



Designation: D 2371 – 85 (Reapproved 1999)

## Standard Test Method for Pigment Content of Solvent-Reducible Paints<sup>1</sup>

This standard is issued under the fixed designation D 2371; 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 ( $\epsilon$ ) indicates an editorial change since the last revision or reapproval.

### 1. Scope

1.1 This test method covers the procedure for the quantitative separation of the vehicle from the pigment in solvent-reducible coatings.

1.2 This test method has been proven to be applicable to the following types of paints: white linseed oil outside house paint, white soya and phthalic alkyd enamel, white linseed *o*-phthalic alkyd enamel, red lead primer, zinc chromate primer, flat white inside enamel, white epoxy enamel, white vinyl toluene modified alkyd, and white amino modified baking enamel. It is considered to be applicable to most solvent-reducible paints.

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.* Specific hazard statements are given in Section 6.

### 2. Referenced Documents

#### 2.1 ASTM Standards:

D 2698 Test Method for Determination of the Pigment Content of Solvent-Reducible Paints by High-Speed Centrifuging<sup>2</sup>

### 3. Significance and Use

3.1 This test method is suitable for setting specifications for the pigment content of solvent-reducible paints as well as for monitoring manufacturing quality control.

3.2 This test method provides the isolated pigment fraction from solvent-reducible paints that may be used for pigment analysis.

### 4. Apparatus

4.1 *Centrifuge*, explosion-proof, capable of developing 1000 to 2000 g.

NOTE 1—The centrifuge should be equipped with a suitable head to take the proper size trunnion cups necessary for use of the 90-mL tubes or

4-oz (120-mL) bottles. A two, four, or six-place head can be used with the bottles and an eight-place head can be used with the tubes.

4.2 *Centrifuge Tube*, 90-mL, heavy-walled. In place of the 90-mL centrifuge tube a 4-oz (120-mL) screw cap bottle with vinyl-lined screw cap may be used.<sup>3</sup>

4.3 *Laboratory Oven*, vented and capable of maintaining a temperature of  $105 \pm 2^\circ\text{C}$ .

4.4 *Syringe*, 5-mL.

4.5 *Water Bath*.

### 5. Solvents

5.1 *Ethyl Ether or Petroleum Ether*: (**Warning**—See 6.1).

5.2 *Extraction Mixture*—Mix 10 volumes of ethyl ether, 6 volumes of benzene or toluene, 4 volumes of methyl alcohol, and 1 volume of acetone (**Warning**—See 6.2, 6.3, and 6.4).

### 6. Hazards

6.1 *Ethyl Ether and Petroleum Ether*—Flammable. Vapor is harmful. May be fatal if inhaled or swallowed. Use only with adequate ventilation. Avoid prolonged contact with skin. Avoid contact with flame, hot surface, or sparks. Do not get in eyes, on skin, or on clothing. Refer to suppliers' Material Safety Data Sheet.

6.2 *Acetone*—Flammable. Vapor is harmful. May be fatal if inhaled or swallowed. Use only with adequate ventilation. Avoid prolonged contact with skin. Avoid contact with flame, hot surface, or sparks. Do not get in eyes, on skin, or on clothing. Refer to suppliers' Material Safety Data Sheet.

6.3 *Methyl Alcohol*—Flammable. May be fatal or cause blindness if swallowed. Cannot be made nonpoisonous. Harmful if inhaled. Keep away from heat, sparks, or open flame. Avoid breathing vapor. Use only with adequate ventilation. Refer to suppliers' Material Safety Data Sheet.

6.4 *Benzene* has been declared carcinogenic.

6.4.1 *Benzene and Toluene*—Flammable. Vapors and liquid are harmful and may be fatal if swallowed. Keep away from heat, sparks, or open flame. Keep in a well-closed container. Avoid breathing vapor. Avoid contact with eyes, skin, or clothing. Refer to suppliers' Material Safety Data Sheet.

<sup>1</sup> This test method is under the jurisdiction of ASTM Committee D-1 on Paint and Related Coatings, Materials, and Applications and is the direct responsibility of Subcommittee D01.21 on Chemical Analysis of Paint and Paint Materials.

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<sup>2</sup> *Annual Book of ASTM Standards*, Vol 06.01.

<sup>3</sup> The sole source of supply of bottles and caps, Cat. No. S9185C, 4-oz bottle, known to the committee at this time is Sargent Welch Scientific, 7300 N. Linder Ave., Skokie, IL 60076. If you are aware of alternative suppliers, please provide this information to ASTM Headquarters. Your comments will receive careful consideration at a meeting of the responsible technical committee<sup>1</sup>, which you may attend.