



ADDENDA

**ANSI/ASHRAE Addendum d to
ANSI/ASHRAE Standard 145.2-2011**

Laboratory Test Method for Assessing the Performance of Gas-Phase Air Cleaning Systems: Air Cleaning Devices

Approved by ASHRAE on June 30, 2016, and by the American National Standards Institute on July 1, 2016.

This addendum was approved by a Standing Standard Project Committee (SSPC) for which the Standards Committee has established a documented program for regular publication of addenda or revisions, including procedures for timely, documented, consensus action on requests for change to any part of the standard. The change submittal form, instructions, and deadlines may be obtained in electronic form from the ASHRAE website (www.ashrae.org) or in paper form from the Senior Manager of Standards.

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FOREWORD

Table 6.1.4.1 sets forth required compounds for testing in certain categories of compounds. Because there are many difficulties in performing this test for formaldehyde, it is recommended that the method no longer require formaldehyde testing. Formaldehyde remains an acceptable compound for testing with recommended concentrations.

Note: In this addendum, changes to the current standard are indicated in the text by underlining (for additions) and ~~striking through~~ (for deletions) unless the instructions specifically mention some other means of indicating the changes.

Addendum d to Standard 145.2-2011

Change Table 6.1.4.1 as shown.

TABLE 6.1.4.1 Standard Test Challenge Gases

Category / Chemical	CAS #	MW*	Low Conc. (ppb)	High Conc. (ppm)	NIOSH REL TWA (ppm)**	OSHA PEL TWA (ppm)**	High Conc. Rationale ***	Capacity Used****	Required Chemical
Acid Gases									
Sulfur Dioxide	7446-09-5	64.1	50	35	2	5	AA	6%, x 8%, y _b	<input checked="" type="checkbox"/>
Hydrogen chloride	7647-01-0	36.5	75	5	5 (c)	5 (c)	DD	12%, y _b	
Hydrogen sulfide	7783-06-4	34.1	100	25	10 (c)	20 (c)	CC	12%, x 20%, y _b	
NO ₂ ⁺	10102-44-0	46.0	50	30	1 (st)	5 (c)	AA	6%, z 20%, x	
Aldehydes									
Formaldehyde	50-00-0	30.0	100	1	0.016	0.75	EE	3%, x	<input checked="" type="checkbox"/>
Acetaldehyde	75-07-0	44.1	100	15	None	200	AA	10%, x	
Hexanal	66-25-1	100.2	100		None	None			
Basic Gases									
Ammonia	7664-41-7	17.0	100	75	25	50	AA	5%, y _a	<input checked="" type="checkbox"/>
Methylpyrrolidone	872-50-4	99.13	100	5	None	None	AA	15%, xy _a	
Oxidizing Gases									
Ozone	10028-15-6	48.0	75	0.5	0.1 (c)	0.1	BB	None	
VOCs									
Toluene	108-88-3	92.1	400	50	100	200	AA	20%, z	
2-Butanone	78-93-3	72.1	400	65	200	200	AA	20%, z	
Acetone	67-64-1	58.1	400	20	250	1,000	AA	5%, z	
Benzene	71-43-2	78.1	400	60	0.1	1	AA	20%, z	
Cyclohexane	110-82-7	84.2	400	55	300	300	AA	20%, z	
Cyclopentane	287-92-3	70.2	400	50	600	None	AA	15%, z	
Dichloromethane	75-09-2	84.9	400	50	None	25	AA	20%, z	
Ethanol	64-17-5	46.1	400	50	1,000	1,000	AA	10%, z	
Hexane	110-54-3	86.2	400	25	50	500	AA	10%, z	
iso-Butanol	78-83-1	74.1	400	45	50	100	AA	15%, z	
Isopropanol	67-63-0	60.1	400	35	400	400	AA	10%, z	
MEK	78-93-3	72.1	400	30	200	200	AA	10%, z	
Tetrachloroethene	127-18-4	165.8	400	25	None	100	AA	20%, z	
m-Xylene	108-38-3	106.2	400	45	100	100	AA	20%, z	
o-Xylene	95-47-6								
p-Xylene	106-42-3								
Warfare									
DMMP	756-79-6	124.1	75	20	None	None			<input checked="" type="checkbox"/>
Miscellaneous									
Chlorine	7782-50-5	70.9	100	30	0.5 (c)	1 (c)	AA	10%, z 12%, y _b	None
Carbon Monoxide	630-08-0	28.0	100	35	35	50	DD		
Carbon Dioxide	124-38-9	44.0	400	5,000	5,000	5,000	DD		

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ASHRAE is concerned with the impact of its members' activities on both the indoor and outdoor environment. ASHRAE's members will strive to minimize any possible deleterious effect on the indoor and outdoor environment of the systems and components in their responsibility while maximizing the beneficial effects these systems provide, consistent with accepted Standards and the practical state of the art.

ASHRAE's short-range goal is to ensure that the systems and components within its scope do not impact the indoor and outdoor environment to a greater extent than specified by the Standards and Guidelines as established by itself and other responsible bodies.

As an ongoing goal, ASHRAE will, through its Standards Committee and extensive Technical Committee structure, continue to generate up-to-date Standards and Guidelines where appropriate and adopt, recommend, and promote those new and revised Standards developed by other responsible organizations.

Through its *Handbook*, appropriate chapters will contain up-to-date Standards and design considerations as the material is systematically revised.

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ASHRAE's primary concern for environmental impact will be at the site where equipment within ASHRAE's scope operates. However, energy source selection and the possible environmental impact due to the energy source and energy transportation will be considered where possible. Recommendations concerning energy source selection should be made by its members.

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