



Designation: D1686 – 10

Standard Test Method for Color of Solid Aromatic Hydrocarbons and Related Materials in the Molten State (Platinum-Cobalt Scale)¹

This standard is issued under the fixed designation D1686; 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 covers the visual measurement of the color of thermally stable solids melting below 150°C. It is applicable only to materials in which the color-producing bodies present have light absorption characteristics quite similar to those of the standards used.

1.2 In determining the conformance of the test results using this method to applicable specifications, results shall be rounded off in accordance with the rounding-off method of Practice E29.

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.* For specific hazard statements see Sections 7 and 9.

2. Referenced Documents

2.1 ASTM Standards:²

D1193 Specification for Reagent Water

D3438 Practice for Sampling and Handling Naphthalene, Maleic Anhydride, and Phthalic Anhydride

D3852 Practice for Sampling and Handling Phenol, Cresols, and Cresylic Acid

D6809 Guide for Quality Control and Quality Assurance Procedures for Aromatic Hydrocarbons and Related Materials

E29 Practice for Using Significant Digits in Test Data to Determine Conformance with Specifications

2.2 Other Document:

OSHA Regulations, 29 CFR paragraphs 1910.1000 and 1910.1200³

3. Significance and Use

3.1 Color by this test method is a measure of color-producing impurities present in the thermally stable solids. This test method is suitable for setting specifications and for use as an internal quality control tool.

4. Apparatus

4.1 *Color Comparison Tubes*—Matched 100-mL, tall-form Nessler tubes, provided with ground-on, optically clear, glass caps. Tubes should be selected so that the height of the 100-mL graduation mark is 300 ± 3 mm above the bottom of the tube. The use of heat-resistant tubes is preferred for safety reasons.

4.2 *Color Comparator*—A color comparator constructed to permit visual comparison of light transmitted through tall-form, 100-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.

4.3 *Oven*—An oven, preferably of the forced draft type and capable of maintaining a constant temperature $\pm 1^\circ\text{C}$ in the range up to 150°C. Alternatively, the use of an aluminum heating block provided with proper temperature control or other similar equipment is permissible.

5. Reagents

5.1 *Purity of Reagents*—Reagent grade chemicals shall be used in all tests. Unless otherwise indicated, it is intended that all reagents shall conform to the specifications of the Committee on Analytical Reagents of the American Chemical Society,

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 Jan. 1, 2010. Published January 2010. Originally approved in 1959. Last previous edition approved in 2004 as D1686 – 96 (2004). DOI: 10.1520/D1686-10.

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 Available from U.S. Government Printing Office Superintendent of Documents, 732 N. Capitol St., NW, Mail Stop: SDE, Washington, DC 20401, <http://www.access.gpo.gov>.

*A Summary of Changes section appears at the end of this standard