Designation: D 6150 – 97 (Reapproved 2003)

Standard Test Method for Estimating Processing Losses of Plastisols and Organosols Due to Volatility[1]

This standard is issued under the fixed designation D 6150; 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 test method describes a procedure for the determination of the relative volatility of polyvinyl chloride plastisols and organosols at elevated temperatures.

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

1.3 The text of this standard references notes and footnotes which provide explanatory material. These notes and footnotes, excluding those in tables and figures, shall not be considered as requirements of 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.*

NOTE 1—There are no ISO standards equivalent to this test method.

2. Referenced Documents

2.1 *ASTM Standards:*

D 618 Practice for Conditioning Plastics for Testing[2]

D 883 Terminology Relating to Plastics[2]

D 1600 Terminology for Abbreviated Terms Relating to Plastics[2]

E 145 Specification for Gravity-Convection and Forced-Ventilation Ovens[3]

3. Terminology

3.1 *Definitions*—The terms used in this test method are in accordance with Terminology D 883 and abbreviations are in accordance with Terminology D 1600, unless otherwise indicated.

4. Summary of Test Method

4.1 Plastisols or organosols are weighed in aluminum dishes and heated in a circulating air oven at 177°C [350°F] for 10 min. The specimens are removed from the oven, cooled, and reweighed. The weight loss is determined and reported as either percent weight loss or weight loss per unit area of exposed surface.

5. Significance and Use

5.1 The volatile components of a plastisol or organosol influences the weight loss during processing. In addition, this information may be useful to the producer and user and to environmental interests for estimating the volatiles emitted by the plastisol or organosol during processing.

5.2 Results obtained by this test method are not strictly equivalent to those experienced during product processing wherein conditions of temperature, air flow, coating mass, and configuration may be quite different.

5.3 This test method may not be applicable to all types of plastisol and organosol applications. Any change in the specified testing time or temperature to accommodate unique applications shall be included in the report (see 7.3).

6. Apparatus

6.1 *Oven*, forced–ventilation laboratory oven, Type II, Grade A, with 100 to 200 air exchanges/h as specified in Specification E 145.

6.1.1 A rotating turntable drive at a rate of 1 to 6 rpm may be used.

6.1.2 A tray to fit the turntable may be used to minimize the temperature drop in the oven.

6.2 *Aluminum Foil Dishes*, 57 mm in diameter by 18 mm high with a smooth (planar) bottom surface.

7. Procedure

7.1 Mix the sample by hand or mechanical stirrer until homogeneous.

7.2 Tare three aluminum dishes to the nearest 0.1 mg.

7.3 A more accurate measurement of weight loss may be obtained if the thickness of the sample in the aluminum dish approaches the thickness of the material during processing. The weight of the specimens added to the dish, therefore, can vary according to the application. The specimen should be added in such a manner as to entirely cover the bottom of the dish. The weight added to each dish should be as uniform as

[1] This test method is under the jurisdiction of ASTM Committee D20 on Plastics and is the direct responsibility of Subcommittee D20.15 on Thermoplastic Materials.

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[2] *Annual Book of ASTM Standards*, Vol 08.01.

[3] *Annual Book of ASTM Standards*, Vol 14.02.