



Designation: D 2574 – 9700

Standard Test Method for Resistance of Emulsion Paints in the Container to Attack by Microorganisms¹

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1. Scope*

1.1 This test method covers the determination of the relative resistance of emulsion paints to attack in the container by microorganisms.

1.2 The values stated in SI units are to be regarded as the standard. The values given in parentheses are for information only.

1.3 *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 and health practices and determine the applicability of regulatory limitations prior to use.*

2. Summary of Test Method

2.1 This test method is designed to challenge samples of one or more paints containing various levels of one or more biocides with a known amount of bacteria and rate the ability of the test paint(s) to control the “contamination.”

3. Significance and Use

3.1 Spoilage of paint in the container can result in putrefaction, lowered pH, gas formation, and decrease in viscosity. This test method provides a standard procedure for the evaluation of the resistance of emulsion paints to microbial deterioration. The results should enable: (1) the paint manufacturer to select an effective preservative and (2) the supplier of preservatives to evaluate the performance in emulsion paints of competitive and developmental preservatives.

3.2 This test method should be used preferably by persons who have had basic microbiological training.

NOTE 1—The reliability of the results obtained from this test method is extremely dependent on the techniques employed. Improper techniques can result in a sterile sample appearing to be contaminated, and even worse, a contaminated sample appearing to be sterile (see also Note 2). It is recommended that you consult with your biocide supplier, raw material supplier, or an independent testing laboratory to confirm questionable results. Formulation and raw materials' quality may also vary and thereby affect the test results.

4. Apparatus and Materials

4.1 *Balance*, capable of weighing to 0.10 g.

4.2 *Incubator*, or other device capable of maintaining a constant temperature between 28 and 32°C.

4.3 *Refrigerator*, maintained at 10 to 13°C.

4.4 *Screwcap Borosilicate Test Tubes*, 125 by 15-mm.

4.5 *Borosilicate Flasks*, 1-L.

4.6 *Screwcap Bottles*, 150-mL.

4.7 *Autoclave*, capable of producing 103 kPa (15 psi) of steam pressure at 121°C and maintaining it for a minimum of 15 min. An autoclave is not necessary if prepared agar slants are used.

4.8 *Pipettes or an Automatic Pipettor*, sterile, 1-mL, with sterile disposable pipette tips for 1 mL.

4.9 *Petri Dishes*, sterile.

¹ This test method is under the jurisdiction of ASTM Committee D1 on Paint and Related Coatings, Materials, and Applications and is the direct responsibility of Subcommittee D01.28 on Biodeterioration.

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