



Designation: D6669 – 19

Standard Practice for Selecting and Constructing Exposure Scenarios for Assessment of Exposures to Alkyd and Latex Interior Paints¹

This standard is issued under the fixed designation D6669; 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 practice provides procedures for constructing scenarios for assessment of inhalation exposure to airborne emissions of chemicals released from alkyd or latex paints that are used indoors.

1.2 The indoor environments covered in this practice, in terms of considerations for developing exposure scenarios, are residences and office buildings.

1.3 Elements of the exposure scenarios include the product and chemical(s) to be assessed, the indoor environment where the product is applied, application of the product, chemical emissions during and after product application, and location/activity patterns of individuals who may be exposed to the airborne chemical emissions.

1.4 Steps to be performed after developing exposure scenarios, such as monitoring, modeling and exposure/risk assessment, also are described.

1.5 *Units*—The values stated in SI units are to be regarded as standard. No other units of measurement are included in this standard.

1.6 *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, health, and environmental practices and determine the applicability of regulatory limitations prior to use.*

1.7 *This international standard was developed in accordance with internationally recognized principles on standardization established in the Decision on Principles for the Development of International Standards, Guides and Recommendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.*

2. Referenced Documents

2.1 *ASTM Standards*:²

D1005 Test Method for Measurement of Dry-Film Thickness of Organic Coatings Using Micrometers

D1212 Test Methods for Measurement of Wet Film Thickness of Organic Coatings

D1356 Terminology Relating to Sampling and Analysis of Atmospheres

D5116 Guide for Small-Scale Environmental Chamber Determinations of Organic Emissions from Indoor Materials/Products

D6178 Practice for Estimation of Short-term Inhalation Exposure to Volatile Organic Chemicals Emitted from Bedding Sets

D6485 Guide for Risk Characterization of Acute and Irritant Effects of Short-Term Exposure to Volatile Organic Chemicals Emitted from Bedding Sets

E741 Test Method for Determining Air Change in a Single Zone by Means of a Tracer Gas Dilution

3. Terminology

3.1 *Definitions*—For definitions of terms used in this practice, refer to Terminology D1356.

3.2 *Definitions of Terms Specific to This Standard*:

3.2.1 *emission profile, n*—a time-series of emission rates of one or more chemicals.

3.2.2 *exposure scenario, n*—a description of how and where an estimated exposure occurs, including (1) the location and emission profile of the product or material that causes exposure, (2) the indoor environment where the individual is exposed to airborne emissions from the product or material, and (3) the location and activity patterns of the exposed individual.

3.2.3 *potential inhaled dose, n*—the product of air concentration to which an individual is exposed times breathing rate times duration of exposure.

¹ This practice is under the jurisdiction of ASTM Committee D22 on Air Quality and is the direct responsibility of Subcommittee D22.05 on Indoor Air.

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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.