



Designation: D4445 – 23

Standard Test Method for Fungicides for Controlling Sapstain and Mold on Unseasoned Lumber (Laboratory Method)¹

This standard is issued under the fixed designation D4445; 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 (laboratory) test method is used for determining the minimum concentration of fungicide, or formulation of fungicides, that is effective in preventing biodeterioration by sapstain fungi and molds in selected species of wood under optimum laboratory conditions.

NOTE 1—From the results of this test, commercial treating solution concentrations cannot be estimated without further field tests.

1.2 The requirements for test materials and procedures are discussed in the following order:

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1.3 The values stated in SI units are to be regarded as standard. No other units of measurement are included in this standard.

1.4 *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.*

1.5 *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.*

¹ This test method is under the jurisdiction of ASTM Committee D07 on Wood and is the direct responsibility of Subcommittee D07.06 on Treatments for Wood Products.

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2. Referenced Documents

2.1 ASTM Standards:²

- D9 Terminology Relating to Wood and Wood-Based Products
- D1165 Nomenclature of Commercial Hardwoods and Softwoods
- D1193 Specification for Reagent Water
- D5590 Test Method for Determining the Resistance of Paint Films and Related Coatings to Fungal Defacement by Accelerated Four-Week Agar Plate Assay

3. Terminology

3.1 *Definitions*—For definitions of terms used in this test method, refer to Terminologies D9 and D1165.

4. Summary of Test Method

4.1 Unseasoned sapwood specimens are treated either by spraying with, or by immersing in, solutions or dispersions of a fungicide formulation prepared at five or more concentration levels. The specimens are exposed to sapstain fungi and molds. Options for testing the toxicity of fungicides include testing against individual fungi or against several fungi by using a mixed spore suspension for the inoculation of the specimens.

4.2 The intensity of surface fungal growth is estimated after incubation and the results used to determine the minimum chemical treatment concentration giving zero growth (CGo).

5. Significance and Use

5.1 This test method is useful as a screening procedure for selecting fungicides or formulations for more rigorous field evaluation.

6. Apparatus

6.1 *Incubation Room (or Incubation Cabinet)*, maintained at a temperature of 25 °C ± 1 °C, and relative humidity between 70 % and 80 %.

6.2 *Steam Sterilizer.*

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.