



Designation: E2014 – 17

Standard Guide on Metallographic Laboratory Safety¹

This standard is issued under the fixed designation E2014; 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 guide outlines the basic safety guidelines to be used in a metallographic laboratory. Safe working habits are discussed for various tasks performed in a metallographic laboratory.

1.2 The sections appear in the following order:

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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.*

1.4 *This international standard was developed in accordance with internationally recognized principles on standardization established in the Decision on Principles for the Development of International Standards, Guides and Recommendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.*

¹ This guide is under the jurisdiction of ASTM Committee E04 on Metallography and is the direct responsibility of Subcommittee E04.17 on Criteria for Metallographic Laboratory Evaluation and Safety.

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2. Referenced Documents

2.1 ASTM Standards:²

E3 Guide for Preparation of Metallographic Specimens
E7 Terminology Relating to Metallography
E340 Practice for Macroetching Metals and Alloys
E407 Practice for Microetching Metals and Alloys
E883 Guide for Reflected-Light Photomicrography
E1180 Practice for Preparing Sulfur Prints for Macrostructural Evaluation
E1558 Guide for Electrolytic Polishing of Metallographic Specimens

2.2 ANSI Standard:³

ANSI/AIHA Z9.5 Laboratory Ventilation

2.3 NFPA Standard:⁴

NFPA 45 Standard on Fire Protection for Laboratories Using Chemicals
NFPA 70E Standard for Electrical Safety in the Workplace

3. Terminology

3.1 *Definitions*—All terms used in this guide are either defined in Terminology E7 or are discussed in 3.2.

3.2 Definitions of Terms Specific to This Standard:

3.2.1 *agreement state*—a government body that has been granted regulatory authority over by-product materials and radiation-producing devices by the United States Nuclear Regulatory Commission (USNRC).

4. Significance and Use

4.1 This guide is intended as a summary of safety practices in the metallography laboratory. It can be used as a training

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 American National Standards Institute (ANSI), 25 W. 43rd St., 4th Floor, New York, NY 10036, <http://www.ansi.org>.

⁴ Available from National Fire Protection Association (NFPA), 1 Batterymarch Park, Quincy, MA 02169-7471, <http://www.nfpa.org>.