



Standard Practice for Separation of Vehicle From Solvent-Reducible Paints¹

This standard is issued under the fixed designation D2372; 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.

This standard has been approved for use by agencies of the U.S. Department of Defense.

1. Scope

1.1 This practice covers the procedure for the separation of the vehicle from the pigment in solvent-reducible paint.

1.2 In the development of the practice the following materials were tested: white soya and white fish oil isophthalic alkyd semi-gloss enamels, white linseed oil paint, white soya and white linseed *o*-phthalic alkyd enamels. It is considered to be applicable to similar materials.

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

2. Referenced Documents

2.1 *ASTM Standards:*²

D2371 Test Method for Pigment Content of Solvent-Reducible Paints

D2698 Test Method for Determination of the Pigment Content of Solvent-Reducible Paints by High-Speed Centrifuging

¹ This practice is under the jurisdiction of ASTM Committee D01 on Paint and Related Coatings, Materials, and Applications and is the direct responsibility of Subcommittee D01.21 on Chemical Analysis of Paints and Paint Materials.

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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.

3. Significance and Use

3.1 Separation of the vehicle from the pigment in solvent-reducible paints is required in order to characterize paint vehicles by chemical, spectroscopic, or chromatographic techniques. Characterization of vehicles is important since they play a major role in the performance of coatings.

4. Apparatus

4.1 *Centrifuge*, high-speed, capable of developing in excess of 10 000 *g*.

NOTE 1—Calculate the gravity developed by the centrifuge as follows:

$$g = 1.118 \times 10^{-6} \times r \times n^2 \quad (1)$$

where:

r = rotating radius, mm, and

n = rotating speed, r/min.

5. Procedure

NOTE 2—If the percent of pigment is desired, see Test Method D2371 and Test Method D2698.


5.1 Mix the sample until it is homogeneous, preferably on a mechanical shaker.

5.2 Centrifuge about 20 mL of the whole paint on a high-speed centrifuge in excess of 10 000 *g* (Note 1) for 30 min or until separation is completed. If difficulty is encountered, add 10 mL of a suitable solvent (Note 3). Mix with the vehicle layer in the centrifuge tube and centrifuge as before. Pour off the supernatant liquid into a bottle and stopper under nitrogen for further use.

NOTE 3—If quantitative work must be done on the vehicle, the weight of the paint specimen and of the added solvent must be known.

6. Keywords

6.1 centrifuge; paint vehicle separation; solvent-reducible paint

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