



ASHRAE Guideline 27P

Public Review Draft

Measurement Procedures for Gaseous Contaminants in Commercial Buildings

Sixth Public Review (October 2019)

(Draft shows proposed **Independent Substantive Changes to previous Public Review Draft)**

This draft has been recommended for public review by the responsible project committee. To submit a comment on this proposed standard, go to the ASHRAE website at www.ashrae.org/standards-research--technology/public-review-drafts and access the online comment database. The draft is subject to modification until it is approved for publication by the Board of Directors and ANSI. Until this time, the current edition of the standard (as modified by any published addenda on the ASHRAE website) remains in effect. The current edition of any standard may be purchased from the ASHRAE Online Store at www.ashrae.org/bookstore or by calling 404-636-8400 or 1-800-727-4723 (for orders in the U.S. or Canada).

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This is a review of Independent Substantive Changes that were made since the last (Fifth) Public Review. Areas where substantive changes have been made are highlighted in gray. In these areas, text that was removed from the previous Public Review is provided for reference but is shown in ~~strikeout~~ and text that has been added is shown with underlines.

Only the changes highlighted in gray are open to comment at this time. All other material is provided for context only and is not open for Public Review comment except as it relates to the proposed changes.

The substantive changes shown were made at the galley proof stage when, in response to a request to validate two references (both IAQ Guidelines), more recent versions of these guidelines were found. This discovery led to changes in two columns of the table that shows examples of IAQ Guidelines.

Table 4: Selected IAQ Guidelines for Specific Gases

	World Health Organization ²²	Illinois Department of Public Health ²³	French IAQ Guidelines ²⁴	Hong Kong (8-hour average) Good Class ²⁵
Benzene	No safe level of exposure can be recommended		10 30 $\mu\text{g}/\text{m}^3$ (>1 year 1-14 days)	16-117 $\mu\text{g}/\text{m}^3$ (55.3 ppb)
Carbon monoxide	10 mg/m^3 (8 hour average)	9 ppm	10 mg/m^3 (8 hours)	107 mg/m^3 (8.76.1 ppm)
Formaldehyde	0.1 mg/m^3 (30-minute average)	0.1 ppm (Office) 0.03 ppm (Home)	10 100 $\mu\text{g}/\text{m}^3$ ((>1 year 1 day)	100 $\mu\text{g}/\text{m}^3$ (81 ppb)
Nitrogen dioxide	200 $\mu\text{g}/\text{m}^3$ (1 hour average) 40 $\mu\text{g}/\text{m}^3$ (1 year average)	0.05 ppm (24 hours)	200 $\mu\text{g}/\text{m}^3$ (1 hour) 20 $\mu\text{g}/\text{m}^3$ (>1 year)	150 $\mu\text{g}/\text{m}^3$ (80 ppb)
Radon	100 Bq/m ³ *	4.0 pCi/L (148 Bq/m ³)		200 167 Bq/m ³
Tetrachloroethylene	250 $\mu\text{g}/\text{m}^3$ (1 year average)		1380 $\mu\text{g}/\text{m}^3$ (1-14 days) 250 $\mu\text{g}/\text{m}^3$ (>1 year)	250 $\mu\text{g}/\text{m}^3$ (37 ppb)
Carbon Dioxide		1,000 ppm (<800 ppm preferred)		1,800 mg/m^3 (1,000 ppm)
Hydrogen sulfide		0.01 ppm		
Ozone		0.08 ppm		120 $\mu\text{g}/\text{m}^3$ (61 ppb)
Total Volatile Organic Compounds (TVOC)				600 $\mu\text{g}/\text{m}^3$
1,4-dichlorobenzene				200 $\mu\text{g}/\text{m}^3$ (33 ppb)
Toluene			20,000 $\mu\text{g}/\text{m}^3$ (short and long term)	1,092 $\mu\text{g}/\text{m}^3$ (143 ppb)

* Reference level proposed by WHO

11. REFERENCES AND BIBLIOGRAPHY

(24) Agence nationale de securite sanitaire de l'alimentation, de l'environnement, et du travail (ANSES). 20142018. *Indoor Air Quality Guideline (IAQGs)*. Available at

<https://www.anses.fr/fr/system/files/VGAIPublicesjuillet2014.pdf> English language version is available at <https://www.anses.fr/en>

(25) Hong Kong Environmental Protection Department. 20032019. *IAQ Objectives for Offices and Public Places*.