Revised ANSI/ASSE Z9.5-2012 Standard Now Available

The newly revised standard, “Laboratory Ventilation” (ANSI/ASSE Z9.5), was approved by the American National Standards Institute on April 26, 2012 and is now available.

This publication, last updated in 2003, is intended for use by employers, architects, occupational and environmental health and safety professionals and others concerned with the control of exposure to airborne contaminants. This standard describes required and recommended practices for the design and operation of laboratory ventilation systems used for control of exposure to airborne contaminants. It includes new chapters on performance tests, air cleaning, preventative maintenance and work practices. It also offers good practices for laboratories to follow and includes referenced standards and publications, guidance on selecting laboratory stack designs, an audit form for ANSI Z9.5 and a sample table of contents for a laboratory ventilation management plan.

The standard is compatible with ACGIH® Industrial Ventilation: A Manual of Recommended Practices, ASHRAE ventilation standards and other recognized standards of good practice.

Scope & Application
This standard applies to the ventilation in most laboratories and is written for all laboratory ventilation stakeholders. An emphasis is placed on those with legal responsibilities and liability for providing a safe laboratory. However, users/operators, industrial hygienists and other safety and environmental professionals will also find the standard written for their needs.

The standard cannot establish strict liability in all cases but attempts to fix accountability in many relationships that exist with its context. Note that such relationships are defined throughout the standard and generally encompass administration-occupant; employer-employee; management-staff; owner-occupant; owner-tenant; teacher-student; designer-owner, etc.

This standard does not apply to the following types of laboratories or hoods except as it may relate to general laboratory ventilation:

- Animal facilities
- Biosafety cabinets
- Explosives laboratories
- High-containment facilities (e.g., BSL 3, BSL 4, facilities operating under “chemical surety plans,” etc.)
- Laminar flow hoods and isolators (e.g., a clean bench for product protection, not employee protection)
- Radioisotope laboratories

General laboratory safety practices are not included except where they may relate to the ventilation system’s proper function or effectiveness.

ANSI/ASSE Z9.5-2012 Table of Contents
Foreword
1 Scope, Application and Purpose
   1.1. Scope and Application
   1.2. Purpose
2 Laboratory Ventilation Management
   2.1. General Requirements
   2.2. Chemical Hygiene Plan
   2.3. Responsible Person
   2.4. The Role of Hazard Assessment in Laboratory Ventilation Management
   2.5. Recordkeeping
3 Laboratory Fume Hoods
   3.1. Design and Construction
   3.2. Laboratory Fume Hood Types
   3.3. Hood Airflow and Monitoring (Design and Performance Specifications)
4 Other Containment Devices
   4.1. Gloveboxes
   4.2. Ductless Hoods
   4.3. Special Purpose Hoods
5 Laboratory Ventilation Systems Design
   5.1. Laboratory Design
   5.2. Laboratory Airflow Management
   5.3. Supply Air
   5.4. Exhaust
6 Commissioning and Routine Performance Testing
   6.1. Performance Specifications, Tests and Instrumentation
   6.2. Commissioning of Laboratory Ventilation Systems
   6.3. Commissioning Fume Hoods and Different Types of Systems
   6.4. Ongoing or Routine Hood and System Tests
7 Work Practices
   7.1. General Requirements and Training
   7.2. Posting
   7.3. Operating Conditions
   7.4. Training
8 Preventive Maintenance
8.1. Operations During Maintenance Shutdown
8.2. Housekeeping Before and After Maintenance
8.3. Safety for Maintenance Personnel
8.4. Work Permits and Other Communications
8.5. Records
8.6. Testing and Monitoring Instruments
8.7. Monitoring Fans, Motors and Drives
8.8. Critical Service Spares
8.9. Critical Service Instrumentation
8.10. Performance Monitoring Equipment
9 Air Cleaning
9.1. Supply Air Cleaning
9.2. Exhaust Air Cleaning
9.3. Filtration for Recirculation

Links
- ANSI Essential Requirements
- ASSE Info on Standards Development Process
- Official Memorandum of Understanding Between OSHA & ANSI
- Office of Management & Budget Circular OMB-A119
- Position Statement on Consensus Standards
- Safeguarding: Are ANSI Standards Really Voluntary?
- What’s the Difference Between an OSHA Rule and an ANSI Standard?
- ANAB Accreditation for Occupational Health and Safety Management Systems

OSHA Recognition
OSHA Technical Manual
Safety & Health Topics: Laboratories

Food & Drug Administration
ORA Laboratory Procedure

U.S. Department of Energy
ORISE Work Smart Standards

Global
Canadian Food Inspection Agency
State Recognition

Connecticut State Department of Education

Delaware Department of Education

University of Texas-Austin

Sample OSHA 5A1 Citations Referencing Z9.5 Standard

Perdue Farms Inc.: Inspection 306920778

Perdue Farms Inc.: Chemical Hazard Citation