



Standard Guide for Inspecting Water Systems for Legionellae and Investigating Possible Outbreaks of Legionellosis (Legionnaires' Disease or Pontiac Fever)¹

This standard is issued under the fixed designation D 5952; 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 covers appropriate responses for employers, building owners and operators, facility managers, health and safety professionals, public health authorities, and others: (1) to a concern that a water system may be contaminated with the bacteria known as legionellae (see 6.1); and (2) to the identification of one or more cases of Legionnaires' disease or Pontiac fever (see 6.3-6.5). Comprehensive and explicit recommendations to limit legionella multiplication in water systems and to disinfect potential sources of human exposure to legionellae are beyond this guide's scope.

1.2 *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.* See 7.3 and 8.5 for specific hazard statements.

2. Referenced Documents

2.1 ASTM Standards:

- D 512 Test Methods for Chloride Ion in Water²
- D 596 Practice for Reporting Results of Analysis of Water²
- D 887 Practices for Sampling Water-Formed Deposits³
- D 1067 Test Methods for Acidity or Alkalinity of Water²
- D 1129 Terminology Relating to Water²
- D 1192 Specification for Equipment for Sampling Water and Steam in Closed Conduits²
- D 1293 Test Methods for pH of Water²
- D 1356 Terminology Relating to Sampling and Analysis of Atmospheres⁴
- D 2331 Practices for Preparation and Preliminary Testing of Water-Formed Deposits³

D 3370 Practices for Sampling Water from Closed Conduits²

D 3856 Guide for Good Laboratory Practices in Laboratories Engaged in Sampling and Analysis of Water²

D 4840 Guide for Sample Chain-of-Custody Procedures²

E 645 Test Method for Efficacy of Microbicides Used in Cooling Systems⁵

2.2 APHA Documents:⁶

The Public Health Law Manual, Second Edition

Standard Methods for the Examination of Water and Wastewater, Twentieth Edition

Control of Communicable Diseases Manual, Seventeenth Edition

2.3 ASHRAE Documents:⁷

Cooling Towers. Handbook—Heating, Ventilating, and Air-Conditioning Systems and Equipment

Codes and Standards. Handbook—Heating, Ventilating, and Air-Conditioning Systems and Equipment

Water Treatment. Handbook—Heating, Ventilating, and Air-Conditioning Systems and Equipment

Minimizing the Risk of Legionellosis Associated with Building Water Systems

2.4 ASM Documents:

Manual of Clinical Microbiology, Fifth Edition⁸

Manual of Environmental Microbiology⁹

2.5 CDC Documents:¹⁰

Guidelines for Prevention of Nosocomial Pneumonia

Hospital-Laboratory Diagnosis of Legionella Infections

¹ This guide is under the jurisdiction of ASTM Committee D22 on Sampling and Analysis of Atmospheres and is the direct responsibility of Subcommittee D22.05 on Indoor Air.

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² Annual Book of ASTM Standards, Vol 11.01.

³ Annual Book of ASTM Standards, Vol 11.02.

⁴ Annual Book of ASTM Standards, Vol 11.03.

⁵ Annual Book of ASTM Standards, Vol 11.05.

⁶ Available from the American Public Health Association, 1015 18th St. N.W., Washington, DC 20036, USA, 1990, 1989.

⁷ Available from the American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc., 1791 Tullie Circle, NE, Atlanta, GA 30329, USA.

⁸ Winn, W.C., "Legionella," in *Manual of Clinical Microbiology*, Murray, P.R., Ed., American Society for Microbiology, Washington, DC 20005, USA, 1999, pp. 572-585.

⁹ Fields, B. S. Legionellae and Legionnaires' disease in *Manual of Environmental Microbiology*. Hurst, C.J., Ed., American Society for Microbiology, Washington, DC 20005, USA, 1997, pp. 666-675.

¹⁰ Available from the U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, Atlanta, GA 30333, USA, 1987, 1994, 1996, 1997, 2000.