Designation: D 3366 – 95 (Reapproved 2003)ε1

Standard Test Method for Color of Maleic Anhydride and Phthalic Anhydride in the Molten State and After Heating (Platinum-Cobalt Scale)[1]

This standard is issued under the fixed designation D 3366; 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.

ε[1] NOTE—Editorial changes were made throughout in February 2003.

1. Scope

1.1 This test method covers the determination of the visual measurement of the color of maleic and phthalic anhydride melt before and after prolonged heating under specified conditions of time and temperature. Color values are expressed in terms of platinum-cobalt standards. This test method covers the range 0 to 100 color standard numbers.

1.2 The following applies to all specified limits in this standard: for purposes of determining conformance with this standard, an observed value or a calculated value shall be rounded of "to the nearest unit" in the last right-hand digit used in expressing the specification limit, in accordance with the rounding-off method of Practice E 29.

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.* For specific hazard statements see Section 7.

2. Referenced Documents

2.1 *ASTM Standards:*

D 1193 Specification for Reagent Water[2]

D 1209 Test Method for Color of Clear Liquids (Platinum-Cobalt Scale)[3]

D 3438 Practice for Sampling and Handling Naphthalene, Maleic Anhydride, and Phthalic Anhydride[3]

E 29 Practice for Using Significant Digits in Test Data to Determine Conformance With Specifications[4]

2.2 *Other Document:*

OSHA Regulations, 29 CFR, paragraphs 1910.1000 and 1910.1200[5]

3. Summary of Test Method

3.1 A freshly melted specimen is filled to mark into a Nessler tube and compared with Platinum-Cobalt color standards.

3.2 After heating for 2 hours at a prescribed temperature, the specimen is again compared to the color standards.

4. Significance and Use

4.1 The color of maleic anhydride and phthalic anhydride can be an indication of the purity of these materials. High colors normally indicate contamination.

5. Apparatus

5.1 *Color Comparison Tubes*—Matched sets of 50-mL Nessler tubes having a total length of about 300 mm. The height of the 50-mL gradation mark shall be within 200 to 250 mm above the exterior bottom of the tube. In a given set the graduation marks shall not vary by more than 3 mm. The use of heat resistant glass is required.

5.2 *Color Comparator*, constructed to permit visual comparison of light transmitted through the 50-mL Nessler tubes in the direction of their longitudinal axes. (The comparator should be constructed so that white light is reflected off a white plate and directed with equal intensity through the tubes, and should be shielded so that no light enters the tubes from the side.)

NOTE 1—For convenience of operation, an electrically heated, insulated comparator tube may be used to prevent the solidification of maleic or phthalic anhydride.

5.3 *Electric Heating Block*—An electrically heated aluminum block, such as shown in Fig. 1, having the following operating characteristics:

[1] This test method is under the jurisdiction of ASTM Committee D16 on Aromatic Hydrocarbons and Related Chemicals and is the direct responsibility of Subcommittee D16.02 on Oxygenated Aromatics.

Current edition approved Feb. 10, 2003. Published April 2003. Originally approved in 1974. Last previous edition approved in 1995 as D 3366 – 95.

[2] *Annual Book of ASTM Standards*, Vol 11.01.

[3] *Annual Book of ASTM Standards*, Vol 06.04.

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

[5] Available from U.S. Government Printing Office Superintendent of Documents, 732 N. Capitol St., NW, Mail Stop: SDE, Washington, DC 20401.