



Standard Guide for Laboratories Engaged in Sampling and Analysis of Atmospheres and Emissions¹

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INTRODUCTION

The utilization of well tested and uniform laboratory practices is essential to the production of reliable and defensible environmental data whose validity can be demonstrated at a later date through the use of written field and laboratory records. This document is intended to provide general guidelines for the elements of laboratory practices that are considered to be basic to the performance of laboratories that provide services in the sampling and analysis of atmospheres and emissions. This document is intended to stimulate an awareness of good laboratory and field practices.

1. Scope

1.1 This guide covers criteria to be used by those responsible for the selection, evaluation, operation, and control of laboratory organizations engaged in sampling and analysis of environmental atmospheres, including ambient, work space, and source emissions, as well as atmospheric deposition samples. For details specific to stack gases, see Practice [D7036](#), which covers administrative issues in full; several specifics in this guide regarding laboratory operations may yet be helpful and do not overlap with Practice [D7036](#).

1.2 This guide presents features of organizations, facilities, resources, and operations which by their selection and control affect the reliability and credibility of the data generated.

1.3 This guide presents the criteria for the selection and control of the features listed in [1.2](#) so that acceptable performance may be attained and sustained. Also, this guide presents recommendations for the correction of unacceptable performance.

1.4 *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 This guide is under the jurisdiction of ASTM Committee [D22](#) on Air Quality and is the direct responsibility of Subcommittee [D22.01](#) on Quality Control.

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2. Referenced Documents

2.1 *ASTM Standards*:²

[D1356 Terminology Relating to Sampling and Analysis of Atmospheres](#)

[D1357 Practice for Planning the Sampling of the Ambient Atmosphere](#)

[D3249 Practice for General Ambient Air Analyzer Procedures](#)

[D3670 Guide for Determination of Precision and Bias of Methods of Committee D22](#)

[D7036 Practice for Competence of Air Emission Testing Bodies](#)

3. Terminology

3.1 *Definitions*—For definitions of terms used in this guide, see Terminology [D1356](#).

3.2 Other terms are defined as follows:

3.3 *accrediting authority*—a body that evaluates the capability of a testing agency, or an inspection agency, or both, in certain specific fields of activity.

3.4 *agency*—an organization or part of an organization, engaged in the activities of testing or inspection, or both.

3.5 *generic criteria*—common characteristics pertaining to organization, human resources, material resources, and quality

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.