



Standard Test Method for Solution Color of Bisphenol A (4,4'-Isopropylidenediphenol)¹

This standard is issued under the fixed designation D4789; 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 the procedure for determination of the Platinum-Cobalt Color of bisphenol A (4,4'-Isopropylidenediphenol) dissolved in methanol.

1.2 This test method has been found applicable for the determination of Platinum-Cobalt color of bisphenol A between 20 and 100 color units.

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 Section 8.

2. Referenced Documents

2.1 ASTM Standards:²

D1209 Test Method for Color of Clear Liquids (Platinum-Cobalt Scale)

D4297 Practice for Sampling and Handling Bisphenol A (4,4'-Isopropylidenediphenol)

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

E180 Practice for Determining the Precision of ASTM Methods for Analysis and Testing of Industrial and Specialty Chemicals (Withdrawn 2009)³

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 Aug. 15, 2012. Published August 2012. Originally approved in 1988. Last previous edition approved in 2008 as D4789 – 08. DOI: 10.1520/D4789-12.

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 The last approved version of this historical standard is referenced on www.astm.org.

2.2 Other Documents:

OSHA Regulations, 29 CFR paragraphs 1910.1000 and 1910.1200⁴

NIST Letter Circular LC 1017, Standard for Checking the Calibration of Spectrophotometers (200 to 1000 nm)⁵

3. Summary of Test Method

3.1 Bisphenol A is dissolved in methanol. This solution is then transferred to a color comparison tube and the color compared to that of the Platinum-Cobalt Color Standards, either visually or by means of a spectrophotometer. The color is reported as that closest to the applicable standard.

4. Significance and Use

4.1 Color is caused by impurities in the bisphenol A. The acceptable amount of color depends on the end-use of the bisphenol A.

4.2 This test method can be used for internal quality control or for setting specifications.

5. Interferences

5.1 The presence of any turbidity or haze will affect the color reading.

5.2 A bisphenol A color that is off-hue, or tinted with respect to the color standards, may interfere with proper color comparison.

6. Apparatus

6.1 *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 275 to 295 mm above the bottom of the tube.

6.2 *Color Comparator*, constructed to permit visual comparison of light transmitted through tall-form, 100 mL Nessler tubes in the direction of their longitudinal axis; and so that white light is passed through or reflected off a white glass plate

⁴ 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>.

⁵ Available from National Institute of Standards and Technology (NIST), 100 Bureau Dr., Stop 1070, Gaithersburg, MD 20899-1070, <http://www.nist.gov>.

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