either face-to-face interaction with an instructor, distance learning, or computer based.

5.1.1.1 Training shall be relevant to the laboratory’s mission.

5.1.1.2 Training shall be documented.

5.1.1.3 Training can be provided from a variety of sources, including, but not limited to, the following:

(1) Chemistry or instrumental courses taught at the post-secondary educational level,

(2) Instrument operation or maintenance courses taught by vendors,

(3) In-service classes conducted by employers,

(4) Current literature review,

¹ This practice 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 March 1, 2014. Published March 2014. Originally approved in 2004. Last previous edition approved in 2009 as E2326 – 09. DOI: 10.1520/E2326-14.

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.

- (5) In-service training taught by external providers, and
- (6) Participation in relevant scientific meetings or conferences (for example, presenting papers or attending workshops).

6. Training For New Analysts

6.1 These minimum requirements allow individual laboratories to structure their training programs to meet their needs as they relate to the type of casework encountered, the analytical techniques and instrumentation available, and the level of preparedness of trainees.

6.2 Laboratory management shall approve and document a training program that focuses on the development of the theoretical and practical knowledge, skills and abilities necessary to examine seized-drug samples and related materials. The training program shall include:

6.2.1 A training syllabus providing descriptions of the knowledge and skills in which analysts are to be trained for specific topic areas, milestones of achievement, and methods of testing or evaluating competency,

6.2.2 Documented standards of performance and a plan for assessing theoretical and practical competency against these standards (for example, written and oral examinations, critical reviews, analysis of unknown samples, mock casework, etc. in accordance with the specific topic area),

6.2.3 A period of supervised casework representative of the type the analysts will be required to perform, and

6.2.4 A verification document demonstrating that analysts have achieved the required competence level in accordance with the specific topic area.

6.3 Topic areas in the training program shall include, at a minimum, the following (European Network of Forensic Science Institutes Drugs Working Group: “*Education and Training Outline for Forensic Drug Practitioners*”):

6.3.1 Relevant background information on drugs of abuse (for example, status of control and chemical and physical characteristics),

6.3.2 Techniques, methodologies, and instrumentation utilized in the examination of seized-drug samples, and related materials;

6.3.3 Quality assurance;

6.3.4 Ethics (see Scientific Working Group for the Analysis of Seized Drugs Recommendations for: *A Code of Professional Practice for Drug Analysts*, Education and Training, Quality Assurance, Methods of Analysis);

6.3.5 Expert/court testimony and legal requirements; and

6.3.6 Laboratory policy and procedures (such as sampling, uncertainty, evidence handling, safety, and security) as they relate to the examination of seized-drug samples and related materials.

6.4 An individual qualified to provide instruction shall have demonstrated competence in the subject area and in the delivery of training.

7. Reference Literature

7.1 The following references shall be available and accessible in laboratories where seized-drug analysis is performed:

7.1.1 College/university level textbooks for reference to theory and practice in key subject areas, for example, general chemistry, organic chemistry, and analytical chemistry;

7.1.2 Relevant jurisdictional legislation (for example, statutes and case law relating to controlled substances, and health and safety legislation);

7.1.3 Operation and maintenance manuals for each analytical instrument;

7.1.4 Relevant periodicals, for example, *Journal of Forensic Sciences*, *Analog*, *Microgram*, and *Analytical Chemistry*;

7.1.5 Laboratory quality manual, standard operating procedures, and method validation documents; and

7.1.6 Reference literature containing physical, chemical, and analytical data. Such references may include *The Merck Index*, *Clarke’s Isolation and Identification of Drugs*, laboratory manuals of the United Nations Drug Control Program, and published standard spectra (for example, Mills and Roberson’s *Instrumental Data For Drug Analysis*, or compendiums from Pflieger or Wiley).

7.2 See Practices [E2329](#), [E2327](#), [E2549](#), and [E2764](#) and Guides [E2548](#) and [E2882](#) for additional information.

8. Keywords

8.1 education; experience; professional development; qualifications; seized-drug analyst; training

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